



SENIOR SCHOOL

CURRICULUM 2015

**MAIN SUBJECTS
VOLUME - I**

SUCCESS



**CENTRAL BOARD
OF SECONDARY EDUCATION**

Shiksha Kendra, 2, Community Centre,
Preet Vihar, Delhi-110 092 India

CURRICULUM

नया आगाज़

आज समय की माँग पर
आगाज़ नया इक होगा
निरंतर योग्यता के निर्णय से
परिणाम आकलन होगा।

परिवर्तन नियम जीवन का
नियम अब नया बनेगा
अब परिणामों के भय से
नहीं बालक कोई डरेगा

निरंतर योग्यता के निर्णय से
परिणाम आकलन होगा।

बदले शिक्षा का स्वरूप
नई खिले आशा की धूप
अब किसी कोमल-से मन पर
कोई बोझ न होगा

निरंतर योग्यता के निर्णय से
परिणाम आकलन होगा।
नई राह पर चलकर मंज़िल को हमें पाना है
इस नए प्रयास को हमने सफल बनाना है
बेहतर शिक्षा से बदले देश, ऐसे इसे अपनाए
शिक्षक, शिक्षा और शिक्षित
बस आगे बढ़ते जाएँ
बस आगे बढ़ते जाएँ
बस आगे बढ़ते जाएँ.....



SENIOR SCHOOL CURRICULUM 2015

VOLUME 1

Effective from the academic session 2013 -2014 of Class XI
For the Board Examination Class XII to be held in 2015.



CENTRAL BOARD OF SECONDARY EDUCATION

Shiksha Kendra, 2, Community Centre, Preet Vihar, Vikas Marg,
Delhi-110092

C.B.S.E., Delhi-110092

MARCH - 2013

Price: ₹

Note: The Board reserves the right to amend the Syllabi and Courses as and when it deems necessary. The Schools are required to strictly follow the Syllabi and textbooks prescribed by the Board for the academic sessions and examinations concerned. No deviation is permissible.

Published by : Academics & Training Wing, "Shiksha Sadan", 17 Rouse Avenue, Opposite Bal Bhawan, Near ITO, New Delhi - 110002

Designed by : *Multigraphics, 5745/81, Regharpura, Karol Bagh, New Delhi, Ph.: 25783846*

Printed at:

भारत का संविधान

उद्देशिका

हम, भारत के लोग, भारत को एक सम्पूर्ण 'प्रभुत्व-संपन्न समाजवादी पंथनिरपेक्ष लोकतंत्रात्मक गणराज्य बनाने के लिए, तथा उसके समस्त नागरिकों को:

सामाजिक, आर्थिक और राजनैतिक न्याय,
विचार, अभिव्यक्ति, विश्वास, धर्म

और उपासना की स्वतंत्रता,
प्रतिष्ठा और अवसर की समता

प्राप्त कराने के लिए,
तथा उन सब में,

व्यक्ति की गरिमा और ² राष्ट्र की एकता
और अखण्डता सुनिश्चित करने वाली बंधुता

बढ़ाने के लिए

दृढसंकल्प होकर अपनी इस संविधान सभा में आज तारीख 26 नवम्बर, 1949 ई० को एतद्वारा इस संविधान को अंगीकृत, अधिनियमित और आत्मार्पित करते हैं।

1. संविधान (बयालीसवां संशोधन) अधिनियम, 1976 की धारा 2 द्वारा (3.1.1977) से "प्रभुत्व-संपन्न लोकतंत्रात्मक गणराज्य" के स्थान पर प्रतिस्थापित।
2. संविधान (बयालीसवां संशोधन) अधिनियम, 1976 की धारा 2 द्वारा (3.1.1977 से), "राष्ट्र की एकता" के स्थान पर प्रतिस्थापित।

भाग 4 क मूल कर्तव्य

51 क. मूल कर्तव्य - भारत के प्रत्येक नागरिक का यह कर्तव्य होगा कि वह -

- (क) संविधान का पालन करे और उसके आदर्शों, संस्थाओं, राष्ट्रध्वज और राष्ट्रगान का आदर करें;
- (ख) स्वतंत्रता के लिए हमारे राष्ट्रीय आंदोलन को प्रेरित करने वाले उच्च आदर्शों को हृदय में संजोए रखे और उनका पालन करे;
- (ग) भारत की प्रभुता, एकता और अखंडता की रक्षा करे और उसे अक्षुण्ण रखे;
- (घ) देश की रक्षा करे और आह्वान किए जाने पर राष्ट्र की सेवा करे;
- (ङ) भारत के सभी लोगों में समरसता और समान भ्रातृत्व की भावना का निर्माण करे जो धर्म, भाषा और प्रदेश या वर्ग पर आधारित सभी भेदभाव से परे हों, ऐसी प्रथाओं का त्याग करे जो स्त्रियों के सम्मान के विरुद्ध हैं;
- (च) हमारी सामाजिक संस्कृति की गौरवशाली परंपरा का महत्त्व समझे और उसका परीक्षण करे;
- (छ) प्राकृतिक पर्यावरण की जिसके अंतर्गत वन, झील, नदी, और वन्य जीव हैं, रक्षा करे और उसका संवर्धन करे तथा प्राणिमात्र के प्रति दयाभाव रखे;
- (ज) वैज्ञानिक दृष्टिकोण, मानववाद और ज्ञानार्जन तथा सुधार की भावना का विकास करे;
- (झ) सार्वजनिक संपत्ति को सुरक्षित रखे और हिंसा से दूर रहे;
- (ञ) व्यक्तिगत और सामूहिक गतिविधियों के सभी क्षेत्रों में उत्कर्ष की ओर बढ़ने का सतत प्रयास करे जिससे राष्ट्र निरंतर बढ़ते हुए प्रयत्न और उपलब्धि की नई उंचाइयों को छू ले।

THE CONSTITUTION OF INDIA

PREAMBLE

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a **¹SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC** and to secure to all its citizens :

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the ²unity and integrity of the Nation;

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

-
1. Subs. by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "Sovereign Democratic Republic (w.e.f. 3.1.1977)
 2. Subs. by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "unity of the Nation (w.e.f. 3.1.1977)
-

THE CONSTITUTION OF INDIA

Chapter IV A

Fundamental Duties

ARTICLE 51A

Fundamental Duties - It shall be the duty of every citizen of India-

- (a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- (b) to cherish and follow the noble ideals which inspired our national struggle for freedom;
- (c) to uphold and protect the sovereignty, unity and integrity of India;
- (d) to defend the country and render national service when called upon to do so;
- (e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
- (f) to value and preserve the rich heritage of our composite culture;
- (g) to protect and improve the natural environment including forests, lakes, rivers, wild life and to have compassion for living creatures;
- (h) to develop the scientific temper, humanism and the spirit of inquiry and reform;
- (i) to safeguard public property and to abjure violence;
- (j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.

Curriculum updation is a continuous process, as such the Board brings out the revised curricula every year. It is obligatory for the School and the students preparing for the Board's Examination of a particular year to follow the syllabi, courses and the books prescribed by it for that year. No deviation from the ones prescribed is permissible. All concerned are, therefore, strongly advised to purchase the curriculum prescribed for the year concerned from the CBSE Headquarters or its Regional Offices for their information and use. Orders with the required price and postage can be placed with the Store Keeper (Publications) at the Headquarters or with the Regional Office of the zone as the case may be. Readers are also advised to refer to the details given at the end of the publication. The syllabi and courses in Regional and Foreign Languages have been provided in the Volume II, the syllabi and courses in Music and Dance have been provided in the Volume III printed separately, which are also priced publications. **Schools should also take note of the circulars, which announce modifications from time to time and are available on the academic website of CBSE (www.cbseacademic.in).**

CONTENTS

		Page No.	
PART I	: Leading Principles of CBSE School Curriculum	1	
PART II	: Eligibility Requirements, Scheme of Studies and Scheme of Examinations	13	
	1. Eligibility of Candidates	15	
	2. Scheme of Examinations and Pass Criteria	24	
	3. Scheme of Studies	28	
	4. How to apply for a new Subject / additional subject	39	
	5. Minimum Qualifications for Teachers	41	
PART III	: Courses of Studies	Code No.	
	1. English Elective	001	45
	2. Functional English	101	51
	3. English Core	301	65
	4. हिन्दी केंद्रिक	302	78
	5. हिन्दी ऐच्छिक	002	86
	6. Mathematics	041	93
	7. Physics	042	104
	8. Chemistry	043	119
	9. Biology	044	135
	10. Biotechnology	045	148
	11. Engineering Graphics	046	154
	12. Home Science	064	162
	13. Agriculture	068	176
	14. Computer Science	083	185
	15. Informatics Practices	065	195
	16. Multimedia and Web Technology	067	207
	17. Economics	030	226
	18. Business Studies	054	235

19.	Accountancy	055	249
20.	Entrepreneurship	066	259
21.	History	027	267
22.	Political Science	028	286
23.	Geography	029	297
24.	Psychology	037	312
25.	Sociology	039	320
26.	Philosophy	040	329
27.	Creative Writing and Translation Studies	069	335
28.	Physical Education	048	345
29.	Fashion Studies	053	352
30.	Fine Arts	049 to 052	363
31.	Music	031 to 03 (Vol-III)	393
32.	Dance	056 to 62 (Vol-III)	393
33.	Heritage Craft	070	394
34.	Graphic Design	071	403
35.	Mass Media Studies	072	414
36.	Knowledge Traditions and Practices of India	073	428
37.	Legal Studies,	074	436
38.	Human Rights and Gender Studies	075	441
39.	National Cadet Corps (N.C.C.)	076	448
40.	Theatre Studies	078	488
PART IV :	Training Policy		495
PART V :	The Right of Children to Free and Compulsory Education Act, 2009		514
Annexure:	Application for Introduction of Additional Subjects		527

PART-I
PRINCIPLES OF SCHOOL CURRICULUM

PRINCIPLES OF SCHOOL CURRICULUM

The CBSE School Curriculum gets its lead from National Curriculum Framework (NCF 2005) and also from Right to Free and Compulsory Education Act (RTE 2009).

National Curriculum Framework 2005

The paramount guiding principles as proposed by NCF-2005 are

- connecting knowledge to life outside the school,
- ensuring that learning is shifted away from rote methods,
- enriching the curriculum to provide for overall development of children rather than remain textbook centric,
- making examinations more flexible and integrated into classroom life and,
- nurturing an over-riding identity informed by caring concerns within the democratic polity of the country.

According to NCF 2005 the greatest national challenge for education is to strengthen our participatory democracy and the values enshrined in the Constitution. Meeting this challenge implies that we make quality and social justice the central theme of curricular reform. Citizenship training has been an important aspect of formal education. Today, it needs to be boldly reconceptualised in terms of the discourse of universal human rights and the approaches associated with critical pedagogy. A clear orientation towards values associated with peace and harmonious coexistence is not only desirable but also essential. Quality in education includes a concern for quality of life in all its dimensions. This is why a concern for peace, protection of the environment and a predisposition towards social change must be viewed as core components of quality, not merely as value premises.

Aims of Education

The Aims of Education are landscaped in the guiding principles of constitution which reflect a commitment to democracy and the values of equality, justice, freedom, concern for others' well-being, secularism, respect for human dignity and human rights. Education should aim to build a commitment to these values, which are based on reason and understanding. The curriculum, therefore, should provide adequate experience and space for dialogue and discourse in the school to build such a commitment in children.

Independence of thought and action points to a capacity of carefully considered, value-based decision-making, both independently and collectively. Sensitivity to others' well-being and feelings, together with knowledge and understanding of the world, should form the basis of a rational commitment to values.

Learning to learn and the willingness to unlearn and relearn are important as means of responding to new situations in a flexible and creative manner. The curriculum needs to emphasise the processes of constructing knowledge.

Choices in life and the ability to participate in democratic processes depend on the ability to contribute to society in various ways. This is why education must develop the ability to work and participate in economic processes and social change. This necessitates the integration of work with education.

We must ensure that work-related experiences are sufficient and broad-based in terms of skills and attitudes, that they foster an understanding of socio-economic processes, and help inculcate a mental frame that encourages working with others in a spirit of cooperation. Work alone can create a social temper.

Appreciation of beauty and art forms is an integral part of human life. Creativity in arts, literature and other domains of knowledge is closely linked.

Education must provide the means and opportunities to enhance the child's creative expression and the capacity for aesthetic appreciation. Education for aesthetic appreciation and creativity is even more important today when aesthetic gullibility allows for opinion and taste to be manufactured and manipulated by market forces. The effort should be to enable the learner to appreciate beauty in its several forms. However, we must ensure that we do not promote stereotypes of beauty and forms of entertainment that might constitute an affront to women and persons with disabilities.

(adopted from NCF 2005)

Right to Free and Compulsory Education Act 2009 (RTE Act)

According to the **Right to Free and Compulsory Education Act 2009 (RTE Act)** free and compulsory education is a right to every child in the age group of six to fourteen years in a neighbourhood school till completion of elementary education (class I to VIII). No child shall be liable to pay any kind of fee or charges or expenses which may prevent her from pursuing and completing the elementary education. No child can be refused admission on any grounds and will be admitted to her age appropriate class and have a right to receive special training so that the child can cope with the current curriculum. Education will be inclusive and the schools are supposed to make appropriate arrangements for children with disabilities and with special needs.

Right to Free and Compulsory Education Act 2009 (RTE Act) in its Chapter V delineates explicit terms related to Curriculum and the evaluation procedures thus ensuring a clear focus on the quality of elementary education. It states that an academic authority, to be specified by the appropriate Government, by notification, shall lay down the curriculum and the evaluation procedure for elementary education. The academic authority, while laying down the curriculum and the evaluation procedure shall take into consideration the following:

- (a) conformity with the values enshrined in the constitution;
- (b) all round development of the child;
- (c) building up child's knowledge, potentiality and talent;
- (d) development of physical and mental abilities to the fullest extent;
- (e) learning through activities, discovery and exploration in a child friendly and child centered manner;
- (f) medium of instructions shall, as far as practicable, be in child's mother tongue;
- (g) making the child free of fear, trauma and anxiety and helping the child to express views freely;
- (h) comprehensive and continuous evaluation of child's understanding of knowledge and her ability to apply the same.

It also outlines that No child shall be required to pass any Board examination till completion of elementary education as well as every child completing her elementary education shall be awarded a certificate in such form and in such manner, as may be prescribed.

Right to Free and Compulsory Education Act 2009 (RTE Act) also defines norms for the minimum number of working days/instructional hours in an academic year. It allocates-

1. 200 (two hundred) working days for first to fifth class
2. 220 (two hundred and twenty) working days for sixth to eighth class
3. 800 (eight hundred) instructional hours per academic year for first to fifth class
4. 1000 (one thousand) instructional hours per academic year for sixth to eighth class

The minimum number of working hours per week for the teacher should be 45 (forty-five). This includes both teaching and preparation time.

Note: Please refer page No. 514 - 526 for the RTE Act.

Formulation of CBSE School Curriculum

The National Curriculum Framework (NCF 2005) is the framework on the basis of which the Central Board of Secondary Education formulates its own curriculum and syllabus document by adopting and adapting the guidelines and syllabus provided.

There are a number of underlying factors, which are evident in this document:

- values and underlying principles of the Constitution;
- general and specific teaching and assessment objectives;
- learning outcomes of different levels Secondary and Senior Secondary;
- lesson distribution in terms of time;
- possible innovative pedagogies for curricular transaction transformative and beyond textbooks and classrooms;
- integration and cross-curricular themes for all subject areas;
- collaboration between home and school;
- collaboration between school and community;
- project based learning to build research capabilities;
- guidance and counselling activities through counsellors appointed by the schools;
- emphasis on inclusion strategies;
- provision of diagnostic and remedial teaching-learning;
- emphasis on multiple modes of assessment through descriptors of good performance;
- organisation of various club activities such as, 'Eco Club', 'Health and Wellness Club', 'Literary Clubs', 'Disaster Management Clubs', 'Consumer Clubs', etc.;
- provision of integrated activity based program on Environmental Education from classes I-XII;
- provision of NCC/NSS and other activities mentioned under physical education;
- provision of varied disciplines under sports but definitely the 16 disciplines which form a part of the CBSE Competitive Sports program.

Core Rationale of CBSE School Curriculum -The underlying values

"Education, as a planned endeavour, at a personal level on a small scale or institutional level on a large scale, aims at making children capable of becoming active, responsible, productive, and caring members of society. They are made familiar with the various practices of the community by imparting the relevant skills and ideas. Ideally, education is supposed to encourage the students to analyse and evaluate their experiences, to doubt, to question, to investigate-in other words, to be inquisitive and to think independently."

-NCF 2005 (Position Paper- Aims of Education)

The core values of CBSE School Curriculum draw its strength, by keeping pace with the 21st century and the global trends of educational transformations, as well as keeping in view that India is an independent nation with a rich variegated history, extraordinarily complex cultural diversity, and commitment to democratic values and general well-being.

One of the basic aims of education is to nurture in the learner a sound mind and strong values driven character. Learners should be educated to uphold the democratic values, respect the Rules of Law, and support humanitarian ideals; they should engage in healthy practices to be able to develop robust and healthy physiques, learn how to think for themselves and be creative.

We aim at nurturing responsible citizens with a sense of patriotism and a global perspective. In principle, education is a learning progression to help learners explore their innate capacity and talents as well as develop their potential to improve and enhance sustainability of their living environment.

Keeping this in mind we need to have a rationale with core components as follows:

- "Nurturing Life-skills" includes developing an improved self-esteem, building empathy towards others and different cultures, etc. Improving on their critical and creative thinking and making them better at problem solving with a balanced approach towards decision-making. The core life-skills must be integral to the whole process of education.
- "Integration" includes creating harmony of sense with sensibility, a connection between knowledge and application, and integrating human sciences with technological innovations.
- "Upholding Constitutional values" safeguarding values expressed in the Constitution- sovereignty, socialism, secularism, democracy, republican character, justice, liberty, equality, fraternity, human dignity and the unity and integrity of the Nation.
- "A global perspective" keeping pace with the 21st century and the global trends, enhance learner's ability to understand her status and position in the community and the world. Develop understanding how we all are interconnected and how we can bring about transformations as well as the individual's responsibility in this change process.
- "Lifelong learning" to see education as a liberating process, leading to active exploration, problem solving, and the utilization of information and languages leading to socially transformative practices.
- "Appreciating Individual Differences" to promote and nourish wide range of capacities and skills in learners. As intelligence is diverse in its dimension, pedagogy and evaluation should aim at making it possible for this diversity to bloom. Excellence in diverse areas should be accepted and rewarded.

CBSE School Curriculum Mission and Goals

The curriculum will adopt the following principles:

- to create a connect between learners' spiritual, ethical, social, cognitive, mental and physical growth and development;
- to nurture individuality and thus enhance one's innate potentials;
- to foster constitutional literacy and tolerance for different cultures;
- to develop scientific outlook and transformative competences, in order to meet the demands of changing society.

The aim of education is not just to let learners obtain basic knowledge but to make them life-long learners. It is to nurture future citizens who are mentally and physically robust, assertive, confident, empathetic and helpful to the community, intellectually inquisitive and reflective, tolerant and with creative vision and global perspective.

Schools will accomplish such standards through the promotion of values based learning activities which emphasize humanity, practicality, individuality, inclusiveness, and modernity. Such activities involve collaborations between oneself and others, individuals and the community, as well as humans and nature. To achieve this, we must guide our learners to achieve the following curriculum goals:

- To enhance self-awareness and explore innate potential;
- To develop creativity and the ability to appreciate art and showcase one's own talents;
- To promote capabilities related to goal setting, decision making and lifelong learning;
- To nurture assertive communication and interpersonal skills;

- To learn to be empathetic towards others, display dignity and respect to the opposite gender, to contribute for the community, and focus on preserving environment;
- To foster cultural learning and international understanding in an interdependent society;
- To strengthen knowledge and attitude related to livelihood skills;
- To acquire the ability to utilize technology and information for the betterment of humankind;
- To inspire the attitude of functional and participatory learning; and
- To develop abilities related to thinking skills and problem solving.

Core Competence and Outcomes

In order to achieve the above-mentioned goals, the curriculum shall focus on the requirements and capabilities of learners and aim at developing core competences which a global 21st century citizen should possess. Such core competences may be categorized as follows:

1. Self-awareness and exploration of innate potential, which involves thorough understanding of one's personality, competencies, emotions, requirements, and dispositions, respect and love for self, regular self-reflection, self-discipline, optimistic attitude, and ethics, showcasing one's individuality, and instituting values.
2. Appreciation, representation, and vision, which include the ability to perceive and appreciate the beauty of things as well as using imagination and creativity, developing a dynamic and innovative attitude, and expressing one in order to promote the quality of living.
3. Goal setting, decision making and lifelong learning, which involves the development of individual abilities in order to bring forth one's talents, chart the path for future success, and develop the capability of lifelong learning in accordance with the transition of the current century.
4. Effective Communication skills which involves making effective use of all kinds of symbols (such as languages in both verbal and non-verbal forms, sounds, motions, visual and written) and tools (such as media and technology) in order to better interpersonal relationships through skills of listening attentively to and communicating effectively with others, and sharing various perspectives and information assertively with others.
5. Empathy, which involves being aware of other people's feelings and situations, respect for the opposite gender, tolerant of different opinions, and unbiased to humans and groups of different identities, with respect for life and thoughtful for the community, the environment, and nature, obeying and respecting the rules of the law, and holding an attitude which is conducive to collaborative work and leads to individual, societal as well as global transformation.
6. Cultural learning and international understanding, which involves appreciating and respecting different groups and cultures, taking pride in the history and culture of one's own country as well as holding a positive outlook towards different cultures, developing a global perspective with conjoint interdependence, trust and cooperation.
7. Knowledge and attitude related to livelihood skills, adopting approaches by which such considerations and practices are incorporated, equipping and enabling each member to contribute to the community as well as serve the public and one's country in a productive way.
8. Utilization of technology and information, which involves the utilization of technology in a positive, safe and effective way for the welfare of mankind, for boosting learning efficacy and living quality.
9. Functional and participatory learning, leading to the development of higher order thinking skills. Encouraging inquisitiveness and keen observation, actively exploring and discovering solutions, and applying knowledge, attitude and skills in daily life.

10. Thinking skills and problem solving, which involves cultivating the ability and habit of thinking creatively and reflectively, making logical analyses and decisions, and effectively solving problems and resolving conflicts.

Conception of Learning and Learning Environment

Learning occurs both at individual as well as peer group level and lies in the process of building knowledge and skills. Learning in a purposeful way takes place by a learner independently, in class with a teacher, out of class interaction with the peer group and the larger community. Learning is an active and goal oriented process.

Learning environment must be physically, psychologically and socially safe and motivate learners to develop effective study skills and become lifelong learners.

Curriculum Areas at Senior Secondary Level

For the purpose of fostering core competences in learners, the curriculum encompasses seven major learning areas, which are: Languages, Humanities, Mathematics, Sciences, Commerce, Health and Physical Education, Visual arts, Performing arts and contemporary subjects introduced in the last decade such as Entrepreneurship, Biotechnology, Fashion Studies, Creative Writing and Translation Studies, Mass Media Studies and Knowledge Traditions and Practices of India.

It refers to the content of learning, not the titles of subjects. Beyond the required core and elective courses, optional courses relevant to specific curriculum areas may also be made available in consideration of changing individual, societal and global requirements and demands.

Major Contents of Each Curriculum Learning Area in Senior Secondary Classes

1. **Languages** include Hindi, English, another 32 languages (detailed in Curriculum Volume II) and focuses on listening, speaking, reading and writing skills, along with developing effective communicating proficiencies.
2. **Humanities** (Geography, History, Economics, Home Science, Sociology, Fine Arts, Political Science, Fashion Studies, Creative Writing and translation Studies and related subjects) include the learning of history and culture, geographical environment, global institutions, human nature and social compatibility, constitutional values and norms, politics, economy, interpersonal and societal interactions, civic responsibilities, and the incorporation of the above-mentioned learning into one's life.
3. **Performing and Visual Arts** (Dance, Drama, Music, Heritage Crafts, Graphic Design, Fine Arts, Sculpture and related subjects) includes music, instruction in these arts, aiming to help learners cultivate an interest and appreciation for arts and encourage them to enthusiastically participate in related activities, thus promoting abilities such as imagination, creativity, value arts, and the cultural heritage.
4. **Science and Technology** (Subjects related to Biology, Chemistry, Physics, ICT, Information Practices and Web and Multimedia Studies) include gaining knowledge about matter and energy, nature, the environment, technology, breakthroughs in science. It will focus on knowledge and skills to develop scientific attitude, use and application of such knowledge and skills to improve the quality of life and further use this learning to analyse, evaluate, synthesise, create, invent and discover.
5. **Mathematics** includes acquiring the concepts related to number sense, operation sense, computation, measurement, geometry, probability and statistics, the skill to calculate and organize, and the ability to apply this knowledge and acquired skills in their daily life. It also includes understanding of the principles of reasoning and problem solving.
6. **Commerce** (Business Studies, Accountancy, Entrepreneurship, Economics and related subjects) includes gaining understanding about core business disciplines like the exchange of items of value or products

between persons or companies and any such exchange of money for a product, service, or information is considered a deal of commerce.

7. **Health and Physical Education** focuses on the learning for holistic development like mental and physical. Understanding the importance of physical fitness, health, well-being and the factors that contribute to them. Focus of this curriculum is on helping learners develop a positive attitude and commitment to lifelong healthy active living and the capacity to live satisfying, productive lives with the help of proper health management, sports, fitness and lifestyle choices.

These seven learning areas are to be integrated with each other in terms of knowledge, skills (life and livelihood), comprehension, values and attitudes. Learners should get opportunities to connect between different areas of knowledge and application. They should be encouraged to cognize and appreciate the interconnectedness of all knowledge and the enduring connection between knowledge and values. Their education should help them to connect the content of their learning areas and subjects with their own lives and the world around them. The holistic nature of human learning and knowledge should be brought forth throughout.

Main Pedagogical Outcomes for Curriculum Learning Areas

1. Learners use language to comprehend, acquire and communicate ideas and information and to interact with others.
2. Learners identify, integrate and apply numerical and spatial concepts and techniques. They have clarity of concepts and are able to connect them to the real world.
3. Learners understand and appreciate the physical, biological and technological world and have the knowledge, attitude, skills and values to make rational decisions in relation to it.
4. Learners understand their cultural, geographical and historical milieus and have the knowledge, attitude, skills and values necessary to bring about transformation for a better India.
5. Learners recognize the requirement of information, locate and resource it from a range of data available and evaluate, use and collaborate it with others.
6. Learners identify, select, use technologies and are able to synthesize, innovate and discover newer technologies as required.
7. Learners rationalize and reason about pre-defined arrangements, norms and relationships in order to comprehend, decode, validate and develop more relevant patterns.
8. Learners think laterally, critically, identify opportunity, challenge their potential and are open to challenges. They are aware of consequences and take ownership of their deeds.
9. Learners interact harmoniously with people and cultures from across the globe and are tolerant and empathetic towards others.
10. Learners involve themselves in cultural pursuits as well as appreciate, respect and acknowledge the artistic, cultural and intellectual work of others.
11. Learners value and engage in practices that promote personal physical as well as mental and cognitive development and well being.
12. Learners have positive self-esteem. They are confident and self-motivated learners who are able to work independently as well as collaboratively.
13. Learners appreciate and value everyone's right to feel respected and safe, and, in this regard, also understand their constitutional rights as well as duties and behave responsibly.
14. Learners are aware and participate responsibly in the social, political, economic and cultural transformations.
15. Learners are equipped with the attitude and skills to be a lifelong learner.

Implementation of Curriculum

Formulating a comprehensive and all encompassing School Curriculum Plan (Syllabus) is an essential way forward to this Curriculum document. Schools will establish a School Curriculum Committee, which will have teachers representing each subject. This committee will be responsible to draft the school curriculum plan for the coming session, by the beginning of this session based on the Curriculum documents. This committee shall define the teaching periods for each subject for each grade, review textbooks, develop topics and activities for pedagogical practices, and evolve a plan for the teaching learning process evaluation and so as to be able to provide feedback for reflection. This committee should continue meeting, reviewing and assessing the pedagogical practices on a regular basis. Subject Experts, Scholars and professionals may also be invited to join the committee in advisory capacity, when necessary. Schools may join hands to establish an inter-school Committee within their 'Sahodaya' groups. These committees must ensure and record that the text books selected for classes I-VIII (other than NCERT books) do not contain any material which may hurt the sentiments of any community. The books should also reflect gender sensitivity and be in conformity with the underlying principles of the constitution of India.

This Committee will consolidate the efforts of all school staff as well as resources provided, to develop a comprehensive school-based curriculum, giving due importance to both Scholastic as well as Co-Scholastic areas.

The School Curriculum Plan (Syllabus) will include:

- Pedagogical goals of the school for the session
- Subject focused pedagogical objectives
- Mapping of units with pedagogical objectives
- Resources/activities to achieve the unit wise pedagogical objectives
- Pedagogical outcomes
- Assessment directives
- Feedback rubrics

This Plan will also contain specified descriptions on how to infuse the seven core areas (including Life Skills Education, Values Education, Gender Sensitivity, Environmental Education, Information Technology Education, Human Rights Education, Health and Wellness Education) into the teaching of each subject. It is a good idea to involve parents in formulating this plan. The plan is an effective tool to let parents connect and support the pedagogical practices of the school.

Lesson/ Unit Plans

Lesson plans for the topics will be prepared by the teachers within their faculty. This will be supported by School Curriculum Plan (Syllabus). Some important components of this plan can be:

- Specific learning outcomes
- Unit/topic learning contexts
- Pedagogical strategies
- Flow of lesson/unit (including activities/ experiments/hands-on-learning)
- Formative assessment tasks
- Remedial teaching plan
- Interdisciplinary Linkages
- Infusion of Core (Life-skills, Values, etc.)
- Resources (including ICT)

The component of remedial teaching is to be drafted keeping in view differentiated instructional requirements of the individual learners. As the learning difficulties are observed the remedial teaching must be taken up. This should be planned with a mutual understanding with the parents and they should be informed about how the remedial instruction is being provided.

Creating Cross-Curricular Linkages

Cross-curricular linkages are vital to learning as it is important to be able to connect prior knowledge and experiences and new information and experiences. Such connections are essentially required for being able to make sense of our world and foster learning capacity.

Making links between subjects also helps learner more effectively apply and embed skills and knowledge in meaningful and purposeful contexts. For example, mathematical data handling and interpretation effectively applied in geography and science; learners can write better-framed answers in history, geography and science when they have learnt how to write explanations/short descriptions in English; Learning to make well-formed strokes can help learners illustrate their science diagrams with great perfection. Role-plays in language classrooms can act as effective tools once the learners have been exposed to dramatics. Strong links such as these can undoubtedly enhance learning in all subjects. They help learners connect, with a greater range, of the skills, attitude and knowledge they are acquiring in specific subjects. Creating cross-curricular linkages can help learners reflect on their learning. Aspects of learning - such as problem solving, reasoning, creative thinking - can be used across the curriculum.

Teachers should involve learners in cross-curricular projects thus helping learners recognise these underpinning skills and how to use them in a variety of contexts.

PART-II
ELIGIBILITY REQUIREMENTS, SCHEME OF STUDIES
AND SCHEME OF EXAMINATIONS

1. ELIGIBILITY OF CANDIDATES

Admission of Students to a School, Transfer/Migration of Students

1. Admission: General Conditions

- 1.1 (a) A student seeking admission to any class in a 'School' will be eligible for admission to that class only if she: -
- (i) has been studying in a school recognised by or affiliated to this Board or any other recognised Board of Secondary Education in India;
 - (ii) has passed qualifying or equivalent qualifying examination making her eligible for admission to that class;
 - (iii) satisfies the requirements of age limits (minimum and maximum) as determined by the State/Union Territory Government and applicable to the place where the school is located; and
 - (iv) produces:-
 - the School Leaving Certificate/transfer certificate signed by the Head of the School last attended and countersigned;
 - document(s) in support of her having passed the qualifying or equivalent qualifying examination.
- (b) No school or person shall, while admitting a child, collect any capitation fee and subject the child or her parents or guardian to any screening procedure, as stipulated in section 13(1) of The Right of Children to Free and Compulsory Education Act, 2009.
- Any School or person, if in contravention of the above provisions-
- (i) Receives capitation fee, shall be punishable with fine which may extend to ten times the capitation fee charged;
 - (ii) Subjects a child to screening procedure, shall be punishable with fine which may extend to twenty-five thousand rupees for the first contravention and fifty thousand rupees for each subsequent contravention or as may be decided from time to time, as stipulated in section 13(2) of The Right of Children to Free and Compulsory Education Act, 2009.
- (c) For the purposes of admission to elementary education, the age of a child shall be determined on the basis of the birth certificate issued in accordance with the provisions of the Births, Deaths and Marriages Registration Act, 1886 or on the basis of such other document, as may be prescribed, as stipulated in section 14(1) of The Right of Children to Free and Compulsory Education Act, 2009.

Explanation: -

- (a) A person who has been studying in an institution which is not recognised by this Board or by any other recognised Board of Secondary Education or by the State/Union Territory Government of the concerned place shall not be admitted to any class or a "School" on the basis of Certificate(s) of such unrecognised institutions attended by her earlier.
- (b) 'Qualifying Examination' means an examination, the passing of which makes a student eligible for admission to a particular class; and 'equivalent examination' means an

examination conducted by any recognised Board of Secondary Education/Indian University or an institution recognised by or affiliated to such Board/University and is recognised by the Board equivalent to the corresponding examination conducted by this Board or conducted by a "School" affiliated to/recognised by this Board.

- 1.2 No student migrating from a school in a foreign country other than the school affiliated to this Board, shall be eligible for admission unless an eligibility certificate in respect of such a student has been obtained from this Board. For obtaining eligibility certificate from the Board, the Principal of the School to which admission is being sought will submit to the Board full details of the case and relevant documents with her own remarks/ recommendations. The eligibility certificate will be issued by the Board only after the Board is satisfied that the course of study undergone and examination passed is equivalent to corresponding class of this Board.
- 1.3 No person who is under the sentence of rustication or is expelled from any Board/University/School or is debarred from appearing in the examination for whatever reason by any Board/University shall be admitted to any class in a School affiliated to this Board.
- 1.4 No student shall be admitted or promoted to any subsequent higher class in any school unless she has completed the regular course of study of the class to which she was admitted at the beginning of the academic session and has passed the examination at the end of the concerned academic session, qualifying her for promotion to the next higher class.
- 1.5 No student shall be admitted in Class XI and above in a school affiliated with the Board after 31st day of August of the year except with prior permission of the Chairman, CBSE/Competent Authority as may have been defined in the State/Union Territory Education Acts. The application for permission to grant admission after 31st August shall be routed through the Principal of the school specifying the reasons which are unavoidable. The candidate shall complete the required percentage of attendance (75%) for Class XI and XII as per Examination Byelaws of the Board to make her eligible for the examinations conducted by the Board. In such cases where the admission by the candidate could not be taken in a higher class by the stipulated date because of the late declaration of result by the Board in respect of the examinations conducted by the Board such permission would not be required, provided the candidate applied for admission within a fortnight of the declaration of the result.
- 1.6 No child shall be subjected to physical punishment or mental harassment. Whoever contravenes the provisions of Sub-Section (1) shall be liable to disciplinary action under the service rules applicable to such person, as stipulated in sections 17(1) and (2) of The Right of Children to Free and Compulsory Education Act, 2009.

2. Admission to Class XI

- 2.1 Admission to class XI in a school shall be open only to such a student who has:
 - (a) Obtained minimum Grade D in at least five subjects of external examination (excluding the 6th additional subject) as per the Scheme of Studies and a Qualifying Certificate/ Grade Sheet cum Certificate of Performance at the Secondary School(Class X) Examination conducted by this Board/ School affiliated to this Board.
 - (b) Has passed an equivalent examination conducted by any other recognised Board of Secondary Education/Indian University and recognised by this Board as equivalent to its secondary school examination.

Notwithstanding anything contained in the rules above, Chairman shall have the powers to permit admission in Class XI in respect of such students who have opted for not appearing for the Secondary School examination conducted by the Board but changing school after passing the Secondary School examination conducted by a school affiliated to the Board on grounds of shifting of family

from one place to another, transfer of parent(s), for better academic performance or on medical grounds, etc., to avoid undue hardship to the candidate(s).

3. Admission to Class XII

- (i) As the syllabus prescribed at senior level is of two years integrated course, no admission shall be taken in class XII directly. Provided further that admission to Class XII in a school shall be open only to such a student who:
- (a) has completed a regular course of study for Class XI and has passed class XI examination from an institution affiliated to this Board;
 - (b) has completed a regular course of study of Class XI and has passed class XI examination from an institution affiliated to this Board and migrating from one city/ State to another only on the transfer of the parent(s) or shifting of their families from one place to another, after procuring from the student the mark sheet and the Transfer Certificate duly countersigned by the Board; and
 - (c) has completed a regular course of study for class XI and has passed class XI examination from an institution recognised by / affiliated to any recognised Board in India can be admitted to a school affiliated to this Board only on the transfer of the parent(s) or shifting of their families from one place to another, after procuring from the student the mark sheet and the Transfer Certificate duly countersigned by the Educational Authorities of the Board concerned.

Notwithstanding anything contained in the rules above, Chairman shall have the powers to allow change of school for better academic performance, medical reason, etc., to avoid undue hardship to the candidate(s).

In case of all such admissions the schools would obtain post facto approval of the Board within one month of admission of the student.

- (ii) Notwithstanding anything contained in paragraph 3 (i)- (a, b and c)above, the admission of students passing qualifying examination from an examination body outside India shall be regulated according to the provisions contained in clause 1.2 of this chapter; provided that the condition of completing a regular course of study for class XI is satisfied in cases of admission to Class XII.

4. Admission Procedure

- (a) Admission register in the form prescribed by the State Government concerned/Kendriya Vidyalaya Sangathan/Navodaya Vidyalaya Samiti as the case may be, shall be maintained by the "School" where the name of every student joining "the School" shall be entered.
- (b) Successive numbers must be allotted to students on their admission and each student should retain this number throughout the whole of her career in the school. A student returning to the school after absence of any duration shall resume admission on her original number.
- (c) If a student applying for admission to a school has attended any other school, an authenticated copy of Transfer Certificate in the format given in the Examination Byelaws from her last school must be produced before her name can be entered in the admission Register.
- (d) In no case shall a student be admitted into a class higher than that for which she is entitled according to the Transfer Certificate.
- (e) A student shall not be allowed to migrate from one "School" to another during the session after her name has been sent up for the Senior School Certificate(Class XII) Examination conducted by the Board. This condition may be waived only in special circumstances by the Chairman.

- (f) A student leaving her school at the end of a session or who is permitted to leave her school during the session on account of migration from one city/State to another on the transfer of the parent(s) or shifting of their families from one place to another or parents' request, especially in classes XI/XII, as the case may be, shall on payment of all dues, receive an authenticated copy of the Transfer Certificate up to date. A duplicate copy may be issued if the Head of the School is satisfied that the original is lost but it shall always be so marked.
- (g) In case a student from an institution not affiliated to the Board seeks admission in a school affiliated to the Board, such a student shall produce a Transfer Certificate duly countersigned by an authority as indicated in the format given in Examination Byelaws.
- (h) If the statement made by the parent or guardian of a student or by the student herself, if she was major at the time of her admission to a school, is found to contain any wilful misrepresentation of facts regarding the student's career, the Head of the School may punish her as per provision of the Education Act of the State/ Union Territory or Kendriya Vidyalaya Sangathan/Navodaya Vidyalaya Samiti Rules, as the case may be, respectively and report the matter to the Board.

6. Admission to Examinations

General

Notwithstanding anything contained in these Byelaws, no candidate who has been expelled or is under the punishment of rustication or is debarred for appearing in or taking an examination for any reason whatsoever shall be admitted to the All India/Delhi Senior School Certificate Examinations conducted by the Board.

All India/Delhi Senior School Certificate Examinations:

7. Academic Qualification for Undertaking Examinations:

- 7.1 A candidate for All India/Delhi Senior School Certificate Examination should have obtained/ passed the following at least two years earlier than the year in which she would take Senior School Certificate Examination (Class XII) of the Board:
 - (a) (i) obtained minimum Grade D in at least five subjects(excluding the 6th additional subject) of study under Scholastic area A and a Qualifying Certificate at the Secondary School Examination(Class X) conducted by the Board at least two years earlier than the year in which she would take Senior School Certificate Examination(Class XII) of the Board, or
 - (ii) obtained minimum Grade D in the five subjects(excluding the 6th additional subject) under Scholastic Area A, as well as grades in subjects under Scholastic Area B and in Co-Scholastic areas under the Continuous and Comprehensive Evaluation scheme in the Secondary School examination conducted by the school affiliated to the Board **and Grade Sheet cum Certificate of Performance** duly signed by the Board, or
 - (iii) has passed an equivalent examination conducted by any other recognised Board/ University, or
 - (iv) has passed Class XI examination from an institution affiliated to this Board or an institution recognized by / affiliated to any recognized Board in India at least one year earlier than the year in which she would take Senior School Certificate Examination of the Board.

8. Admission to Examinations: Regular Candidates

All India/Delhi Senior School Certificate Examination will be open to such regular candidates who have submitted their duly completed application for admission to the concerned examination, and/or her name in the manner prescribed by the Board, along with the prescribed fee forwarded to the Controller of Examinations by the Head of the School with the following duly certified by such head that she:

- (a) possesses the academic qualifications as laid down in Examination Byelaws;
- (b) has not passed equivalent or higher examination from this Board or equivalent or higher examination of any other Board or University;
- (c) is on the active rolls of the School;
- (d) has completed a "regular course of study" as defined and detailed in Examination Byelaws in a school in the subjects in which she would appear in the Examination;
- (e) bears a good moral character and is of good conduct; and
- (f) satisfies all other provisions applicable to her, of the Examination Byelaws and any other provision made by the Board by governing admission to the examination concerned, if any.

9. Essential Regulations for Affiliated Schools

- (a) It is mandatory upon a school affiliated to the Board to follow the Examination Byelaws of the Board in toto.
- (b) no affiliated school shall endeavour to present the candidates who are not on its roll nor will it present the candidates of its unaffiliated branch/schools to any of the Board's Examinations.
- (c) If the Board has reasons to believe that an affiliated school is not following the sub-section (a) and (b) of this section, the Board will resort to penalties as deemed fit.

10. A Regular Course of Study

- (a) The expression "a regular course of study" referred to in the Byelaw means at least 75% of attendance in the classes held counted from the day of commencing teaching of Class XI/ XII, as the case may be, up to the 1st of the month preceding the month in which the examination of the School / Board commences. Candidates taking up a subject(s) involving practical examination shall also be required to have put in at least 75% of the total attendance for practical work in the subject in the laboratory. Head of Schools shall not allow a candidate who has offered subject(s) involving practical examination to take the practical examination(s) unless the candidates fulfil the attendance requirements as given in this Rule.
- (b) The expression "a regular course of study" referred to in these Byelaws means at least 60% of attendance in respect of students participating in Sports at National level organized by recognized Federations/CBSE/School Games Federation of India (SGFI), the Classes held counted from the day of commencing teaching Classes XI/XII, as the case may be upto the 1st of the month preceding the month in which the examination of the School/Board commences. Candidates taking up a subject(s) involving practical examination shall also be required to have put in at least 60% of the total attendance for practical work in the subject in the laboratory. Head of Schools shall not allow a candidate who has offered subject(s) involving practical examination to take the practical examination(s) unless the candidate fulfills the attendance requirements as given in this Rule.
- (c) The candidates who had failed in the same examination in the preceding year and who has re-joined Class XI/XII shall be required to put in 75% of attendance calculated on the possible attendance

from the 1st of the month following the publication of the results of that examination by the School/ Board upto the 1st of the month preceding the month in which the examination of the School / Board commences.

- (d) The candidate who had failed in the same examination in the preceding year and who rejoins Classes XI/XII shall be required to put in 60% of attendance in respect of students participating in Sports at National level organized by recognized Federations/CBSE/SGFI calculated on the possible attendance from the 1st of the month following the publication of the results of that examination by the School/ Board upto the 1st of the month preceding the month in which the examination of the School/Board commences.
- (e) In the case of migration from other institutions, attendance at the school recognised by the Education Department of the State/Union Territory from which the candidate migrates will be taken into account in calculating the required percentage of attendance.

11. Requirement of Attendance in Subjects of Internal Assessment

- (a) No student from a School affiliated to the Board shall be eligible to take the Senior School Certificate Examination conducted by the Board unless she has completed 75% of attendance counted from the opening of class XII upto the first of the month preceding the month in which the examination commences in the internal assessment.
- (b) No student from a School affiliated to the Board shall be eligible to take the Senior School Certificate Examination conducted by the Board unless she has completed 60% of attendance in respect of students participating in Sports at National level organized by recognized Federations/CBSE/SGFI counted from the opening of class XII upto the first of the month preceding the month in which the examination commences in the subjects of internal assessment. Also no student from a School affiliated to the Board shall be eligible to take the Class XI Examination conducted by the School unless she has completed 60% of attendance in respect of students participating in Sports at National level organized by recognized Federations/CBSE/SGFI in the subjects of internal assessment.
- (c) Exemption from Work Experience/Art Education/Physical and Health Education may be granted to a candidate on medical grounds in respect of Senior School candidates appearing for the Senior School Certificate Examination conducted by the Board provided the application is supported by a certificate given by a registered medical officer of the rank not below that of Assistant Surgeon and forwarded by the Head of the School with her recommendations.
- (d) The Chairman shall have the powers to condone shortage of attendances in subjects of internal assessment in respect of Senior School candidates appearing for the Senior School Certificate Examination conducted by the Board.

12. Rules for Condonation of Shortage of Attendance

- (a) If a candidate's attendance falls short of the prescribed percentage, in case of students appearing for the Secondary and Senior School Certificate Examinations conducted by the Board, the Head of the School may submit her name to the Board provisionally. If the candidate is still short of the required percentage of attendance within three weeks of the commencement of examination, the Head of the School shall report the case to the Regional Officer concerned immediately. If in the opinion of the Head of the School, the candidate deserves special consideration, she may submit her recommendation to the Regional Officer concerned not later than three weeks before the commencement of the examination for condonation of shortage in attendances by the Chairman, CBSE who may issue orders, as he may deem proper. The Head of the School in her letter requesting for condonation of shortage in attendance, should give the maximum possible attendance by a

student counted from the day of commencing teaching of Classes X/XII(beginning of the session) up to the 1st of the month preceding the month in which the examination of the Board commences, attendance by the candidate in question during the aforesaid period and the percentage of attendance by such a candidate during the aforesaid period.

- (b) Shortage up to 15% only may be condoned by the Chairman in respect of those students appearing for the Senior School Certificate Examination conducted by the Board. Cases of candidates with attendance below 60% in class XII, appearing for the Board's examinations, shall be considered for condonation of shortage of attendance by the Chairman only in exceptional circumstances created on medical grounds, such as candidate suffering from serious diseases like cancer, AIDS, tuberculosis or similar serious diseases requiring long period of hospitalization.
- (c) The Principal shall refer a case of shortage within the above-prescribed limit of condonation to the Board, either with the recommendations or with valid reasons for not recommending the case.
- (d) The following may be considered valid reasons for recommending the cases of the candidates with attendance less than the prescribed percentage:
 - (i) prolonged illness;
 - (ii) loss of Father/Mother or some other such incident leading to her absence from the school and meriting special considerations;
 - (iii) any other reason of similar serious nature;
 - (iv) authorised participation in sponsored tournaments and Sports Meets of not less than inter school level and NCC/NSS Camps including the days of journeys for such participation shall be counted as full attendance; and
 - (v) authorised participation in Sports at National level organised by recognized Federation/ CBSE/SGFI.

13. Detaining of Eligible Candidates

In no case the Heads of affiliated schools shall detain eligible candidates from appearing at the examination of the Board.

14. Private Candidates

Definition. Refer Examination Byelaws.

15. Persons eligible to appear as 'Private Candidates' at Delhi Senior School Certificate (Class XII) Examination:

- (i) (a) A candidate who had failed at the Delhi Senior School Certificate Examination of the Board will be eligible to reappear at a subsequent examination as a private candidate in the syllabus and textbooks as prescribed for the examination of the year in which she will reappear.
- (b) Teachers serving in educational institutions affiliated to the Board, who have already qualified/passed, Secondary or an equivalent examination at least two years before taking the Senior School Certificate Examination. Teacher candidates shall submit her application form along with a certificate by Head of the School in which they are serving duly countersigned by the Director of Education, Government of National Capital Territory of Delhi to the Regional Officer, Delhi.
- (c) Women candidates who are bonafide residents of the National Capital Territory of Delhi

and have obtained minimum Grade D in at least five subjects(excluding the 6th additional subject) under Scholastic Area A as per the Scheme of Studies, Grades in subjects under Scholastic Area B and in Co-Scholastic Areas under the Continuous and Comprehensive Evaluation scheme in the Secondary School examination conducted by the Board/school affiliated to the Board or an equivalent examination conducted by any recognised Board in India at least two years before appearing at the Senior School Certificate Examination subject to conditions mentioned in Examination Byelaws.

- (d) Physically handicapped students who have obtained minimum Grade D in at least five subjects (excluding the 6th additional subject) under Scholastic Area A as per the Scheme of Studies, Grades in subjects under Scholastic Area B and in Co-Scholastic Areas under the Continuous and Comprehensive Evaluation scheme in the Secondary School examination conducted by the Board/school affiliated to the Board or an equivalent examination conducted by any recognised Board in India at least two years before appearing at the Senior School Certificate Examination on producing reasonable evidence of having deficiency to attend normal institutions for the purpose of studies.
 - (e) Regular candidate(s) of the previous year who have completed regular course of Studies and have been allotted roll number for appearing at the examination but could not appear at the Annual Examination due to medical reasons except shortage of attendance as laid down in the Examination Byelaws will also be eligible to reappear at a subsequent examination as a private candidate in the syllabus and text books as prescribed for the examination of the year in which she will reappear.
- (ii) Women/handicapped private candidates shall be required to satisfy the following additional conditions:
- (a) that they have privately pursued the prescribed course of studies under proper guidance; and
 - (b) that they are unable to join a Senior Secondary School affiliated to the Board or there are such other reasons compelling them to appear at the examination as a private candidate.

16. Persons eligible to appear as 'Private Candidates' at All India Senior School Examination

- (a) A candidate who had failed at the All India Senior School Certificate Examination of the Board will be eligible to reappear at a subsequent examination as a private candidate in the syllabus and text books as prescribed for the examination of the year in which she will reappear.
- (b) Teachers serving in educational institutions affiliated to the Board, who have already qualified/ passed Secondary or an equivalent examination at least two years before taking the Senior School Certificate Examination. Teacher candidates shall submit her application form along with a certificate by Head of the School in which they are serving duly countersigned by the Director of Education of the State/Union Territory concerned in which the teacher is serving to the Regional Office of the Board concerned in which the school is situated.
- (c) Regular candidates (s) of the previous year who have completed regular course of studies and have been allotted roll number for appearing at the examination but could not appear at the Annual Examination due to medical reasons except shortage of attendance as laid down in the Examination Byelaws will also be eligible to reappear at a subsequent examination as a private candidate.

17. Procedures for submission of Applications of Private Candidates at All India/Delhi Senior School Examination

- (i) A private candidate must submit to the Regional Officer of the Board within the prescribed limit an

application in the form prescribed together with the prescribed fee for the examination and three copies of passport size photographs duly signed by the candidate and countersigned in the case of teacher by the authorities mentioned in Rule 1.18 (ii) (a) or 1.19 (ii) and in case of others a member of the Governing Body of the Board or Head of a School affiliated to the Board.

- (ii) If the application of a private candidate is received after the prescribed date, she shall pay late fee as prescribed.
- (iii) When a private candidate's application for admission to the examination is rejected, the examination fee including late fee if any, paid by her less INR 10/- or the amount as decided by the Chairman from time to time, will be refunded to her, provided that in the case of candidates whose applications have been rejected on account of the candidate's producing a false certificate or making a false statement in the application, the full amount of fee shall be forfeited.
- (iv) Private candidates shall not be allowed to offer for their examination, a subject (even if the subject is recognised for the examination) which is not being taught in an affiliated school.
- (v) Private candidates shall not be allowed to offer such subjects for the examinations which involve practical work except in case of candidates who had failed earlier and who had put in a regular course of study at an institution affiliated to the Board in the previous academic year. However, notwithstanding this condition, female candidates may offer Home Science with practical.
- (vi) Those regular candidates who have failed to obtain promotion to class XII of the school affiliated to the Board or any other recognised Board shall not be admitted to the Senior School Certificate Examination of the Board as private candidates.
- (vii) Every year, in the beginning of the session, Head of the Schools shall send to the Regional Officer concerned, a list of female and handicapped students who have been detained in Class XI containing student's name, date of birth, the name of her father or guardian and the place of residence.

18. Rules for Change in Subject

- (i) Change of subject(s) in class XI may be allowed by the Head of the School but not later than 31st October of that academic session.
- (ii) No candidate shall be permitted to change her subject of study after passing Class XI.
- (iii) The candidate shall not offer a subject in Class XII which she has not studied and passed in Class XI.
- (iv) Notwithstanding anything contained in the rule (ii) and (iii), Chairman shall have the powers to allow a change in subject(s) to avoid undue hardship to the candidate, provided such a request for change is made before 30th August.

19. Submission of Migration Certificate by Private/Teacher Candidates for All India/Delhi Senior School Certificate Examination

The candidates who have passed the Secondary or equivalent examination from other recognised Board/ University shall be required to submit Migration Certificate from the concerned Board/ University along with the examination form. However, in case a Migration Certificate is not received fifteen days before the commencement of the examination, the candidature of the candidate shall be cancelled and the admit card for appearance at the examination shall not be issued to her by the Board.

2. SCHEME OF EXAMINATIONS AND PASS CRITERIA

2.1 General Conditions

- (i) The Scheme of Examinations and Pass Criteria for All India/Delhi Senior School Certificate Examination conducted by the Board shall be as laid down from time to time.
- (ii) Class XI examination shall be conducted by the schools themselves.
- (iii) The Board will conduct the external examinations at the end of Class XII.
- (iv) Class XII examination will be based on the syllabi as prescribed by the Board for Class XII from time to time.
- (v) Number of papers, duration of examination and marks for each subject/paper will be as specified in the curriculum for the year.
- (vi) The examination would be conducted in theory as well as in practical examination, depending upon the nature of the subject(s) and the marks/grades allotted shall be as prescribed in the curriculum.
- (vii) Marks/grades shall be awarded for individual subjects and the aggregate marks shall not be given.

2.2 Grading

- (i) Assessment of theory/practical papers in external subjects shall be in numerical scores. In addition to numerical scores, the Board shall indicate grades in the mark sheets issued to the candidates in case of subjects of external examinations. In case of internal assessment subjects, only grades shall be shown.
- (ii) Letter grades on a nine-point scale shall be used.
- (iii) The grades shall be derived from scores in case of subjects of external examination. In case of subjects of internal assessment, the schools shall award these grades.
- (iv) The qualifying marks in each subject of external examination shall be 33%. However, in a subject involving practical work, a candidate must obtain 33% marks in the theory and 33% marks in the practical separately in addition to 33% marks in aggregate, in order to qualify in that subject.
- (v) For awarding the grades, the Board shall put all the passed students in a rank order and will award grades as follows:
 - A-1 Top 1/8th of the passed candidates
 - A-2 Next 1/8th of the passed candidates
 - B-1 Next 1/8th of the passed candidates
 - B-2 Next 1/8th of the passed candidates
 - C-1 Next 1/8th of the passed candidates
 - C-2 Next 1/8th of the passed candidates
 - D-1 Next 1/8th of the passed candidates
 - D-2 Next 1/8th of the passed candidates
 - E Failed candidates

NOTES:

- (a) Minor variation in proportion of candidates to adjust ties will be made.
- (b) In case of a tie, all the students getting the same score will get the same grade. If the number of students at a score point needs to be divided into two segments, the smaller segment will go with the larger.
- (c) Method of grading will be used in subjects where the number of candidates who have passed is more than 500.
- (d) In respect of subjects where total number of candidates passing in a subject is less than 500, the grading would be adopted on the pattern of grading and distribution in other similar subjects.

2.3 Merit Certificates

- (a) The Board will award Merit Certificates in each subject to the top 0.1% of candidates passing that subject, provided that they have passed the examination as per the pass criteria of the Board at the Senior School Certificate Examination.
- (b) The number of merit certificates in a subject will be determined by rounding off the number of candidates passing the subject to the nearest multiple of thousand. If the number of candidates passing a subject is less than 500, no merit certificate will be issued.
- (c) In the matter of a tie, if one student gets a merit certificate, all candidates getting that score will get the merit certificate.

2.4 Scheme of Examination

- (a) The Board shall conduct examination in all subjects except General Studies, Work Experience, Physical and Health Education, which will be assessed internally by the schools.
- (b) In all subjects examined by the Board, a student will be given one paper each carrying 100 marks for 3 hours. However, in subjects requiring practical examination, there will be a theory paper and practical examinations as required in the syllabi and courses.
- (c) In Work Experience, General Studies, and Physical and Health Education, the Schools will maintain cumulative records of student's periodical achievements and progress during the year. These records are subject to the scrutiny of the Board as and when deemed fit.
- (d) A candidate from a recognised school who has some physical deformity or is otherwise unable to take part in Work Experience and Physical and Health Education, may be granted exemption by the Chairman on the recommendation of the Head of the School, supported by the medical certificate from a Medical Officer of the rank not below an Assistant Surgeon.
- (e) Private/PatracharVidyalaya and candidates sponsored by Adult School shall be exempted from Work Experience, General Studies and Physical and Health Education.
- (f) A candidate may offer an additional subject which can be either a language at elective level or another elective subject as prescribed in the Scheme of Studies, subject to the conditions laid down in the Pass Criteria.

2.5 Pass Criteria

- (a) A candidate will be eligible to get the pass certificate of the Board, if she gets a grade higher than 'E' in all subjects of internal assessment unless she is exempted. Failing this, result of the external examination will be withheld but not for a period of more than one year.
- (b) In order to be declared as having passed the examination, a candidate shall obtain a grade higher than E (i.e., at least 33% marks) in all the five subjects of external examination in the main or at the

end of the compartmental examination. The pass marks in each subject of external examination shall be 33%. In case of a subject involving practical work a candidate must obtain 33% marks in theory and 33% marks in practical separately in addition to 33% marks in aggregate in order to qualify in that subject.

- (c) No overall division/distinction/aggregate shall be awarded.
- (d) In respect of a candidate offering an additional subject, the following norms shall be applied:
 - (i) A language offered as an additional subject may replace a language in the event of a candidate failing in the same provided after replacement the candidate has English/ Hindi as one of the languages.
 - (ii) An elective subject offered as an additional subject may replace one of the elective subjects offered by the candidate. It may also replace a language provided after replacement the candidate has English/Hindi as one of the languages.
 - (iii) Additional language offered at elective level may replace an elective subject provided after replacement, the number of languages offered shall not exceed two.
- (e) Candidates exempted from one or more subjects of internal examination shall be eligible for appearing in external examination and result shall be declared subject to fulfilment of other conditions laid down in the Pass Criteria.
- (f) In order to be declared as having passed the Class XI Examination, a candidate shall obtain 33% marks in all the subjects. The pass marks in each subject of examination shall be 33%. In case of subject involving practical work a candidate must obtain 33% marks in theory and 33% in practical separately in addition to 33% marks in aggregate in order to qualify in that subject.

2.6 Eligibility for Compartment Examination

A candidate failing in one of the five subjects of external examination shall be placed in compartment in that subject provided she qualifies in all the subjects of internal assessment.

2.7 Compartment Examination

- (a) A candidate placed in compartment examination may reappear at the compartmental examination to be held in July the same year, may avail herself of second chance in March/April and third chance in July of next year. The candidate will be declared 'PASS' provided she qualifies the compartmental subjects in which she had failed. Syllabi and Courses shall be the same as applicable for the candidates of full subjects appearing at the examination in the year concerned.
- (b) A candidate who fails to appear or fails at one or all the chances of compartment examination shall be treated to have failed in the examination and shall be required to reappear in all the subjects at the subsequent annual examination of the Board as per syllabi and courses laid down for the examination concerned in order to pass the examination. The candidates' practical marks/internal assessment marks obtained in the Main examination will be carried over till the third chance compartmental examination. The candidate shall have the option to appear at the practical examination in the subjects involving practical or retain their previous marks in one more annual examination after the third chance compartment.
- (c) A candidate placed in compartment shall be allowed to appear at the subsequent three chances of Compartment only in those subjects in which she has been placed in compartment.
- (d) For subjects involving practical work, in case the candidate has passed in practical at the main examination she shall appear only in theory part and previous practical marks will be carried forward and accounted for. In case a candidate has not qualified/failed in practical/internal assessmentshe shall have to appear in theory and practical/internal assessment both irrespective of the fact that she has already qualified/cleared the theory examination.

2.8 Retention of Practical Marks in Respect of Failure Candidates

- (a) A candidate who has failed at the Senior School Certificate Examination in the first attempt shall be required to re-appear in all the subjects at the subsequent annual examination of the Board. She shall appear only in theory part and her previous practical marks will be carried forward and accounted for if she has passed in practical. In case a candidate has failed in practical she shall have to appear in theory and practical both. If she fails to pass the examination in two consecutive years, after the first attempt, she shall have to reappear in all the subjects including practical.

2.9 Additional Subject(s)

- (a) A candidate who has passed the Senior School Certificate Examination of the Board may offer an additional subject as a private candidate provided the additional subject is provided in the Scheme of Studies and is offered within six years of passing the examination of the Board. No exemption from time limit will be given after six years. Facility to appear in additional subject will be available at the annual examination only.
- (b) However, candidates appearing in six subjects at the Senior School Certificate Examination having been declared 'Pass' by virtue of securing pass marks in five subjects, without replacement, may reappear in the failing sixth additional subject at the Compartment Examination to be held in July the same year, provided she had appeared at the examination held in March in the said additional subject.

2.10 Improvement of Performance

- (a) A candidate who has passed an examination of the Board may reappear for improvement of performance in one or more subjects in the succeeding year only; however, a candidate who has passed an examination of the Board under Vocational Scheme may reappear for improvement of performance in the main examination in the succeeding year or the following year provided they have not pursued higher studies in the mean time. They will appear as private candidates. Those reappearing for the whole examination may, however, appear as regular candidates also if admitted by the school as regular students. The candidate (s) appearing for improvement of performance can appear in the subject (s) only in which they have appeared for the Examination.
- (b) For subjects involving practical work, in case the candidate has passed in practical at the main examination, she shall be allowed to appear in theory part only and marks in practical obtained at the main examination shall be carried forward and accounted for. In case a candidate has failed in practical, she shall have to appear in theory and practical both irrespective of the fact that she has already cleared the theory examination.
- (c) Candidates who appear for Improvement of Performance will be issued only Statement of Marks reflecting the marks of the improvement examination.
- (d) A candidate appearing for Improvement of Performance in one or more subjects cannot appear for additional subject simultaneously.
- (e) Candidates appearing in six subjects at the Senior School Certificate Examination having been declared 'Pass' by virtue of securing pass marks in five subjects as per Rule 2.2 (iv) may appear in the failing main subject at the Compartment Examination to be held in July the same year provided she had appeared at the Examination held in March in the said subject.

Examination Byelaws

Rest of conditions for appearing in the examination shall be as laid down in the Examination Byelaws of the Board from time to time.

3. SCHEME OF STUDIES

3.1 Academic Stream

The learning areas will include:

I and II. Two Languages (Core/Elective) out of

Hindi, English, Assamese, Bengali, Gujarati, Kashmiri, Kannada, Marathi, Malayalam, Manipuri, Oriya, Punjabi, Sindhi, Tamil, Telugu, Urdu, Sanskrit, Arabic, Persian, Limboo, Lepcha, Bhutia, Mizo, Tangkhul, Bodo, Nepali, Tibetan, French, German, Portuguese, Russian and Spanish.

Notes:

1. Out of the languages, one shall be English or Hindi, both English and Hindi can also be offered simultaneously.
2. The languages may be offered either at Core/Elective level. The same language, however cannot be offered both at the Core level and Elective level.
3. A candidate has the freedom to offer, in lieu of one of the two languages above, any other elective subject provided under III below.

Note: English can be offered at any of the three levels given below:

1. English Core
2. English Elective
3. Functional English

III to V. Three Electives out of the following:

Mathematics, Physics, Chemistry, Biology, Biotechnology, Engineering Graphics, Economics, Political Science, History, Geography, Business Studies, Accountancy, Home Science, Fine Arts, Agriculture, Computer Science/Informatics Practices, Multimedia and Web Technology, Sociology, Psychology, Philosophy, Physical Education, Music and Dance, Entrepreneurship, Fashion Studies, Creative Writing and Translation Studies, Heritage Crafts, Graphic Design, Mass Media Studies and Knowledge Traditions and Practices of India, Legal Studies, Human Rights and Gender Studies and National Cadet Corps. (In this regard please also refer to notes under 3.2.1. and 3.2.2 below).

Note: 1. The candidate shall opt either for Computer Science or Informatics Practices. However along with either of this, they can opt for Multimedia and Web Technology. Thus, a candidate can opt for maximum of two IT based Courses.

VI. General Studies

VII. Work Experience

VIII. Physical and Health Education

Additional Subject:

A candidate can also offer an additional elective which may either be a language at elective level (out of those mentioned above) or, any other elective subject. In this respect please also refer to clause 2.5 (d) under chapter 2 of this volume.

While transacting the Curriculum due emphasis should be laid on National Identity and Value Education. Schools are expected to draw their own programmes in this area in accordance with the guidelines

contained in the relevant journals and manual published by the Board. Likewise, programmes in General Studies, Work Experience and Physical and Health Education be planned in accordance with the guidelines brought out by the Board.

3.2 Curriculum for Vocational Cell

The vocationalisation of higher secondary programme aims to develop skilled manpower through diversified courses to meet the requirements of various sectors and to prepare people for the world of work in general through a large number of self-employment oriented courses. To cater to meet the gap of skilled manpower the board has researched and devised an educational programme through which we can impart our current and future generations necessary skills. The Board has integrated academic and vocational education into a single programme to provide the best curricular and pedagogical practices for students that have perfect linkages with world of work and study both.

Under this, the Board is doing continual efforts to develop and design a meaningful and holistic curriculum in association with its industry partners that are relevant to the current economy. To achieve the purpose of quality education the Board has collaborated with various organizations. These organizations are a constant source of guidance and help in updating our educational practices according to the current trends in the global market. Alliances have been made with various organizations like ROLTA India Ltd., NIFD, WWI, CII, NHMIT, Med varsity Online Education. Also, for effective delivery of curriculum and providing training to the students and teachers, Board has tied up with various Skill Knowledge providers in each domain.

Board has also partnered with Central Institute of Technology, Australia for introducing new vocational courses of CIT in the affiliated schools. Also, the teachers will be trained on by CBSE and its industry partners, throughout the year to enhance the training skills of the teachers to ensure effective curriculum transaction.

A student can choose to avail competency based skill learning along with general education in order to enhance the skills in the chosen field. Also, these courses allow them to explore new avenues/options available along with imparting the skills required to pursue a particular course. At present CBSE is offering 40 Vocational courses consisting of 100 subjects in 313 affiliated schools in India and 11 schools in 5 countries, with coverage of approx. 37,095 students.

To facilitate effective curriculum transaction the following scheme of study is suggested for vocational courses.

S. No.	Name of the Subject	Period/Week	Marks Distribution		Marks
			Theory	Practical	
1.	Language I (English)	7	100	-	100
2.	Two Subjects from Academic stream (Science/Commerce/Humanities)	7+7	100 or as per subject concerned 70 30		100 each
3.	Two papers from any of 34 Vocational Courses	8+8	60 50 30	40 50 70	100 each
4.	One Optional Additional subject from Academic stream (Science/Commerce/Humanities) or Vocational stream	7	100 or 70 30 or 60 40		100

5.	Work integrated learning	On the job exposure for 60 hrs. (level 1&2) = 10 days 120 hrs. (Level 3&4) = 20 days Min 6 hrs. per day			
6.	Personality Development and Soft Skills	2			
7.	Total	46			500+100 (optional additional)

3.2. List of Vocational Subjects

1. Office Secretaryship

This course is intended to make students proficient in the skill of office secretaryship. The office secretary's work includes supporting management, including executives, using a variety of project management, communication and organizational skills. They are responsible for most front-office procedures, such as photocopying, faxing, scheduling, word processing, filing, greeting clients, mail sorting and phone call routing. Most employers prefer secretarial experience to higher education, and do not usually require applicants to have more than a high school education. Good communication and interpersonal skills are essential. The students will be able to learn about office procedures, accounts and vendors details, accounts receivable, accounts payable and so forth.

2. Stenography and Computer Applications

This course intends to develop professional skills with an objective to train students not only in shorthand and typing but also in the use of modern office equipment, and effective communication at all levels of human relations. This course prepares the student for all the wings of the Government Executive, Judiciary and Legislative and Public Sector Undertakings, Private Sector as well as self-entrepreneurship.

3. Accountancy and Auditing

The course is designed to enable students develop conceptual skill and application skill in the commerce related field. The course will familiarize students with current business process and practices. This will help students in developing capabilities to identify business opportunities, analyze their risk- return possibilities and support business development in socially desirable avenues with strong moral commitment.

4. Marketing and Salesmanship

This course aims to develop "selling" capabilities in students. The student will understand how a product is marketed, considering various factors involved in marketing. Understanding of consumer behavior and helping consumers in making right choice of products is essential quality of salesman. Appreciation of consumer rights and legislations will help students in developing a good marketing sense, enabling them to later start their own enterprise.

5. Banking

Banking has emerged as one of the lucrative career options among the students in India. The curriculum is open for all streams such as Arts, Science and Commerce. The students are exposed to the fundamentals of banking, where they learn the operation of bank deposits, handling of negotiable instruments along with knowledge of accountancy. This package will enable students to move into banks in either public sector, private sector, overseas banks or multinationals. A sound knowledge of both finance and management is taught to improve their efficiency.

6. Retail

This course aims to enable students to get absorbed in organized Retail sector. This course will facilitate the students to be industry ready and to meet the employability criteria set by different companies. The students will be prepared to enter at different levels of **Retail industry by equipping them with thorough understanding of Customer Service areas and equipment handling.** Knowledge of retail marketing mix, brands in the retail industry, product placement and development, pricing alternatives, location options, and the promotion of goods and/or services will be emphasized upon. Application of technology to retail marketing management, e-commerce, international retailing, and customer relationship management will be introduced.

7. Financial Market Management

This course is designed to survey the field of finance and provide the foundation for more advanced finance coursework. Topics include sources of business and financial information, financial statement analysis, the time value of money, the nature and measurement of risk, financial institutions, investments and corporate finance. An examination of investment markets, transactions, planning and information. Topics include investment risk and return measures, debt and equity instruments, evaluation techniques, hybrid and derivative securities, mutual funds, real estate investments, tax planning and the investment process, and portfolio management.

8. Business Administration

Administrators are the key to an efficiently run organization. This course will enable students to acquire qualification which will enable them with specialist skills of business administration including accounts, keyboard skills and word processing.

9. Electrical Technology

After successfully completing two year (+2 stage vocational course), the student would have acquired relevant, appropriate and adequate technical knowledge together with professional skills and competencies in the field of Electrical Technology. The basic concepts in engineering drawing, the functioning of electrical motors and appliances, measuring and testing instruments and electrical circuits will be taught to increase competency level of the students so that they are equipped to take gainful employment in the said vocation.

10. Automobile Technology

This course intends in making students efficient in handling all major systems of automobile; handling of tools, servicing of vehicles, customer sales care and innovation and development aspects. The safety aspects are introduced to make students more aware and alert when they are working in the workshops. The skills imparted are to increase both technical knowledge as well as the professional skills of the students.

11. Structure and Fabrication

This course is envisaged keeping in mind the employment opportunities and activity profile of vocational students in civil engineering technology. The students will be exposed to competencies

such as preparing, reading and interpreting drawing pertaining to civil engineering and allied works. Knowledge of various types of construction materials and their characteristics, construction techniques, supervisory skills, principles and methods of surveying, estimating and costing, skills in communication along with use of computers in the field of civil engineering will be instilled.

12. Air Conditioning and Refrigeration Technology

The course intends to develop appropriate technical knowledge as well as the professional skills of the students. This course will enable them to understand the concepts and principles involved in working of refrigeration and air conditioning equipment. The processes involved in testing, fault identification and repair procedures are taught. The concepts involved in installing, commissioning, preventive maintenance and preparing estimates and costing are imparted.

13. Electronics Technology

This course aims to help students acquire knowledge of testing procedures of components and circuits by making use of different test instruments. The understanding of concepts and principles used in radio, audio, television and video system. Locating faults at component level and at the stage level. This course will develop appropriate technical knowledge as well as the professional skills of the students, so that they are equipped to take gainful employment in the said vocation.

14. Geospatial Technology

Geospatial technology is using digital spatial data acquired from remotely sensed images, Photogrammetry techniques, and analysis by Geographical Information Systems (GIS) and visualized on the computer screen or on paper through Geo-engineering. This course focuses on developing professional education dealing with mapping and Geospatial production ensure that students obtain insight into Geospatial database concepts creating and implementing databases, spatial analysis, developing GIS applications, through both theoretical concepts and supported by extensive practical exercises with hands on training.

15. Foundry

This course aims to introduce students to the foundry industry and provide clear understanding to the students of the technology processes, design flow and the techniques that can be employed to realize effective designs using our latest toolkits. The students will learn about foundry drawing, molding techniques, raw materials used, melting and pouring and cast metal techniques and so on. This course aims to develop appropriate technical knowledge as well as the professional skills of the students, so that they are equipped to take gainful employment in the said vocation.

16. Transportation System and Logistic Management

This course intends to introduce students to the world of transport management. The curriculum aims to skill students in understanding and utilizing measurable criteria to evaluate how well the multimodal transportation system operates. Identify and address the impacts of freight movement on areas surrounding truck routes (noise, air quality, safety). Identify and reduce/eliminate freight linkage deficiencies with the objective of improving freight movement through roadways, railroads, and rivers.

17. Ophthalmic Techniques

This course intends to qualify students to carry out ophthalmic investigations. They will be able to do refraction work including prescription of glasses, contact lenses and low vision aids. Knowledge of recognizing common eye diseases, principles of fabricating spectacle lenses so on will be taught. The course aims to enable student to work under the supervision of ophthalmologist so as to render assistance, develop skills and to perform other optometric jobs.

18. Medical Laboratory Techniques

The objective of this course is to produce versatile medical laboratory technologist equipped with adequate knowledge and skills in performing various laboratory analyses and tests related to patient diagnosis and treatment and also for the prevention of disease. A Medical Laboratory Technologist (MLT) is an important member of a medical team because the practice of modern medicine depends greatly on the outcome of the laboratory results. An MLT is responsible for providing reliable and accurate laboratory results to doctors who use them to make diagnosis and to treat their patients. MLTs carry out various procedures, analyses and laboratory investigations on tissue sample and body fluids such as blood and urine.

19. Auxiliary Nursing and Midwifery

The course aims to train students on how to take care of health related problems of children, mothers and old aged people especially in rural areas. Assessment of the nursing needs of individual, families and communities throughout life from birth till death. Major objective of this course is promotion of health, precaution against illness, restoration of health and rehabilitation. ANM nurses have to utilize relevant knowledge from the humanities, biological and behavioral sciences in carrying out health care and nursing activities and functions.

20. X-Ray Technician

The vocational course of X-ray technician aims at meeting the demand for trained paramedical personnel in the field of radiology/radiotherapy. The student will help in providing better radiological services. Knowledge of basic principles and components of electrical circuits, X-ray equipment and its accessories, processing of films, etc., radiological anatomy and physiology of human body, radiographic techniques and various positions for different parts of human body will be imparted. Basic knowledge of X-ray tube, Basic concept of special investigative procedures like, Barium, IVP, Hysterosalpingography, Ultrasound, CT, etc., will be introduced.

21. Healthcare Sciences

This course intends to enable students focus on population studies through incorporating both epidemiologic and laboratory skills. The course teaches the basic principles in public health and epidemiology, followed by laboratory knowledge and skills from the fields of microbiology, biochemistry, immunology and genetics as applied to health and disease, and their applications in epidemiologic activities (disease surveillance, outbreak investigations, identifying transmission patterns, risk factors and biomarkers, early detection of pathogens, etc.). The course includes a strong grounding in the ethical, legal, regulatory and social aspects of new health technologies entering the private and public health sectors of the country.

22. Health and Beauty Studies

This course intends to enable students acquire skill sets required in beauty, spa and holistic health industries. These industries are growing at a phenomenal rate, with high deficit in trained manpower. The students will be able to demonstrate understanding of anatomy and physiology, dietetics in relation to beauty culture and hair dressing, understanding of basic principles and properties of various types of cosmetics, their applications and their effects. Students will be trained in spa therapies, yoga exercises and communication. Thus, this course in this subject will empower the students either as an assistant or self-entrepreneur in spa and beauty industry, which is not cash extensive.

23. Medical Diagnostics

The course will enable the students identify and study function of different organs and systems in human body. Didactic and clinical experience necessary to acquire knowledge in Clinical Laboratory Science and General Education subjects will be provided. Students will be instructed in the analysis

and interpretation of laboratory tests. The course aims to instill in the students the importance of honesty and professionalism in the workplace.

24. Fashion Design and Clothing Construction

Fashion design is the applied art dedicated to the designing of clothing and lifestyle accessories created within the cultural and social influences of a specific time. The curriculum is designed to expose students to the cultural heritage of the country and to provide the appropriate structure for formation and the development of creative, technical, and emotional competences required for students willing to work and stand out in the vibrant Fashion market.

25. Textile Design Dyeing and Printing

The principle objective of this course is to study textiles, that is, the basic material of fashion, creating a balance between the challenge represented by the future (that the textile must fulfill the needs of being "intelligent", multi-functional, eco-sustainable, ethical and esthetic) and as an expression of creativity, tied to the traditions and values. The course is therefore calibrated between developing the handmade textiles, knowledge of the industrial processes of production of textiles and its commercialization; which can act as both source of inspiration and grounds for experimentation.

26. Design Fundamental

Design is inherently multidisciplinary. It is necessary both for the principles of design to be enriched by interactions with other disciplines and, in turn, for these disciplines to be enriched by the principles of design. This course provides students with the ability to create and communicate design concepts using various design technologies and techniques.

27. Beauty Services

This course will enable students acquire qualification towards successful learning of beauty services. Throughout the studies they will gain the knowledge and skills to provide a variety of basic beauty treatments and services to clients. Skills will be taught where they are able to start their own entrepreneurship ventures.

28. Music Technical Production

This course intends to introduce students to the technical aspect of music. This qualification will provide students with a practical introduction to recording processes including, mixing, editing and post-production.

29. IT Application

The course intends to develop skills related to web applications and advanced web designing. Knowledge of network safety and security, digital designing, multimedia anchoring, web content creation, interactive web page creation and troubleshooting will be taught. The curriculum is designed to develop appropriate technical knowledge as well as the professional skills of the students, so that they are equipped to take gainful employment in the said vocation.

30. Life Insurance

This course aims to provide students with the historical perspective of Insurance with a special reference to Life Insurance. This will enable students know the role of Life Insurance in the life of an individual and the society. Understanding of the principles and practices of Life Insurance will equip students with skills and exercises that are relevant to their efficient and effective functioning in the organization and at the same time, promoting professionalism. Students will be able to develop and use relevant tools, generate data and interpret them for better insights into the organizational needs and processes.

31. Library and Information Sciences

This course aims at training basic theories and principles of administration for effective management of public, academic, special libraries and information centers. Practical and theoretical understanding of and basic competencies required in evaluating, selecting and organizing information sources will be taught. Learning of the professional attitudes and the interpersonal and interdisciplinary skills needed to communicate and collaborate with the colleagues and the information users; and to understand the above goals within the perspective of prevailing and emerging technologies.

32. Poultry Farming

The course will introduce students to poultry farming, highlighting the attributes of poultry species and why it is a profitable venture. It traces the origin of poultry species and looks at them as a biological entity. The systems of poultry management are discussed with emphasis on housing and appliances available to the poultry farmer. Factors necessary for successful incubation, brooding, rearing and management of adult birds are discussed. The principles of poultry nutrition, record keeping and marketing are also covered. The course aims to develop entrepreneurial skills in poultry farming.

33. Horticulture

Horticulture is associated with the cultivation of vegetables, fruits, flowers, crops, tuber crops and medicinal, aromatic and ornamental plants. The curriculum will enable students gain knowledge about crop production, plant propagation, plant breeding, genetic engineering, preparation of soil and plant physiology and biochemistry and simultaneously can work in various fields including floral design, garden centers, teaching, fruit and vegetable production, arboriculture, landscape construction, etc.

34. Dairying Science and Technology

This course intends to introduce students to Dairying. The curriculum will educate students about the methods of handling milk from production to consumption to processing, packaging, storage, transport and physical distribution. The prime objective being to prevent spoilage, improve quality, increase shelf-life, and make milk palatable and safe for human consumption.

35. Food Production

The course intends to introduce students to the basics of cooking food coupled with the scientific approach by trying to understand the basic commodities utilized in preparation of food. Cooking of food is a skill-based education that requires both the style of art and the method of science. Describe kitchen operations including culinary terminology, operational software, cooking methods, and basic food handling skills: such as food safety and food quality. Demonstrate proper kitchen management systems, such as cost control, labor control, inventory control, production scheduling, sales history, menu development, and forecasting.

36. Food and Beverage Services

The course intends to introduce students to the concepts of food cost control, costing and beverage control system through numerous activities based on it. The course also emphasizes upon various operating activities like purchasing, receiving, storing and issuing. This course is an overview of the management practices utilized to direct, operate and control food services. This course will teach practical knowledge of appropriate service behaviors for a variety of guest types, understand the concept and techniques of good service and demonstrate the skills acquired and capacity to demonstrate various service techniques.

37. Mass Media Studies and Media Production

This course aims at grooming the natural talent of students and exposing them to ever-changing skills needed in the media and entertainment industry with hands-on experience. The course is designed to provide fundamental information on analysis of film, TV(including News), print articles, understanding of the pipeline multiple products of the media and entertainment industry (TV show/ segment, film, article, ad - film, etc.), concept of assembly line, animation, roles people play, skills and specializations, the creative process, aesthetics, design, framing, composition, writing, ideation and finally technology usage in the media and entertainment industry.

38. Bakery and Confectionery

This course envisages in helping students to acquire basic skills of Bakery and Confectionery. The curriculum is designed in a way to stimulate and lay foundation for further training in Bakery and Confectionery. It will also enable students acquire knowledge of commodities used in Bakery / Confectionery, the processing they have undergone, their selection, composition, functions, reaction to heat/baking, refrigeration, chilling and freezing, their interaction with each other and storage. The students will develop ability to assess the characteristics of good quality baked goods, identify common faults and be able to take corrective action where necessary; will know the principles involved in balancing formulas; and will acquire technical knowledge for setting up small scale baking units.

39. Front Office

This course focuses on the management role in the organization and structure of hotels, restaurants, clubs, and resorts. The students will understand the role of Front Office as the public face of the hotel, primarily by greeting hotel patrons and checking in guests. It also provides assistance to guests during their stay, completes their accommodation, food and beverage accounts and receives payment from guests.

40. Travel and Tourism

This course aims to introduce students to the great Tourism potential of India. This course will provide complete knowledge of our great country, i.e., our culture, traditions, our social history, hidden treasures of our country (natural beauty, monuments, places of pilgrimages, etc.), development scenario and aspirations. Tourism can be considered as a passport for international understanding, peace and prosperity.

3.2.1 These electives can be offered along with Business Studies, Accountancy and other subject to the following stipulations:

- (i) Not more than two electives from the above list can be offered.
- (ii) These papers cannot be combined with the electives related to similar disciplines under the academic stream in order to avoid duplication, e.g., Store Accounting (code no. 618) cannot be combined with Accountancy (code no. 055).
- (iii) If Stenography in Hindi or English is offered, it is obligatory to offer Hindi Typewriting or English Typewriting respectively as the case may be to make the combinations more meaningful. English Stenography, however, cannot be combined with Hindi Typewriting or corollary Hindi Stenography with English Typewriting.

3.3 Time Table and Work-distribution Norms Classes XI and XII

1. The teacher student ratio 1:30 as per the affiliation Bye-Laws of the Board should be maintained.
2. Every teacher shall devote in a year **not less than 1200 hours** to the teaching and planning, out of which not more than 200 hours may be required to be devoted for remedial teaching and attention to weak and gifted students before or after the school hours. Provided that if any teacher is required to devote more than 1200 hours to the teaching and planning, **extra remuneration shall be paid to her** at such rate as may be determined, by the managing committee, for every hour in excess of 1200 hours devoted by her to the teaching and planning.
3. All teachers are required to teach for a minimum of **30 periods** per week with remaining periods to be used for planning and preparation of the lessons and activities.
4. **08 periods Time Table** may be followed in schools with 45 minutes duration in the 1st and 5th periods and 40 minutes duration for the remaining periods.

Revised instructional time for classes XI and XII

(For three electives having practical classes)

Sl	Subject	Number of periods (Theory)	Number of periods (Practical)	Total
1	Language-I	6		6
2	Language-II/ Elective-I	6		6
3	Elective-II	5	4	9
4	Elective-III	5	4	9
5	Elective-IV	5	4	9
6	Work Education	—	1	1
7	General Studies/ General Foundation Course (GFC)	2		2
8	Physical and Health Education	—	2	2
9	Co-Curricular Activities	—	1	1
10	Life Skills*	—	1	1
11	Values Education and Gender Sensitivity*	—	1	1
12	Library	—	1	1
Total				48

Revised instructional time for classes XI and XII

(For electives without practical classes)

Sl	Subject	Number of periods for theory classes	Number of periods for activity classes	Total
1	Language-I	6		6
2	Language-II/Elective-I	6		6
3	Elective-II	8		8
4	Elective-III	8		8
5	Elective-IV	8		8
6	Work Education	—	2	2
7	General Studies/ General Foundation Course (GFC)	2		2
8	Physical and Health Education	—	3	3
9	Co-Curricular Activities	—	2	2
10	Life Skills*	—	1	1
11	Values Education and Gender Sensitivity*	—	1	1
12	Library	—	1	1
Total				48

Schools are expected to give adequate time for Community Service outside the school hours, the minimum being equivalent of two periods a week. A minimum of 30 weeks of teaching time will be available in each academic session for actual instructional transaction. The above distribution of periods over subjects is prescriptive in character. A school, keeping the overall number of periods in each subject/area the same, may assign more or less number of periods to individual sub-subjects according to their relative importance, if thought necessary.

**Life Skills, Values Education and Gender Sensitivity may be done as a part of reading learning across subjects as well through age- appropriate activities given in the Teachers' Manuals and Activity Cards brought out by the Board.*

3.4 Medium of Instruction

The medium of instruction in general in all the schools affiliated with the board shall either be English or Hindi.

3.5 Special Adult Literacy Drive (SALD)

In pursuance of the objects of the National Literacy Mission, Government of India, a Special Adult Literacy Programme has been taken up by Board from the academic session 1991- 92 beginning with classes IX and XI as a special measure to help remove illiteracy, through massive involvement of students. This has been termed as SALD. The Adult Literacy Drive has been made an essential component of Work Experience. Since this activity has to be taken up by all the schools on a compulsory basis, their attention is invited, among other things, to clauses 2 and 3 of the Framework.

4. HOW TO APPLY FOR INTRODUCING NEW/ ADDITIONAL SUBJECT/COURSE

A school affiliated with CBSE may introduce any subject/elective/course (vocational) offered by the CBSE if it fulfills the requirements to offer it as per the detailed criterion given in the curriculum of the elective/course to be introduced.

Availability of well qualified staff as per qualifications detailed in the Senior Secondary Curriculum Volume-I or Chapter IX of the Affiliation Byelaws should be ensured by the school before introducing the concerned subject. The number of qualified teachers for the course/ subject should be sufficient to teach all the students expected to take the course/ subject to be started.

Last date for submission of application is 30th June of the year preceding the year in which subject/course in classes IX or XI is proposed to be started. A subject/course should not be started without prior affiliation with the Board.

The CBSE will not be responsible for any consequences if any subject/course is started without proper affiliation, etc., by the CBSE.

How to apply:

1. Read the instructions carefully given in the curriculum document and Affiliation Byelaws before you start filling the electronic form.
2. There is an electronic application form available on www.cbse.nic.in e-affiliation a window will open, scroll to the end, click on the tab (click here to proceed) again scroll and click on the tab (click here to proceed) Form will open up.
3. Take a printout of the electronic online form after submitting it and attach bank draft* of the requisite amount in favor of **Secretary, Central Board of Secondary Education, Delhi, payable at Delhi** and other relevant documents and send it to the Affiliation Branch with a copy of the same to the Director (Academic) for information.
4. Schools are required to attach a copy of affiliation letter as scanned copy (jpg, gif and pdf files only and not more than 1MB in size) for applying to introduce new subjects.
5. Schools are required to pursue with the Affiliation Branch of the Board after sending their application for their affiliation status regarding the particular subject to be introduced.
6. After getting provisional affiliation, school must inform the Director (Academic) so as to ensure the dispatch of relevant academic material/information regarding training, etc., to school, if any.

*The details of the fee are as follows:

Sl. No.	Type of the school	Fee (per subject)
1	Independent schools within the country (Subjects involving practical)	₹ 5,000/-
2	Independent schools within the country (other subject)	₹ 3,000/-
3	Overseas Independent Schools (Subjects involving practical)	₹ 15,000/-
4	Overseas Independent Schools (Other Subject)	₹ 10,000/-

Note: For application please refer annexure (Page 527).

EXAMPLE

A new elective subject "Knowledge Traditions and Practices of India" has been introduced in the Senior Secondary classes w.e.f. 2012. All the modules of the textbook are available on the CBSE Academic website www.cbseacademic.in along with the circular no. 68 September, 2012. The print version will be available soon. This elective subject is multidisciplinary with ample content on Language and Literature. The course gets well with the 'humanities stream' because it extensively deals the history and knowledge traditions of India in various branches of Science and Humanities like Chemistry Metallurgy, Astronomy, Life Sciences, History, Geography, Agriculture, Trade, Theatre and Dance, etc.

This course "Knowledge Traditions and Practices of India" can be opted as an elective subject as one out of five or as an elective subject with any of the combination of subjects. Other elective subjects as mentioned in the scheme of studies point no. III to V can be opted. A student can opt for the sixth elective also. In the final examination, the best scores are counted for the admission in undergraduate courses.

Similar way all additional subjects like Music, Dance, Painting, Fine Arts, Physical Education, etc., can be taken as an additional subject along with other five main subjects. In the final examination, the best scores are counted for the admission in undergraduate courses.

5. MINIMUM QUALIFICATIONS FOR TEACHERS

Minimum Academic and Professional Qualifications for Recruitment of Teachers as per NCTE and in view of RTE 2009 are as follows:

1. **For Classes Pre-School / Nursery** (For children in the age group of 4-6 years)
 - a. Secondary School (Class ten) certificate or its equivalent; and
 - b. Diploma/Certificate in Pre-school teacher education programme of duration of not less than one year.
2. **For Classes Pre-School/ Nursery followed by first two years in a formal school** (For children in the age-group of 4-6 and 6-8 years)
 - a. Senior Secondary School (class twelve) Certificate or Intermediate or its equivalent with at least 45% marks; and
 - b. Diploma/Certificate in Nursery teacher education programme of duration of not less than two years.
3. **For Classes I-V: Primary Stage**
 - a. Senior Secondary (or its equivalent) with at least 50% marks and 2- year Diploma in Elementary Education (by whatever name known).

OR

Senior Secondary (or its equivalent) with at least 45% marks and 2- year Diploma in Elementary Education (by whatever name known), in accordance with the NCTE (Recognition Norms and Procedure), Regulations, 2002.

OR

Senior Secondary (or its equivalent) with at least 50% marks and 4- year Bachelor of Elementary Education (B.El.Ed).

OR

Senior Secondary (or its equivalent) with at least 50% marks and 2- year Diploma in Education (Special Education)*.

OR

Graduation and two year Diploma in Elementary Education (by whatever name known).

And
 - b. Pass in the Central Teacher Eligibility Test (CTET)/ Teacher Eligibility Test (TET)- Paper-I, conducted by CBSE/ appropriate Government in accordance with the guidelines framed by the NCTE for the purpose.
4. **For Classes VI-VIII: Elementary Stage**
 - a. Graduation and 2-year Diploma in Elementary Education (by whatever name known).

OR

Graduation with at least 50% marks and 1-year Bachelor in Education (B.Ed).

OR

Graduation with at least 45% marks and 1- year Bachelor in Education (B.Ed), in accordance with the NCTE (Recognition Norms and Procedure) Regulations issued from time to time in this regard.

OR

Senior Secondary (or its equivalent) with at least 50% marks and 4 - year Bachelor in Elementary Education (B.El.Ed).

OR

Senior Secondary (or its equivalent) with at least 50% marks and 4 - year B.A/B.Sc.Ed or B.A.Ed/ B.Sc.Ed.

OR

Graduation with at least 50% marks and 1-year B.Ed. (Special Education)*.

And

- b. Pass in the Central Teacher Eligibility Test (CTET)/ Teacher Eligibility Test (TET) Paper-II, conducted by CBSE/ appropriate Government in accordance with the guidelines framed by the NCTE for the purpose.

5. For Classes IX-X: Secondary Stage/ High School

- a. Graduate with Bachelor of Education (B.Ed.) or its equivalent.

OR

Four years integrated B.Sc., B.Ed. or an equivalent course.

6. For Classes IX-X: Senior Secondary Stage/ PUC/ Intermediate

- a. Masters Degree in the relevant subject with Bachelor of Education (B.Ed.) or its equivalent.

OR

- b. Two years integrated M.Sc.Ed. course or an equivalent course.

Note:

- i. Reservation Policy: Relaxation upto 5% in qualifying marks shall be allowed to the candidates belonging to reserved categories such as SC/ST/OBC/PH.
- ii. * Diploma/Degree Course in Teacher Education: For the purposes of this Notification, a diploma/degree course in teacher education recognized by the National Council for Teacher Education (NCTE) only shall be considered. However, in case of Diploma in Education (Special Education) and B.Ed. (Special Education), a course recognized by the Rehabilitation Council of India (RCI) only shall be considered.
- iii. Training to be undergone: A person with D.Ed (Special Education) or B.Ed (Special Education) qualification shall undergo, after appointment an NCTE recognized 6-month Special Programme in Elementary Education.
- iv. The minimum qualifications referred above apply to teachers of Languages, Social Studies/Social Science, Mathematics, Science etc. In respect of teachers for Physical Education, the minimum qualification norms for Physical Education teachers referred to in NCTE Regulation, dated 3rd November, 2001 (as amended from time to time) shall be applicable. For teachers of Art Education, Craft Education, Home Science, Work Education, etc. the existing eligibility norms prescribed by the State Governments and other school managements shall be applicable till such time the NCTE lays down the minimum qualifications in respect of such teachers.

PART-III
COURSES OF STUDIES

1. ENGLISH (ELECTIVE) CODE NO: 001

CLASSES XI - XII

Background

The course is intended to give students a high level of competence in English with an emphasis on the study of literary texts. The course will provide extensive exposure to a variety of rich texts of world literature as well as Indian writings in English, including classics, develop sensitivity to the creative and imaginative use of English and give them a taste for reading with delight and discernment. The course is pitched at a level which the students may find challenging yet interesting.

The course is primarily designed to equip the students to pursue higher studies in English literature and English language at the college level and prepare them to become teachers of English.

Objectives

The general objectives at this stage are:-

- i) to provide extensive exposure to a variety of writings in English, including some classics to develop sensitivity to literary and creative uses of the language.
- ii) to further expand the learners' vocabulary resources through the use of dictionary, thesaurus and encyclopaedia.
- iii) to develop a taste for reading with discernment and delight.
- iv) to critically examine a text and comment on different aspects.
- v) to develop proficiency in English both in receptive and productive skills.

At the end of this course, the learner

- i) grasps the global meaning of the text, its gist and understands how its theme and sub-theme relate.
- ii) relates to the details provided in the text for example, how the details support a generalization or the conclusion either by classification or by contrast and comparison.
- iii) comprehends details, locates and identifies facts, arguments, logical relationships, generalization, conclusion, in the texts.
- iv) draws inferences, supplies missing details, predicts outcomes, grasps the significance of particular details and interprets texts.
- v) assesses the attitude and bias of the author.
- vi) infers the meanings of words and phrases from the context; differentiates between apparent synonyms and appreciates the nuances of words.
- vii) appreciates stylistic nuances, the lexical structure; its literal and figurative uses and analyses a variety of texts.
- viii) identifies different styles of writing like humorous, satirical, contemplative, ironical and burlesque.
- ix) can produce text-based writing (writing in response to questions or tasks based on prescribed as well as 'unseen' texts.)
- x) develops the advanced skills of reasoning, inferring, analysing, evaluating and creating.
- xi) develops familiarity with the poetic uses of language including features of the language through which artistic effect is achieved.

Methods and Techniques

The techniques used for teaching should promote habits of self-learning and reduce dependence on the teacher. The multi-skill, learner-centred, activity based approach already recommended for the previous stages of education, is still in place, though it will be used in such a way that silent reading of prescribed selected texts for comprehension will receive greater focus as one of the activities. Learners will be trained to read independently and intelligently, interacting actively with texts and other reference materials (dictionary, thesaurus, encyclopaedia, etc.) where necessary. Some pre-reading activity will generally be required, and course books should suggest those activities. The reading of texts should be followed by post reading activities. It is important to remember that every text can generate different readings. Students should be encouraged to interpret texts in different ways, present their views of critics on a literary text and express their own reactions to them. Some projects may be assigned to students from time to time. For instance, students may be asked to put together a few literary pieces on a given theme.

ENGLISH ELECTIVE CODE NO: 001

CLASS - XI

SECTION - A

Reading an unseen passage and a poem **35 Periods**

- **Very Short and Short Answer Questions:** Literary or discursive passage of about 900-950 words.
- **Short Answer Questions:** A poem of about 20-24 lines to test interpretation and appreciation.

SECTION - B

Creative Writing Skills **35 Periods**

- **Long Answer Question:** An essay on an argumentative/discursive/reflective/or descriptive topic.
- **Very Long Answer Question:** A composition such as an article, a report, a speech.

SECTION - C

Literature Textbooks

Woven Words **75 Periods**

- **Very Short and Long Answer Questions:** To test comprehension, literary appreciation and drawing inferences in poetry and prose.

Arms and the Man - [Drama] **25 Periods**

- **Long answer Questions:** To test the evaluation of characters, events and episodes.

Fiction

- **Short and Long Answer Questions:** To test analysis of characters, events, episodes and interpersonal relationships and understanding of content, events and episodes **25 Periods**

Note: Short answer questions or long answer questions based on values can be given in the writing or in the literature section.

Seminar **25 Periods**

- Presentation of a book review, a play, a short story, a novel, novella (tale, fable, parable) to be followed by a question answer session.
- Poetry reading to be followed by interpretative tasks based on cloze reading and literary analysis of the text.

- Critical review of a film or a play.
- Conducting a theatre workshop to be followed by a discussion.

Note: Teachers may develop their own rubrics to assess the performance of students objectively.

- The performance descriptors of speaking given in English Core and English Functional specifications may be referred to.

Prescribed Books:

- **Text book:** 'Woven Words' published by NCERT
- **Fiction:** 'The Old Man and the Sea (Novel unabridged) by E. Hemingway
- **Drama:** 'Arms and the Man' by Bernard Shaw

QUESTION PAPER DESIGN 2013-14 CLASS XI									
ENGLISH ELECTIVE XI CODE - 001		Marks -100 (80+20 Seminar)							
Typology	Testing Competencies/learning outcomes	VSA 1 mark	Short Answer 50-60 words 2 marks	Long Answer-1 80 - 100 words 5 marks	Long Answer-2 120-200 words 6 marks	Very Long Answer 120 - 200 words (HOTS) 10 marks	Total marks	Over all %	
Reading Comprehension	Conceptual understanding, decoding, analysing, inferring, interpreting, appreciating, literary conventions and vocabulary.	10	5	-----	-----	-----	20	20	
Creative Writing Skill	Reasoning, appropriacy of style and tone, use of appropriate format and fluency	-----	-----	-----	-----	2	20	20	
Literature Texts	Recalling, reasoning, appreciating literary conventions illustrating with relevant quotations from the texts, giving opinions and justifying with fluency	4	5	-----	1	-----	20	20	
Drama	Recalling, reasoning, appreciating literary conventions, illustrating with relevant quotations from the texts, giving opinions and justifying with fluency	-----	-----	2	-----	-----	10	10	
Fiction	Recalling, reasoning, appreciating literary conventions, illustrating with relevant quotations from the texts, giving opinions and justifying and fluency	-----	2	-----	1	-----	10	10	
Seminar	Seeking information and clarifying, illustrating with relevant quotations from the texts, reasoning, diction, articulation clarity of pronunciation, using appropriate language conventions Addressing participants using appropriate titles or nomenclatures and overall fluency	-----	-----	-----	-----	-----	20	20	
	TOTAL	14x1=14	12x2=24	2x5=10	2x6=12	2x10=20	80+20=100	100	

ENGLISH ELECTIVE CODE NO: 001

CLASS-XII

SECTION - A

1. **Reading an unseen passage and a poem** **60 Periods**
- **Very Short Answer Questions:** One literary or discursive passage of about 950-1000 words followed by short questions
 - **Short Answer Questions:** A poem of about 24 - 28 lines to test interpretation and appreciation.

SECTION - B

2. **Creative Writing Skills & Applied Grammar** **60 Periods**
- **Long Answer Question:** A short discursive, interpretative writing
 - **Very Long Answer Question:** An essay on an argumentative/discursive topic such as an article, report or speech
 - **Very Short Answer Question:** Transformation of sentences.

SECTION - C

3. **Literature Textbook: Kaleidoscope** **60 Periods**
- **Short Answer Questions:** To test understanding and appreciation
 - **Long Answer Question:** To test deeper understanding, interpretation, appreciation, drawing of inferences and evaluation.
4. **Fiction** **40 Periods**
- **Short and Long Answer Questions:** Seeking comments, interpretation, evaluation and appreciation of characters, events, episodes and interpersonal relationships.
 - **Very Long Answer Question:** To test deeper understanding, interpretation, appreciation and drawing inferences.

Prescribed Books:

1. Kaleidoscope- Text book published by NCERT
2. A Tiger for Malgudi or The Financial Expert by R.K. Narayan (Novel) Fiction

QUESTION PAPER DESIGN 2014-15 CLASS XII							Marks -100	
ENGLISH ELECTIVE XII CODE - 001	Testing Competencies/learning outcomes	VSA 1marks	Short Answer 50-60 words 2 marks	Long Answer-1 80 - 100 words 5 marks	Long Answer-2 120-150 words 6 marks	Very Long Answer 150 - 200 words (HOTS) 10 marks	Total marks	Over all %
Typology								
Reading Comprehension	Conceptual understanding, decoding, analysing, inferring, interpreting, appreciating or literary conventions and vocabulary.	10	5	-----	-----	-----	20	20
Creative Writing Skills	Reasoning appropriacy of Style and tone, using appropriate format, inferring, analysing, evaluating, creativity with fluency Applying appropriate language Conventions, comprehension using structures integratively, application, accuracy and fluency	10	-----	2	-----	1	30	30
Literature Texts	Recalling, reasoning, appreciating literary conventions illustrating with relevant quotations from the texts, giving opinions and justifying, inferring, analysing, evaluating, creativity and fluency	-----	4	2	2	-----	30	30
Fiction	Recalling, reasoning, appreciating literary conventions, Illustrating with relevant quotations from the texts, inferring, analysing, evaluating and creating, giving opinions, justifying with fluency	-----	-----	2	-----	1	20	20
	TOTAL	20x1 = 20	9x2 = 18	6x5 = 30	2x6 = 12	2x10 = 20	100	100

2. FUNCTIONAL ENGLISH (REVISED) (CODE NO. 101)

BUILDING A BRIDGE BETWEEN ACADEMICS AND WORKPLACE

Aims and Objectives of the Revised Functional English Course

The revised Functional English, integrated with the occupational English, for Classes XI and XII, highlights the CBSE's approach to language training within an academic and professional context. The content emphasizes language competencies and effective workplace communicative skills that may be considered an associate life skill. Therefore, the comprehensive English curriculum will enable students opting for the revised Functional English to understand and use significantly complex language in the contexts of higher studies or employment. Functional English language skills are a vital key to success. These skills are valued by employers and further education and are a platform on which to build other employability skills. Better English skills can mean a better future.

According to NCF 2005: The language environment of disadvantaged learners needs to be enriched by developing schools into community learning centres. A variety of successful innovations exists whose generalizability needs exploration and encouragement. Approaches and methods need not be exclusive but may be mutually supportive within a broad cognitive philosophy. Higher-order skills (including literary appreciation and role of language in gendering) can be developed once fundamental competencies are ensured.

Further, according to NCF 2005: A set of work-related generic competencies (basic, interpersonal and systemic) could be pursued at all stages of education. This includes critical thinking, transfer of learning, creativity, communication skills, aesthetics, work motivation, work ethic of collaborative functioning, and entrepreneurship-cum-social accountability.

Indeed, today's job market, offering employment, for example, in hotels, hospitals, construction, or manufacturing, welcomes workers with specific occupational skills, and, more importantly, the ability to understand and interact orally, to fill out job applications, and to use manuals or catalogues, successful participation in training programs, in specialized forms of English. Then, again, at the managerial level, increasingly a proficient command of English is necessary to interact efficiently and appropriately with English-speaking colleagues, clients, customers or employees; and, for students, it will be the achievement of a higher level of competency in the global language, for their higher academic pursuits in India and abroad.

Functional English for classes XI and XII, includes reading, writing, listening and speaking, grammar and vocabulary, and will cover the various areas through a variety of themes offered in the course materials. The curriculum developers have analysed work tasks and communicative goals in order to break them into discrete units for which interactive, discovery and research-oriented, collaborative learning activities to develop their Speaking, Listening, Reading and Writing skills

The Approach to Revised Functional English Curriculum

- A skill based communicative approach is recommended in Functional English with graded texts followed by learner centred activities.
- Academic reading and writing and appreciation of literature forms the basis of the syllabus.
- It is recommended that teachers consciously take a back seat, playing the role of a manager, coordinator and facilitator.

Language Skills and their Objectives

Approach to Reading

- The course aims at introducing a variety in text type rather than having only short stories and prose pieces.

- The emphasis is to enlarge the vocabulary through word building skills and impart training in reading for specific purposes.

Specific Objectives of Reading:

Students are expected to develop the following study skills:

- refer to dictionaries, encyclopaedia, thesaurus and academic reference material
- select and extract relevant information, using reading skills of skimming and scanning
- understand the writer's attitude and bias
- comprehend the difference between what is said and what is implied
- understand the language of propaganda and persuasion
- differentiate between claims and realities, facts and opinions
- form business opinions on the basis of the latest trends available
- comprehend technical language as required in computer related fields
- arrive at personal conclusion and comment on a given text
- be original and creative in interpreting opinion
- be logically persuasive in defending one's opinion

Develop literary skills as enumerated below:

- personally respond to literary texts
- appreciate and analyse special features of languages that differentiate literary texts from non-literary ones
- explore and evaluate features of character, plot, setting, etc.
- understand and appreciate the oral, mobile and visual elements of drama
- identify the elements of style such as humour, pathos, satire and irony, etc.
- make notes from various resources for the purpose of developing the extracted ideas into sustained pieces of writing
- summarizing

Speaking and Listening

Speaking and listening skills need a very strong emphasis and is an important objective leading to professional competence. Hence testing of oral skills must be made an important component of the overall testing pattern. To this end, speaking and listening skills are overtly built into the material to guide the teachers in actualization of the skills.

The CBSE had introduced the formal Assessment of Speaking and Listening skills (ASL) in class XI with effect from the session 2012-13. As a part of the CCE, it is believed that assessment should be used to control and regulate the quality and also maintain the desired standards of performance in specific areas of learning. As good communication skills raise the self-esteem and gives a student confidence to face the challenges of life, it is desired that the student acquires proficiency in it by the time he or she completes school education. In the present time, speaking and listening are considered to be the essential skills of learning a language which are extensively used in one's life. Hence, the formal assessment of speaking and listening skills has been added in the overall assessment scheme with a view to bring in a 'washback' effect in the teaching process. While the focus of listening skills is to assess a student's competency in listening for understanding the main points to identify general and specific information for a purpose, distinguishing the main points from the supporting details, interpreting messages, understanding and following instructions, advice, requests, etc., the linguistic and non-linguistic features of a language, etc., and appropriate activities may be used for assessing the above mentioned objectives.

The outcome of the Assessment of Speaking and Listening Skills (ASL) is to develop students' confidence to respond fluently and intelligently in English during situations where the use of English is imperative. The course offered here will develop strategies to listen with comprehension to spoken English, especially in the context of formal academic discussions, interviews and about career prospects. They will be internationally intelligible during their communicative exchanges so that they can play a range of roles in academic, social as well as in future workplace contexts.

It is suggested that the Speaking and Listening Skills Assessment [20 %], within this curriculum must not, however, affect the reliability or validity of assessment outcomes, nor must they be perceived to give these students an assessment advantage over other students.

Specific objectives of Speaking and Listening Skills:

- understand conversational English in a natural environment
- confidence in speaking English with greater fluency
- using suitable registers /appropriacy
- using a wider vocabulary to talk about a range of general topics as well as specific subject area.
- interacting appropriately
- adopting appropriate strategies to get more information
- clarifying misunderstood information
- asking for repetition without losing understood names, terms, numbers, or directions
- receiving and giving telephonic messages
- responding to complaints and requests
- greeting appropriately
- accuracy and pronunciation
- efficient interaction

SPEAKING ASSESSMENT

The assessment of speaking skills is based on four aspects of a language which include language functions, grammar, lexis or range of vocabulary and phonology. Students will be assessed on a scale of 5-1 wherein 1 is the lowest and 5 is the highest. If a student performs very well but doesn't completely fall in the highest category he or she can be marked in between 3 and 5. This will give a student wider range where the performance can be pitched.

The descriptors for three bands 5,3 and 1 are given below for all the four areas:

PERFORMANCE DESCRIPTORS

Interactive Competence	5	4	3	2	1
Task Management	Contributions are highly effective and fulfil the task. Can fulfil the communicative functions of the level with spontaneity.	Contributions are effective and fulfil the task. Can fulfil the communicative functions of the level.	Contributions are adequate and fulfil the task. Can fulfil functions of the level but may not do so consistently.	Contributions are limited and there is some attempt at the task which is not fulfilled and/or may be repetitive.	There is almost no contribution and/or contributions may not be related to the task.

Initiation and Turn-taking	Is prompt to initiate discussions on the themes/ functions at the given level appropriately. Contributes spontaneously to keep the interaction going; takes turn appropriately.	Is easily able to initiate discussions on the themes/ functions at the given level appropriately. Contributes effectively to keep the interaction going and takes turn appropriately.	Is able to initiate discussions on the themes/ functions at the given level. Makes an effort to keep the interaction going; takes turn.	Struggles to initiate discussions on the themes/ functions at the given level. Makes little effort to keep the interaction going;	Does not initiate discussions. Makes no effort to keep the interaction going.
Appropriacy and Relevance	Speaks with a clear sense of purpose and audience in both formal and informal situations. Contributions are always appropriate to the context/ situation.	Speaks with a fair sense of purpose and audience in both formal and informal situations. May be less confident in formal situations.	Speaks with an awareness of purpose and audience may not adapt register effectively. Contributions are appropriate to the context/ situation.	Has unclear sense of purpose and may be unable to adapt register. Contributions may not be connected to the context/ situation.	Has hardly any sense of purpose and cannot adapt to register.
Fluency	5	4	3	2	1
Cohesion and Coherence Speed of Delivery sequence	Presents information in a logical sequence of linked utterances with a clear connection between ideas, arguments and statements. Uses a range of cohesive devices. Speaks fluently with minimal hesitation. Has intelligible speed of delivery.	Presents information in a logical sequence of linked utterances with a connection between ideas, arguments and statements. Uses with ease some cohesive devices. Speaks fluently with some hesitation. Has intelligible speed of delivery.	Presents information generally in a logical order but overall progression may not always be clear. Uses a range of cohesive devices but some over/ under use. Coherence may be affected by hesitancy or rephrasing. Intelligible speed of delivery	Presents information but without clear progression. Uses limited cohesive devices repetitively. Severe hesitation may impede communication. Speed of delivery impedes understanding	Presents information with no progression and/ or little control of organisational features. May use only isolated words and phrases.

Pronunciation	5	4	3	2	1
Pronunciation, Stress and intonation	Has clear, natural pronunciation that can be easily understood by the listener. Varies stress and intonation in keeping with the task, content and meaning.	Presents information in a logical sequence of linked utterances with a connection between ideas, arguments and statements. Uses with ease some cohesive devices. Speaks fluently with some hesitation. Has intelligible speed of delivery.	Is intelligible though there are examples of some mispronunciation. Tries to speak, varying stress and intonation according to task, content and meaning.	Is not always intelligible and the listener may have to ask for repetition from time to time Flat intonation and/or inappropriate stress for the task, content or meaning	Is not intelligible.
Language	5	4	3	2	1
Accuracy	Uses a range of grammatical patterns with accuracy, including some complex forms. Makes only negligible errors.	Uses a range of grammatical patterns with accuracy, including a few complex forms and makes only noticeable errors.	There may be some mistakes which affect meaning but there is an attempt to correct most of these mistakes.	There are mistakes which affect meaning but there is hardly an attempt to correct these mistakes.	Communicates with fragments of words and structures but does not manage to bridge the gaps or correct his/her mistakes.
Range	Uses an expressive and appropriate range of structures, words and phrases on topics appropriate to the level and to deliver an effective message.	Uses an expressive and appropriate range of words and phrases on topics appropriate to the level. These may be repetitive.	Can use the language of the level but is repetitive. May search for words with the risk of the message becoming weaker	Uses basic, simple words and phrases for the level. There may be an effort to find suitable words, which may hamper the message.	Uses simple, isolated words for the level. There is little effort to find words.

Specific Objectives of Listening:

Students are expected to develop the ability:

- to listen to lectures and talks and to be able to extract relevant and useful information for a specific purpose.
- to listen to news bulletins and to develop the ability to discuss informally on a wide ranging issues like current national and international affairs, sports, business, etc.
- to respond in interviews and to participate in formal group discussions.
- to make enquiries meaningfully and adequately, and to respond to enquiries for the purpose of travelling within the country and abroad.
- to listen to business news and to be able to extract relevant important information.
- to develop the art of formal public speaking.

Approaches to Writing

The course for two years has been graded in such a way that it leads the students towards acquiring advanced writing skills through integrated tasks that move from less linguistically challenging to more challenging ones. It has been planned on the premise that sub skills of writing should be taught in a context and more emphasis should be laid on teaching the process of writing.

Specific Objectives of Writing

- to write letters to friends, pen friends, relatives, etc.
- to write business and official letters.
- to send telegrams, faxes, e-mails[formal].
- to open accounts in post offices and banks.
- to fill in railway/airline reservation forms.
- to write on various issues to institutions seeking relevant information, lodge complaints, express thanks or tender apology.
- to write applications, fill in application forms, prepare a personal bio-data for admission into colleges, universities, entrance tests and jobs.
- to write informal reports as part of personal letters on functions, programmes and activities held in school (morning assembly, annual day, sports day, etc.)
- to write formal reports for school magazines/events/processes/ or in local newspapers about events or occasions.
- to express opinions, facts, arguments in the form of a speech or debate.
- to draft papers to be presented in symposia.
- to take down notes from talks and lectures.
- to write examination answers according to the requirement of various subjects.
- Summarizing

Grammar and Phonetics:

The Grammar that supports these skills includes adjectives and adverbs, modals and semi-modals, gerunds and participles, the simple, continuous, perfect [present, past] tense forms, future time, active and passive voice, reported speech, sentence transformation.

The Speaking and listening skills acquisition will be supported by the inclusion of the following: Speech Mechanism, Organs of Speech, Classification of Vowels - Diphthongs, Cardinal Vowels, Phonemes - Allophones and Allophonic Variations, Homonyms and Homophones, Stress and Rhythm, Intonation, Juncture Elision and

Assimilation.

Evaluation and Assessment

The revised Functional English Curriculum, which is intended as a preparation/vocational for higher academic studies and professional careers will require students to qualify in the assessments of the following skills areas:

	Weightage
● Reading	20
● Writing Skills and Grammar	30
● Literary Appreciation and Extended Reading Texts	30
● Assessment of Speaking and Listening Skills	20

Group project/class presentation/case study/research will be based on the use of English in academic and professional/vocational contexts for internal assessment

The multi-focal Functional English language curriculum, aims at equipping our students with excellent communicative skills in diverse applications of English Language designed to open up a wide spectrum of higher academic and career avenues in a fast evolving knowledge and technology driven society. The curriculum with its component for students' exposure to major works of literature will foster human values and will stimulate self-exploration and effective self-expression to empower them to be active participants and contributors in the knowledge society.

An integrated functional and occupational English will provide students of the vocational and academic streams important, more focused language skills necessary for successful upward mobility academically and professionally as a result of their higher standard of English proficiency. Besides, the revised integrated curriculum will enhance the Total Learning Experience of students offering either the vocational or regular streams, who will be the unequivocal beneficiaries of the most life-long and significant transferable job skill that supports the achievement of their life goals, as confident and competent communicators in English, in higher academic study/the work place.

Problem Solving Assessment (PSA):

It is widely acknowledged fact that research and analytical skills, ability to apply basic concept of different subjects, solving application based problems in Mathematics and Science, comprehending and analysing written text and effective communication are the skills which ensure success in Higher Studies and Professional areas. Keeping this in mind (PSA) Problem Solving Assessment has been introduced in class XI.

The features are:

- Compulsory for all students of Classes XI and carry 60 marks. There will be 60 items of MCQ type.
- No specific syllabus for 'Problem Solving Assessment'(CBSE-PSA).
- It will assess Quantitative Reasoning, Qualitative Reasoning and Language Conventions. They would be assessing student's ability to process, interpret and use information rather than assessing student's prior subject matter knowledge.
- The Assessment in language will contain items that will assess grammar, usage, vocabulary in context and passage-completion, designed to improve the generic and higher order thinking skills.
- The CBSE-PSA will be conducted in January-February.
- The students will have the option to improve their PSA Score in Class XII, as they can sit for the test with Class XI students of that session in January - February. The best scores will be reflected in the final certificate in case of those applying for improvement.
- There will be no separate time tables/periods for teaching or practice of PSA.

Reading Project

Inculcating good reading habits in children has always been a concern for all stakeholders in education. The purpose is to create independent thinking individuals with the ability to not only create their own knowledge but also critically interpret, analyse and evaluate it with objectivity and fairness. This will also help students in learning and acquiring better language skills.

Creating learners for the 21st century involves making them independent learners who can 'learn, unlearn and relearn' and if our children are in the habit of reading they will learn to reinvent themselves and deal with any challenges that lie ahead of them.

Reading is not merely decoding information or pronouncing words correctly, it is an interactive dialogue between the author and the reader in which the reader and the author share their experiences and knowledge with each other which helps them to understand the text and impart meaning to the text other than what the author himself may have implied. Good readers are critical readers with an ability to arrive at a deeper understanding of not only the world presented in the book but also of the real world around them. They not only recall what they read but comprehend it too. Their critical reading and understanding of the text helps them create new understanding, solve problems, infer and make connections to other texts and experiences. Reading does not mean reading for leisure only but also for information, analysis and synthesis of knowledge. The child may be encouraged to read on topics as diverse as Science and Technology, Politics and History. This will improve his/her critical thinking skills and also help in improving his/her concentration.

The purpose of reading a text is:-

- reading silently at varying speeds depending on the purpose of reading;
- adopting different strategies for different types of texts, both literary and non-literary;
- recognising the organisation of a text;
- identifying the main points of a text;
- understanding relations between different parts of a text through lexical and grammatical cohesion devices;
- anticipating and predicting what will come next;
- deducing the meaning of unfamiliar lexical items in a given context;
- consulting a dictionary to obtain information on the meaning and use of lexical items;
- analysing, interpreting, inferring (and evaluating) the ideas in the text;
- selecting and extracting from text, information required for a specific purpose;
- retrieving and synthesising information from a range of reference material using study skills such as skimming and scanning;
- interpreting texts by relating them to other material on the same theme (and to their own experience and knowledge); and
- reading extensively on their own for pleasure.

A good reader is most often an independent learner and consequently an independent thinker capable of taking his own decisions in life rationally. Such a learner will most assuredly also be capable of critical thinking.

Note: The reading project will be assessed internally only.

EXAMINATION SPECIFICATION FUNCTIONAL ENGLISH CLASS-XI

SECTION-A

ADVANCED READING SKILLS

60 Periods

MCQs and short answer questions: to test comprehension, analysis, inference, evaluation and literary appreciation

1. 450-500 words in length for note-making and summarising;
2. 300-500 words in length (comprehension and vocabulary).

The passages or poems could be of any of the following types:

- a) Factual passages, e.g., instructions, descriptions, reports.
- b) Discursive passages involving opinion, e.g., argumentative, reflective persuasive, etc.
- c) Literary texts, e.g., poems, extracts from fiction, biography, autobiography, travelogue, etc.

Note: In the case of a poem, the text may be shorter than 200 words or 20-24 lines.

SECTION - B

WRITING SKILLS AND GRAMMAR

55 Periods

This section will include writing tasks as indicated below:

3. **Short Answer Questions:** Messages, notices, e-mails (formal) and description of people, arguing for or against a topic.

Note: Though e-mail is included as one of the writing tasks, it is suggested that it may be tested as a part of internal or formative assessment.

4. **Long Answer Question:** Based on a verbal or visual input:
 - a) Official letter for making inquiries, suggesting changes, registering complaints, asking for and giving information, placing orders and replies.
 - b) Letters to the editor on various social, national and international issues.
5. **Very Long Answer Question:** Sustained writing tasks such as writing a speech, an article for a magazine or report based on a verbal or a visual input.

Grammar

35 Periods

A variety of questions through MCQs and **Very Short Answer type questions** may be asked to test grammar items in context (not as isolated sentences). Though only modals, determiners, voice and tense forms are being dealt with in Class XI, other grammar items such as prepositions, verb forms, connectors which have been learnt earlier would also be included.

- Drafting questions/questionnaires based on verbal/visual input
- Composing a dialogue based on the given input
- Recognizing consonant and vowel values in pronunciation/ sentence and word stress
- Correction of errors in sentences

SECTION - C

LITERATURE: Textbooks and Long Reading Texts

70 Periods

Questions are asked to test local and global comprehension involving interpretative, inferential, evaluative and extrapolatory skills.

- **Very Short Answer Questions:** Based on extracts from different prose pieces each followed by questions to test Local and Global comprehension of ideas and language.
- **Short Answer Questions:** Based on different poems to test theme, setting and literary devices.
- **Long Answer Question:** Based on prose or play to test comprehension of characters, actions and plot appreciation of literary conventions and reasoning.

Note: Short answer questions or long answer questions based on values can be given in the writing section or in the literature section.

- **Long Answer Questions:** To test understanding, appreciation, analysis, inference in the plot of the long reading text and writing a character sketch.

PRESCRIBED BOOKS:

1. *Language Skills Book* - Class XI Functional English (Revised) published by Central Board of Secondary Education, Delhi.
2. *Language Reader* - Class XI Functional English (Revised) published by Central Board of Secondary Education, Delhi.
3. **The Novels: (Anyone)**

The Canterville Ghost (unabridged - 1906 Edition)

Up From Slavery (unabridged - 2000 Edition)

Author

Oscar Wilde

Booker T. Washington

QUESTION PAPER DESIGN 2013-14 CLASS XI									
ENGLISH Functional XI CODE - 101		Time-3 hours Marks -80+20=100							
Typology	Testing Competencies/learning outcomes	MCQ 1 mark	Very Short Answer 1 mark	Short Answer 50-60 words 4 marks	Long Answer-1 80 – 100 words 5 marks	Long Answer-2 120-200 words 6 marks	Very Long Answer 120 – 200 words (HOTS) 10 marks	Total marks	Over all %
Reading Skills	Conceptual understanding, decoding, analysing, inferring, interpreting, appreciating, a literary conventions and vocabulary, summarising and using appropriate format/ s	5	5	1	-----	1	-----	20	20
Writing Skills and Grammar	Reasoning, appropriacy of style and tone, using appropriate format and fluency Applying language conventions appropriately using structures integrative, accuracy and fluency	4	6	1	-----	1	1	30	30
Literary Texts and Long Reading Texts	Recalling, reasoning, appreciating literary conventions and fluency		10	1	2	1	-----	30	30
Assessment of Speaking and Listening Skill	Interaction, reasoning, diction, articulation, clarity, pronunciation and overall fluency						10+10 (L + S)	20	20
	TOTAL	9x1=9	21x1=21	3x4=12	2x5=10	3x6=18	1x10=10	80	100%

**EXAMINATION SPECIFICATIONS
FUNCTIONAL ENGLISH
CLASS-XII**

SECTION - A

READING SKILLS

60 Periods

Short answer and MCQ type questions:

Two unseen passages (including poems) with a variety of questions including 04 marks for vocabulary such as word formation and inferring meaning. The total range of the two passages including a poem or a stanza, should be around 850-950 words to assess comprehension, analysis, inference, evaluation and literary appreciation.

1. 550-600 words in length (for note-making and summarising)
2. 300-350 words in length (to test comprehension)

The passage could be of any one of the following types:

- Factual passages, e.g., illustrations, description, reports
- Discursive passages involving opinion, e.g., argumentative, persuasive
- Literary passages, e.g., poems, extracts from fiction, biography, autobiography, travelogue, etc. In the case of a poem, the text may be shorter than the prescribed word limit.

SECTION-B

WRITING SKILLS AND GRAMMAR

60 Periods

- **Short Answer Question:** Notices, advertisements, factual description of people arguing for or against topics, places and objects, drafting posters, accepting and declining invitations.
- **Long Answer Question:** Letter of any of the following types based on a verbal or visual input:
 - a) Official letters for making inquiries, suggesting changes - registering complaints asking for and giving information, placing orders and sending replies.
 - b) Letters to the editor on various social, national and international issues.
 - c) Application for a job including CV (Curriculum Vitae) / Resume.
- **Very Long Answer Question:** Sustained writing task such as writing a speech, an article for a magazine or a report based on verbal / visual input.

Grammar

30 Periods

A variety of questions, as listed below may be asked, involving the application of grammar items in context (i.e., not in isolated sentences). The grammar syllabus will be sampled each year. Though only modals, determiners, voice and tense forms have been dealt with in class XI, however, other grammar items such as prepositions, verb forms, connectors which have been learnt earlier would also be included.

Very Short Questions and Multiple Choice Questions

- Reordering of words and sentences

- Composing a dialogue based on a given input
- Error correction in sentences
- Drafting questions / questionnaires based on given input

SECTION - C

LITERATURE: Prescribed Books and Long Reading Text (Novel) 70 Periods

Questions to test comprehension at different levels and of different kinds - local, global, interpretative, inferential, evaluative and extrapolatory.

- **Very Short and Short Answer Questions:** Based on extracts from different prose pieces from the Literature Reader; each followed by questions to test local and global comprehension of ideas and languages used in the text.
- **Short Answer Questions:** Based on different poems to test theme, setting and literary devices.
- **Long Answer Question:** Extended questions based on one of the prose texts or play in the Literature Reader to test global comprehension and for extrapolation beyond the text.
- **Long Answer Questions:** To test understanding, appreciation, analysis, inference in a plot and writing a character sketch.

Note: Values based questions for 4 marks may be asked in Sections- B or C

PRESCRIBED BOOKS:

1. *Language Skills book* - Class XII Functional English (Revised) published by Central Board of Secondary Education, Delhi.
2. *Language Reader* - Class XII Functional English (Revised) published by Central Board of Secondary Education, Delhi.

Long Reading Text / Novel

Hound of Baskervilles (unabridged 1902)

Author

Arthur Conan Doyle

QUESTION PAPER DESIGN 2014-15 CLASS XII									
ENGLISH FUNCTIONAL XII CODE - 101		Time-3 hours Marks -80+20=100							
Typology	Testing Competencies/learning outcomes	MCQ 1 mark	Very Short Answer 1 marks	Short Answer 50-60 words 4 marks	Long Answer-1 80 - 100 words 5 marks	Long Answer-2 120-200 words 6 marks	Very Long Answer 120 - 200 words (HOTS) 10 marks	Total marks	Over all %
Reading Skills	Conceptual understanding, decoding, analysing, inferring, interpreting, appreciating, literary conventions and vocabulary, summarising and using appropriate format/s	5	5	1	-----	1	-----	20	20
Writing Skills and Grammar	Reasoning, appropriacy of style and tone, using appropriate format with language fluency Applying conventions appropriately using structures integratively with accuracy and fluency	4	6	1	-----	1	1	30	30
Literary Texts and Long Reading Texts	Recalling, reasoning, appreciating literary conventions and fluency		10	1	2	1	-----	30	30
Assessment of Speaking and Listening Skill	Interaction, reasoning, diction, articulation, clarity of pronunciation and overall fluency						10+10 (L+S)	20	20
	TOTAL	9x1=9	21x1=21	3x4=12	2x5=10	3x6=18	1x10=10	80	100

3. ENGLISH (CORE) (CODE NO: 301)

Background

Students are expected to have acquired a reasonable degree of language proficiency in English by the time they come to class XI, and the course will aim, essentially, at promoting the higher-order language skills.

For a large number of students, the higher secondary stage will be a preparation for the university, where a fairly high degree of proficiency in English may be required. But for another large group, the higher secondary stage may be a preparation for entry into the world of work. The Core Course should cater to both groups by promoting the language skills required for academic study as well as the language skills required for the workplace.

Objectives

The general objectives at this stage are:

- i) to listen and comprehend live as well as record in writing oral presentations on a variety of topics
- ii) to develop greater confidence and proficiency in the use of language skills necessary for social and academic purpose
- iii) to participate in group discussions, interviews by making short oral presentation on given topics
- iv) to perceive the overall meaning and organisation of the text (i.e., the relationships of the different "chunks" in the text to each other
- v) to identify the central/main point and supporting details, etc., to build communicative competence in various registers of English
- vi) to promote advanced language skills with an aim to develop the skills of reasoning, drawing inferences, etc. through meaningful activities
- vii) to translate texts from mother tongue(s) into English and vice versa
- viii) to develop ability and knowledge required in order to engage in independent reflection and enquiry

At the end of this stage learners will be able to do the following:

- i) read and comprehend extended texts (prescribed and non-prescribed) in the following genres: science fiction, drama, poetry, biography, autobiography, travel and sports literature, etc.
- ii) text-based writing (i.e., writing in response to questions or tasks based on prescribed or unseen texts)
- iii) understand and respond to lectures, speeches, etc.
- iv) write expository / argumentative essays, explaining or developing a topic, arguing a case, etc.
- v) write formal/informal letters and applications for different purposes
- vi) write items related to the workplace (minutes, memoranda, notices, summaries, reports etc.
- vii) filling up of forms, preparing CV, e-mail messages., making notes from reference materials, recorded talks etc.

The core course should draw upon the language items suggested for class IX-X and delve deeper into their usage and functions. Particular attention may, however, be given to the following areas of grammar:

The use of passive forms in scientific and innovative writings.

Converting one kind of sentence/clause into a different kind of structure as well as other items to exemplify stylistic variations in different discourses modal auxiliaries-uses based on semantic considerations.

Specific Objectives of Reading:

Students are expected to develop the following study skills:

- refer to dictionaries, encyclopaedia, thesaurus and academic reference material
- select and extract relevant information, using reading skills of skimming and scanning
- understand the writer's attitude and bias
- comprehend the difference between what is said and what is implied
- understand the language of propaganda and persuasion
- differentiate between claims and realities, facts and opinions
- form business opinions on the basis of latest trends available
- comprehend technical language as required in computer related fields
- arrive at personal conclusion and comment on a given text specifically
- develop the ability to be original and creative in interpreting opinion
- develop the ability to be logically persuasive in defending one's opinion
- making notes based on a text

Develop literary skills as enumerated below:

- personally respond to literary texts
- appreciate and analyse special features of languages that differentiate literary texts from non-literary ones
- explore and evaluate features of character, plot, setting, etc.
- understand and appreciate the oral, mobile and visual elements of drama
- identify the elements of style such as humour, pathos, satire and irony, etc.
- make notes from various resources for the purpose of developing the extracted ideas into sustained pieces of writing

Speaking and Listening

Speaking needs a very strong emphasis and is an important objective leading to professional competence. Hence testing of oral skills must be made an important component of the overall testing pattern. To this end, speaking and listening skills are overtly built into the material to guide the teachers in actualization of the skills.

Assessment of Speaking and Listening Skills (ASL)

The CBSE had introduced the formal assessment of speaking and listening skills in class XI with effect from the session 2012-13. As a part of the CCE, it is believed that assessment should be used to control and regulate the quality and also to maintain the desired standards of performance in specific areas of learning. As good communication skills raise the self esteem and gives student confidence to face the challenges of life, it is desired that the student acquires proficiency in it by the time he or she completes secondary education. In the present time, speaking and listening are considered to be the essential skills of learning a language which are extensively used in one's life. Hence, the formal assessment of speaking and listening skills has been added in the overall assessment scheme with a view to bring in a 'washback' effect in the teaching process. While the focus of listening skills is to assess a student's competency in listening for understanding the main points for identifying general and specific information for a purpose, distinguishing the main points from the supporting details, interpreting messages, understanding and following instructions, advice, requests, etc., the linguistic and non-linguistic features of a language, etc., and appropriate activities may be used for assessing the above mentioned objectives.

SPEAKING ASSESSMENT

The assessment of speaking skills is based on four aspects of a language which include language functions, grammar, lexis or range of vocabulary and phonology. Students will be assessed on a scale of 5-1 where in 1 is the lowest and 5 is the highest. If a student performs very well but doesn't completely fall in the highest category he or she can be marked in between 3 and 5. This will give a student wider range where the performance can be pitched.

The descriptors for three bands are given below for all the four areas:

PERFORMANCE DESCRIPTORS

Interactive Competence	5	4	3	2	1
Task Management	Contributions are highly effective functions of the level with spontaneity.	Contributions are effective and fulfil the task. Can fulfil the communicative functions of the level.	Contributions are adequate and fulfil the task. Can fulfil functions of the level but may not do so consistently.	Contributions are limited and there is some attempt at the task which is not fulfilled and/or may be repetitive.	There is almost no contribution and/or contributions may not be related to the task.
Initiation and Turn-taking	Is prompt to initiate discussions on the themes/ functions at the given level appropriately. Contributes spontaneously to keep the interaction going; takes turn appropriately.	Is easily able to initiate discussions on the themes/ functions at the given level appropriately. Contributes effectively to keep the interaction going and takes turn appropriately.	Is able to initiate discussions on the themes/ functions at the given level. Makes an effort to keep the interaction going; takes turn.	Struggles to initiate discussions on the themes/ functions at the given level. Makes little effort to keep the interaction going;	Does not initiate discussions. Makes no effort to keep the interaction going.
Appropriacy and Relevance	Speaks with a clear sense of purpose and audience in both formal and informal situations. Contributions are always appropriate to the context/ situation.	Speaks with a fair sense of purpose and audience in both formal and informal situations. May be less confident in formal situations.	Speaks with an awareness of purpose and audience may not adapt register effectively. Contributions are appropriate to the context/ situation.	Has unclear sense of purpose and may be unable to adapt register. Contributions may not be connected to the context/ situation.	Has hardly any sense of purpose and cannot adapt to register.

Fluency	5	4	3	2	1
Cohesion and Coherence Speed of Delivery sequence	Presents information in a logical sequence of linked utterances with a clear connection between ideas, arguments and statements. Uses a range of cohesive devices. Speaks fluently with minimal hesitation. Has intelligible speed of delivery.	Presents information in a logical sequence of linked utterances with a connection between ideas, arguments and statements. Uses with ease some cohesive devices. Speaks fluently with some hesitation. Has intelligible speed of delivery.	Presents information generally in a logical order but overall progression may not always be clear. Uses a range of cohesive devices but some over/under use. Coherence may be affected by hesitancy or rephrasing. Intelligible speed of delivery	Presents information but without clear progression. Uses limited cohesive devices repetitively. Severe hesitation may impede communication. Speed of delivery impedes understanding	Presents information with no progression and/or little control of organisational features. May use only isolated words and phrases.
Pronunciation	5	4	3	2	1
Pronunciation, Stress and intonation	Has clear, natural pronunciation that can be easily understood by the listener. Varies stress and intonation in keeping with the task, content and meaning.	Presents information in a logical sequence of linked utterances with a connection between ideas, arguments and statements. Uses with ease some cohesive devices. Speaks fluently with some hesitation. Has intelligible speed of delivery.	Is intelligible though there are examples of some mispronunciation. Tries to speak, varying stress and intonation according to task, content and meaning.	Is not always intelligible and the listener may have to ask for repetition from time to time Flat intonation and/or inappropriate stress for the task, content or meaning	Is not intelligible.

Specific Objectives of Listening:

Students are expected to develop the ability:

- to listen to lectures and talks and to be able to extract relevant and useful information for a specific purpose.
- to listen to news bulletins and to develop the ability to discuss informally on a wide ranging issues like current national and international affairs, sports, business, etc.
- to respond in interviews and to participate in formal group discussions.
- to make enquiries meaningfully and adequately and to respond to enquiries for the purpose of travelling within the country and abroad.
- to listen to business news and to be able to extract relevant important information.
- to develop the art of formal public speaking.

Specific Objectives of Writing

- to write letters to friends, pen friends, relatives, etc.
- to write business and official letters.
- to send telegrams, faxes, e-mails[formal].
- to open accounts in post offices and banks.
- to fill in railway/airline reservation forms.
- to write on various issues to institutions seeking relevant information, lodge complaints, express thanks or tender apology.
- to write applications, fill in application forms, prepare a personal bio-data for admission into colleges, universities, entrance tests and jobs.
- to write informal reports as part of personal letters on functions, programmes and activities held in school (morning assembly, annual day, sports day, etc.)
- to write formal reports for school magazines/events/processes/ or in local newspapers about events or occasions.
- to express opinions, facts, arguments in the form a speech or debates.
- to draft papers to be presented in symposia.
- to take down notes from talks and lectures.
- to write examination answers according to the requirement of various subjects.
- to summarise a text.

Reading Project

Inculcating good reading habits in children has always been a concern for all stakeholders in education. The purposes to create independent thinking individuals with the ability to not only create their own knowledge but also critically interpret, analyse and evaluate it with objectivity and fairness. This will also help students in learning and acquiring better language skills.

Creating learners for the 21st century involves making them independent learners who can learn, unlearn and relearn and, if our children are in the habit of reading, they will learn to reinvent themselves and deal with the many challenges that lie ahead of them.

Reading is not merely decoding information or pronouncing words correctly. It is an interactive dialogue between the author and the reader in which the reader and the author share their experiences and knowledge with each other. Good readers are critical readers with an ability to arrive at a deeper understanding of not only the world presented in the book but also of the real world around them.

Consequently, they become independent thinkers capable of taking their own decisions in life rationally. Hence, a few activities are suggested below which teachers may use as a part of the reading project.

- Short review
- Dramatization of the story
- Commentary on the characters
- Critical evaluation of the plot, storyline and characters
- Comparing and contrasting the characters within the story and with other characters in stories by the same author or by the other authors
- Extrapolating about the story read or life of characters after the story ends defending characters actions in the story
- Making an audio story out of the novel/text to be read aloud.
- Interacting with the author
- Holding a literature fest where students role-play as various characters to interact with each other
- Role playing as authors/poets/dramatists, to defend their works and characters
- Symposiums and seminars for introducing a book, an author, or a theme
- Creating graphic novels out of novel or short stories they read
- Dramatizing incidents from a novel or a story
- Creating their own stories
- Books of one genre to be read by the whole class.

Teachers may select books suitable to the age and level of the learners. Care ought to be taken to choose books that are appropriate in terms of language, theme and content and which do not hurt the sensibilities of a child.

Teachers may later suggest books from other languages but dealing with the same themes as an extended activity. The Project should lead to independent learning/reading skills and hence the chosen book should not be taught in class, but may be introduced through activities and be left for the students to read at their own pace. Teachers may, however, choose to assess a student's progress or success in reading the book by asking for verbal or written progress reports, looking at their diary entries, engaging in a discussion about the book, giving a short quiz or a work sheet about the book/short story. The mode of assessment may be decided by the teachers as they see fit.

These may be used for Internal assessments/Formative Assessments only. It may be noted that this reading project is apart from the long reading texts which have been prescribed for the Term-end Assessments.

Problem Solving Assessment (PSA):

It is a widely acknowledged fact that research and analytical skills, ability to apply basic concept of different subjects, solving application based problems in Mathematics and Science, comprehending and analysing written texts and effective communication are the skills which ensure success in higher studies and professional areas. Given below are the features of PSA:

The features are :

- Compulsory for all students of Classes XI and carry 90 marks. There will be 60 items of MCQ type.
- No specific syllabus for Problem Solving Assessment (CBSE-PSA)
- It will assess Quantitative Reasoning, Qualitative Reasoning and Language Conventions. They would be assessing students' ability to process, interpret and use information rather than assessing their prior subject knowledge.

- The assessment in language will contain items that assess grammar, usage, vocabulary in context and passage-completion, designed to improve the generic and higher order thinking skills.
- The CBSE-PSA will be conducted in January-February and students will get a separate certificate for the same.
- The students will have the option to improve their PSA score in Class XII, as they can sit for the test with Class XI students of that session in January - February. The best scores will be reflected in the final certificate in case of those applying for improvement.
- There will be no separate time tables/periods for teaching or practice of PSA.

Methods and Techniques

The techniques used for teaching should promote habits of self-learning and reduce dependence on the teacher. In general, we recommend a multi-skill, learner-centred, activity based approach, of which there can be many variations. The core classroom activity is likely to be that of silent reading of prescribed/selected texts for comprehension, which can lead to other forms of language learning activities such as role-play, dramatization, group discussion, writing, etc., although many such activities could be carried out without the preliminary use of textual material. It is important that students be trained to read independently and intelligently, interacting actively with texts, with the use of reference materials (dictionary, thesaurus, etc.) where necessary. Some pre-reading activity will generally be required, and the course books should suggest suitable activities, leaving teachers free to devise other activities when desired. So also, the reading of texts should be followed by post reading activities. It is important to remember that every text can generate different readings. Students should be encouraged to interpret texts in different ways.

Group and pair activities can be resorted to when desired, but many useful language activities can be carried out individually. In general, teachers should encourage students to interact actively with texts and with each other. Oral activity (group discussion, etc.) should be encouraged.

CLASS - XI English Core

SECTION - A

Reading Comprehension

60 Periods

- **Very short answer and MCQ types questions:**

Two unseen passages (including poems) with a variety of questions including 04 marks for vocabulary such as word formation and inferring meaning. The total range of the 2 passages including a poem or a stanza, should be around 900-1000 words.

1. 550-600 words in length (for note-making and summarising)
2. 350-400 words in length (to test comprehension, interpretation and inference)

An unseen poem of about 28-35 lines.

The passages could be of any one of the following types:

- **Factual passages**, e.g., illustrations, description, reports
- **Discursive passages** involving opinion, e.g., argumentative, persuasive
- **Literary passages** e.g. extracts from fiction, biography, autobiography, travelogue, etc. In the case of a poem, the text may be shorter than the prescribed word limit.

SECTION B

Writing Skills and Grammar

WRITING

60 Periods

- **Short Answer Questions:** Based on notice/ poster/ advertisement
- **Long Answer Questions:** Letters based on verbal/visual input. It would cover all types of letters.
- **Letter types may include:**
 - (a) business or official letters (for making enquiries, registering complaints, asking for and giving information, placing orders and sending replies)
 - (b) letters to the editor (giving suggestions on an issue)
 - (c) application for a job with a bio-data or resume
 - (d) letter to the school or college authorities, regarding admissions, school issues, requirements /suitability of courses, etc.
- **Very Long Answer Question:** Composition in the form of article, speech, report writing or a narrative

Grammar

30 Periods

- Different grammatical structures in meaningful contexts will be tested. Item types will include gap filling, sentence re-ordering, dialogue completion and sentence transformation. The grammar syllabus will include determiners, tenses, clauses, modals and Change of Voice. These grammar areas will be tested using the following **short answer type and MCQ type questions:**
- Error Correction, editing tasks,
- Re - ordering of Sentences,
- Transformation of sentences

SECTION C

Literature and Long Reading Texts

70 Periods

Questions to test comprehension at different levels: literal, inferential and evaluative

1. **Hornbill:** Textbook published by NCERT, New Delhi
2. **Snapshots:** Supplementary Reader published by NCERT, New Delhi

The following have been deleted:

Textbooks	Name of the lessons deleted
Hornbill	<ol style="list-style-type: none"> 1. Landscape of the Soul 2. The Adventure 3. Silk Road 4. The Laburnum Top (Poetry)
Snapshots	<ol style="list-style-type: none"> 5. The Ghat of the only World

- **Very Short Answer Questions** - Based on an extract from poetry to test reference to context comprehension and appreciation.
- **Short Answer Questions** - Based on prose, poetry and plays from both the texts.
- **Long Answer Question** - Based on prescribed texts to test global comprehension and extrapolation beyond the texts to bring out the key messages and values.
- **Long Answer Questions** - Based on theme, plot, incidents or event from the prescribed novels.
- **Long Answer Question** - Based on understanding appreciation, analysis and interpretation of the characters.

Note: Values-based questions may be given as long answers in the writing or literature sections.

Long Reading Texts (Anyone)

With a view to inculcate the habit of reading among the students, CBSE has introduced compulsory reading of a Long Reading Text - Novel in the English Core Course and will be evaluated in the Term-end Assessments. Schools can opt for either one of the texts.

Novels	Author
The Canterville Ghost	Oscar Wilde (unabridged 1906 Edition)
Up from Slavery	Booker T. Washington (unabridged 2000 Edition)

QUESTION PAPER DESIGN 2013-14 CLASS XI										
ENGLISH Core XI CODE - 301		Time-3 hours								
		Marks -80+20=100								
Typology	Typology of questions/ learning outcomes	MCQ I mark	Very Short Answer Question 1 mark	Short Answer Question 3 marks	Short Answer Question 4 marks	Long Answer-1 80 - 100 words 5 marks	Long Answer-2 120-150 words 6 marks	Very Long Answer 150 - 200 words (HOTS) 10 marks	Total marks	Over all %
Reading Skills	Conceptual understanding, decoding, analysing, inferring, interpreting, appreciating literary conventions and vocabulary, summarising and using appropriate format/s	6	6	1	1	1	-----	-----	20	20
Writing Skills and Grammar	Reasoning, appropriacy of style and tone, using appropriate format and fluency inference, analysis, evaluation and creativity, appreciation applying of languages conventions, comprehension using structures integratively, accuracy and fluency	-----	10	-----	1	-----	1	1	30	30
Literary Text books and long reading text	Recalling, reasoning, appreciating a literary conventions, inference, analysis, evaluation, creativity with fluency		3	3	-----	-----	3	-----	30	30
Assessment of Speaking and Listening Skills	Interaction, reasoning, diction, articulation, clarity, pronunciation and overall fluency		-----		-----	10+10 (L + S)			20	20
	TOTAL	6x1=6	19x1=19	4x3=12	1x4=4	1x5=5	4x6=24	1x10=10	80	100

ENGLISH CORE CLASS - XII

SECTION A

Reading Comprehension

30 Marks

Reading Unseen Passages and Note making

Two unseen passages with a variety of **very short answer or MCQ questions** to test comprehension, interpretation and inference. Vocabulary such as word formation and inference will also be tested.

The total length of the two passages will be between 1100 - 1200 words. The passage will include two of the following:

- a. Factual passages, e.g., instructions, descriptions, reports.
- b. Descriptive passages involving opinion, e.g., argumentative, persuasive or interpretative text.
- c. Literary passages, e.g., extract from fiction, drama, poetry, essay or biography. A poem could be of 28-35 lines.
 - The passages can be literary, factual or discursive to test comprehensions. The length of one passage should be between 600-700 words.
 - A third passage of 400-500 words for note-making and abstraction.

SECTION B

Writing Skills

30 Marks

- **Short Answer Questions**, e.g., advertisement and notices, designing or drafting posters, writing formal and informal invitations and replies.
- **Long Answer Questions**: Letters based on verbal / visual input.

Letter types include

- Business or official letters (for making enquiries, registering complaints, asking for and giving information, placing orders and sending replies)
- Letters to the editor (giving suggestions on an issue or opinion on issue on public interest)
- Application for a job

Very Long Answer Questions: Two compositions based on visual and/or verbal Output may be descriptive or argumentative in nature such as an article, a debate or a speech.

SECTION C

Literature Textbooks and Long Reading Text

40 Marks

Flamingo and Vistas

- **Very Short Answer Questions** - Based on an extract from poetry to test comprehension and appreciation.
- **Short Answer Questions** - Based on prose and poetry from both the texts.
- **Long Answer Question** - Based on texts to test global comprehension and extrapolation beyond the texts to bring out the key messages and values.

- **Long Answer Question** - Based on texts to test global comprehension along with analysis and extrapolation.
- **Long Answer Question** - Based on theme, plot and incidents from the prescribed novels.
- **Long Answer Question** - Based on understanding appreciation, analysis and interpretation of the character sketch.

Prescribed Books

1. **Flamingo: English Reader** published by National Council of Education Research and Training, New Delhi
2. **Vistas: Supplementary Reader** published by National Council of Education Research and Training, New Delhi

Note: Long answer questions based on values can be given in the writing section or in the literature section.

Textbooks

Flamingo

Vistas

Name of the lessons deleted

1. Poets and Pancakes
2. The Interview
3. A Road Ride Stand (Poetry)
4. The Third Level
5. Journey to the End of the Earth

Long Reading Text / Novel

Hound of Baskervilles (unabridged 1902)

Author

Arthur Conan Doyle

QUESTION PAPER DESIGN 2014-15 CLASS XII										
ENGLISH Core XII CODE - 301		Time-3 hours Marks -100								
Typology	Typology of questions/ learning outcomes	MCQ I mark	Very Short Answer Question 1 mark	Short Answer Question 3 marks	Short Answer Question 4 marks	Long Answer-1 80 - 100 words 5 marks	Long Answer-2 120-150 words 6 marks	Very Long Answer 150 - 200 words (HOTS) 10 marks	Total marks	Over all %
Reading Skills	Conceptual, understanding, decoding, Analysing, inferring, interpreting, appreciating ,literary conventions and vocabulary, summarising and using appropriate format/s	6	16	1	-----	1	-----	-----	30	30
Writing Skills	Reasoning, appropriacy of style and tone, using appropriate format and fluency, inference, analysis, evaluation and creativity.	-----	-----	-----	1	-----	1	2	30	30
Literary Text books and long reading text	Recalling, reasoning, appreciating literary conventions, inference, analysis, evaluation, creativity with fluency	-----	4	4	-----	---	4	-----	40	40
TOTAL	TOTAL	6x1=6	20x1=20	5x3=15	1x4=4	1x5=5	5x6=30	2x10=20	100	100

4. हिंदी (आधार) कोड संख्या-302

प्रस्तावना

दसवीं कक्षा तक हिंदी का अध्ययन करने वाला विद्यार्थी समझते हुए पढ़ने व सुनने के साथ-साथ हिंदी में सोचने और उसे मौखिक एवं लिखित रूप में व्यक्त कर पाने की सामान्य दक्षता अर्जित कर चुका होता है। उच्चतर माध्यमिक स्तर पर आने के बाद इन सभी दक्षताओं को सामान्य से ऊपर उस स्तर तक ले जाने की दरकार होती है, जहाँ भाषा का इस्तेमाल भिन्न-भिन्न व्यवहार-क्षेत्रों की मांगों के अनुरूप किया जा सके। आधार पाठ्यक्रम साहित्यिक बोध के साथ-साथ भाषाई दक्षता के विकास को ज्यादा अहमियत देता है। यह पाठ्यक्रम उन विद्यार्थियों के लिए उपयोगी साबित होगा, जो आगे विश्वविद्यालय में अध्ययन करते हुए हिंदी को एक विषय के रूप में पढ़ेंगे या विज्ञान/समाजविज्ञान के किसी विषय को हिंदी माध्यम से पढ़ना चाहेंगे। यह उनके लिए भी उपयोगी साबित होगा, जो उच्चतर माध्यमिक स्तर की शिक्षा के बाद किसी तरह के रोज़गार में लग जाएंगे। वहाँ कामकाजी हिंदी का आधारभूत अध्ययन काम आएगा। जिन विद्यार्थियों की दिलचस्पी जनसंचार माध्यमों में होगी, उनके लिए यह पाठ्यक्रम एक आरंभिक पृष्ठभूमि निर्मित करेगा। इसके साथ ही यह पाठ्यक्रम सामान्य रूप से तरह-तरह के साहित्य के साथ विद्यार्थियों के संबंध को सहज बनाएगा। विद्यार्थी भाषिक अभिव्यक्ति के सूक्ष्म एवं जटिल रूपों से परिचित हो सकेंगे, वे यथार्थ को अपने विचारों में व्यवस्थित करने के साधन के तौर पर भाषा का अधिक सार्थक उपयोग कर पाएंगे और उनमें जीवन के प्रति मानवीय संवेदना एवं सम्यक् दृष्टि का विकास हो सकेगा।

उद्देश्य

- इन माध्यमों और विधाओं के लिए उपयुक्त भाषा प्रयोग की इतनी क्षमता उनमें आ चुकी होगी कि वे स्वयं इससे जुड़े उच्चतर पाठ्यक्रमों को समझ सकेंगे।
- सामाजिक हिंसा की भाषिक अभिव्यक्ति की समझ।
- भाषा के अंदर सक्रिय सत्ता संबंध की समझ।
- सृजनात्मक साहित्य को सराह पाने और उसका आनंद उठाने की क्षमता का विकास तथा भाषा में सौंदर्यात्मकता उत्पन्न करने वाली सृजनात्मक युक्तियों की संवेदना का विकास।
- विद्यार्थियों के भीतर सभी प्रकार की विविधताओं (धर्म, जाति, लिंग, क्षेत्र भाषा संबंधी) के प्रति सकारात्मक एवं विवेकपूर्ण रवैये का विकास।
- पठन-सामग्री को भिन्न-भिन्न कोणों से अलग-अलग सामाजिक, सांस्कृतिक चिंताओं के परिप्रेक्ष्य में देखने का अभ्यास कराना तथा नज़रिये की एकांगिकता के प्रति आलोचनात्मक दृष्टि का विकास करना।
- विद्यार्थी में स्तरीय साहित्य की समझ और उसका आनंद उठाने की स्फूर्ति, विकास, उसमें साहित्य को श्रेष्ठ बनाने वाले तत्वों की संवेदना का विकास।
- विभिन्न ज्ञानानुशासनों के विमर्श की भाषा के रूप में हिंदी की विशिष्ट प्रकृति और उसकी क्षमताओं का बोध।
- कामकाजी हिंदी के उपयोग के कौशल का विकास।
- संचार माध्यमों (प्रिंट और इलेक्ट्रॉनिक) में प्रयुक्त हिंदी की प्रकृति से परिचय और इन माध्यमों की मांगों के अनुरूप मौखिक एवं लिखित अभिव्यक्ति का विकास।
- विद्यार्थी में किसी भी अपरिचित विषय से संबंधित प्रासंगिक जानकारी के स्रोतों का अनुसंधान और उन्हें व्यवस्थित ढंग से उनकी मौखिक और लिखित प्रस्तुति करने की क्षमता का विकास।

शिक्षण-युक्तियाँ

- कुछ बातें इस स्तर पर हिंदी शिक्षण के लक्ष्यों के संदर्भ में सामान्य रूप से कही जा सकती हैं। एक तो यही कि कक्षा में दबाव एवं तनाव मुक्त माहौल होने की स्थिति में ही ये लक्ष्य हासिल किए जा सकते हैं। चूँकि इस पाठ्यक्रम में तैयारशुदा उत्तरों को कंठस्थ कर लेने की कोई अपेक्षा नहीं है, इसलिए चीज़ों को समझने और उस समझ के आधार पर उत्तर को शब्दबद्ध करने की योग्यता विकसित करना ही हमारा काम है। इस योग्यता के विकास के लिए कक्षा में विद्यार्थियों और शिक्षिका के बीच निर्बाध संवाद ज़रूरी है। विद्यार्थी अपनी शंकाओं और उलझनों को जितना ही अधिक व्यक्त करेंगे, उतनी ही ज़्यादा सफाई उनमें आ पाएगी।
- भाषा की कक्षा से समाज में मौजूद विभिन्न प्रकार के द्वंद्वों पर बातचीत का मंच बनाना चाहिए। उदाहरण के लिए संविधान में किसी शब्द विशेष के प्रयोग पर मनाही को चर्चा का विषय बनाया जा सकता है। यह समझ ज़रूरी है कि विद्यार्थियों को सिर्फ सकारात्मक पाठ देने से नहीं काम चलेगा बल्कि उन्हें समझाकर भाषिक यथार्थ का सीधे सामना करवाने वाले पाठों से परिचय होना ज़रूरी है।
- शंकाओं और उलझनों को रखने के अलावा भी कक्षा में विद्यार्थियों को अधिक-से-अधिक बोलने के लिए प्रेरित किया जाना ज़रूरी है। उन्हें यह अहसास कराया जाना चाहिए कि वे पठित सामग्री पर राय देने का अधिकार और काबलियत रखते हैं। उनकी राय को तब ज़रूरी देने और उसे बेहतर तरीके से पुनः प्रस्तुत करने की अध्यापकीय शैली यहां बहुत उपयोगी होगी।
- विद्यार्थियों को संवाद में शामिल करने के लिए यह भी ज़रूरी होगा कि उन्हें एक नामहीन समूह न मानकर अलग-अलग व्यक्तियों के रूप में अहमियत दी जाए। शिक्षिका को अक्सर एक कुशल संयोजक की भूमिका में स्वयं को देखना होगा, जो किसी भी इच्छुक व्यक्ति को संवाद का भागीदार बनने से वंचित नहीं रखती, उसके कच्चे-पक्के वक्तव्य को मानक भाषा-शैली में ढाल कर उसे एक आभा दे देती है और मौन को अभिव्यंजना मान बैठे लोगों को मुखर होने पर बाध्य कर देती है।
- अप्रत्याशित विषयों पर चिंतन तथा उसकी मौखिक व लिखित अभिव्यक्ति करने की योग्यता का विकास शिक्षिका के सचेत प्रयास से ही संभव है। इसके लिए शिक्षिका को एक निश्चित अंतराल पर नए-नए विषय प्रस्तावित कर लेख एवं अनुच्छेद लिखने तथा संभाषण करने के लिए पूरी कक्षा को प्रेरित करना होगा। यह अभ्यास ऐसा है, जिसमें विषयों की कोई सीमा तय नहीं की जा सकती। विषय की निस्सीम संभावना के बीच शिक्षिका यह सुनिश्चित कर सकती है कि उसके विद्यार्थी किसी निबंध-संकलन या कुंजी से तैयारशुदा सामग्री को उतार भर न ले। तैयारशुदा सामग्री के लोभ से, बाध्यतावश ही सही मुक्ति पाकर विद्यार्थी नये तरीके से सोचने और उसे शब्दबद्ध करने के यत्न में सन्नद्ध होंगे। मौखिक अभिव्यक्ति पर भी विशेष ध्यान देने की ज़रूरत है, क्योंकि भविष्य में साक्षात्कार, संगोष्ठी जैसे मौकों पर यही योग्यता विद्यार्थी के काम आती है। इसके अभ्यास के सिलसिले में शिक्षिका को उचित हावभाव, मानक उच्चारण, पॉज, बलाघात, हाजिरजवाबी इत्यादि पर खास बल देना होगा।
- मध्यकालीन काव्य की भाषा के मर्म से विद्यार्थी का परिचय कराने के लिए ज़रूरी होगा कि किताबों में आए काव्यांशों की संगीतबद्ध प्रस्तुतियों के ऑडियो-वीडियो कैसेट तैयार किए जाएं। अगर आसानी से कोई गायक/गायिका मिले तो कक्षा में मध्यकालीन साहित्य के अध्यापन-शिक्षण में उससे मदद ली जानी चाहिए।
- वृत्तचित्रों और फीचर फिल्मों को शिक्षण सामग्री के तौर पर इस्तेमाल करने की ज़रूरत है। इनके प्रदर्शन के क्रम में इन पर लगातार बातचीत के ज़रिए सिनेमा के माध्यम से भाषा के प्रयोग की विशिष्टता की पहचान कराई जा सकती है और हिंदी की अलग-अलग छटा दिखाई जा सकती है। विद्यार्थियों को स्तरीय परीक्षा करने को भी कहा जा सकता है।

- कक्षा में सिर्फ एक पाठ्यपुस्तक की भौतिक उपस्थिति से बेहतर यह है कि शिक्षिका के हाथ में तरह-तरह की पाठ्यसामग्री को विद्यार्थी देख सकें और शिक्षिका उनका कक्षा में अलग-अलग मौकों पर इस्तेमाल कर सके।
- भाषा लगातार ग्रहण करने की क्रिया में बनती है, इसे प्रदर्शित करने का एक तरीका यह भी है कि शिक्षिका खुद यह सिखा सकें कि वे भी शब्दकोश, साहित्यकोश, संदर्भग्रंथ की लगातार मदद ले रही हैं। इससे विद्यार्थियों में इसका इस्तेमाल करने को लेकर तत्परता बढ़ेगी। अनुमान के आधार पर निकटतम अर्थ तक पहुंचकर संतुष्ट होने की जगह वे सही अर्थ की खोज करने का अर्थ समझ पाएंगे। इससे शब्दों की अलग-अलग रंगत का पता चलेगा और उनमें संवेदनशीलता बढ़ेगी। वे शब्दों के बारीक अंतर के प्रति और सजग हो पाएंगे।
- कक्षा-अध्यापन के पूरक कार्य के रूप में सेमिनार, ट्यूटोरियल कार्य, समस्या-समाधान कार्य, समूहचर्चा, परियोजना, कार्य, स्वाध्याय आदि पर बल दिया जाना चाहिए। पाठ्यक्रम में जनसंचार माध्यमों से संबंधित अंशों को देखते हुए यह जरूरी है कि समय-समय पर इन माध्यमों से जुड़े व्यक्तियों और विशेषज्ञों को भी विद्यालय में बुलाया जाए तथा उनकी देख-रेख में कार्यशालाएं आयोजित की जाएं।

हिंदी (आधार)

कोड सं० 302: कक्षा - 11 (2013-14)

खण्ड	विषय	अंक	
(क)	अपठित बोध	15	
	1. अपठित गद्यांश - बोध (गद्यांश पर आधारित बोध, प्रयोग, रचनांतरण, शीर्षक आदि पर लघूत्तरात्मक प्रश्न	10	
	2. अपठित काव्यांश-बोध (काव्यांश पर आधारित पाँच लघूत्तरात्मक प्रश्न) (1x5)	05	
(ख)	कामकाजी हिंदी और रचनात्मक लेखन	25	
	3. निबंध (विकल्प सहित)	10	
	4. कार्यालयी पत्र (विकल्प सहित)	05	
	5. जनसंचार माध्यम और पत्रकारिता के विविध आयामों पर पाँच लघूत्तरात्मक प्रश्न	05	
	6. फीचर, रिपोर्ट आलेख लेखन (जीवन-संदर्भों ये जुड़ी घटनाओं और स्थितियों पर)	05	
(ग)	पाठ्यपुस्तक		
	1) आरोह भाग-1	35	
	अ) काव्य भाग	20	
	7. काव्यांश पर अर्थग्रहण से संबंधित चार प्रश्न (2+2+2+2)	08	
	8. एक काव्यांश के सौंदर्यबोध पर दो प्रश्न (3+3)	06	
	9. कविता की विषयवस्तु पर आधारित तीन लघूत्तरात्मक प्रश्न (2+2+2)	06	
	ब) गद्य भाग	15	
	10. गद्यांश पर आधारित अर्थग्रहण से संबंधित तीन प्रश्न (2+2+2)	06	
	11. पाठों की विषयवस्तु पर आधारित तीन बोधात्मक प्रश्न (3+3+3)	09	
	2) वितान भाग-1	15	
	12. पाठों की विषयवस्तु पर आधारित एक मूल्यपरक प्रश्न	05	
	13. विषयवस्तु पर आधारित दो निबंधात्मक प्रश्न (5+5)	10	
	(घ)	मौखिक परीक्षा (श्रवण तथा वाचन)	10
		कुल	100

मौखिक परीक्षा (श्रवण तथा वाचन) हेतु दिशा-निर्देश

श्रवण (सुनना): वर्णित या पठित सामग्री को सुनकर अर्थग्रहण करना, वार्तालाप करना, वाद-विवाद, भाषण, कवितापाठ आदि को सुनकर समझना, मूल्यांकन करना और अभिव्यक्ति के ढंग को समझना। 5

वाचन (बोलना): भाषण, सस्वर कविता-पाठ, वार्तालाप और उसकी औपचारिकता, कार्यक्रम-प्रस्तुति, कथा-कहानी अथवा घटना सुनाना, परिचय देना, भावानुकूल संवाद-वाचन। 5

वार्तालाप की दक्षताएँ:

टिप्पणी : वार्तालाप की दक्षताओं का मूल्यांकन निरंतरता के आधार पर परीक्षा के समय ही होगा। निर्धारित 10 अंकों में से 5 श्रवण (सुनना) कौशल के मूल्यांकन के लिए और 5 वाचन (बोलना) कौशल के मूल्यांकन के लिए होंगे।

श्रवण (सुनना) कौशल टिप्पणी का मूल्यांकन

परीक्षक किसी प्रासंगिक विषय पर एक अनुच्छेद का स्पष्ट वाचन करेगा। अनुच्छेद तथ्यात्मक या सुझावात्मक हो सकता है। अनुच्छेद लगभग 250 शब्दों का होना चाहिए। अध्यापक को सुनते-सुनते परीक्षार्थी अलग कागज़ पर दिए हुए श्रवण बोध के अभ्यासों को हल कर सकेंगे।

अभ्यास रिक्तस्थान-पूर्ति, बहुविकल्पी अथवा सत्य/असत्य का चुनाव आदि विधाओं में हो सकते हैं। प्रत्येक आधे-आधे अंक के लिए 10 परीक्षण होंगे।

मौखिक अभिव्यक्ति (बोलना) का मूल्यांकन:

1. चित्रों के क्रम पर आधारित वर्णन: इस भाग में अपेक्षा की जाएगी कि विद्यार्थी विवरणात्मक भाषा का प्रयोग करें।
2. किसी चित्र का वर्णन: चित्र लोगों या स्थानों के हो सकते हैं।
3. किसी निर्धारित विषय पर बोलना : जिससे विद्यार्थी अपने व्यक्तिगत अनुभव का प्रत्यास्मरण कर सकें।
4. कोई कहानी सुनाना या किसी घटना का वर्णन करना।

टिप्पणी:

- परीक्षण से पूर्व परीक्षार्थी को कुछ तैयारी के लिए समय दिया जाए।
- विवरणात्मक भाषा में वर्तमान काल का प्रयोग अपेक्षित है।
- निर्धारित विषय परीक्षार्थी के अनुभव-जगत के हों। जैसे: कोई चुटकला या हास्य प्रसंग सुनाना।

अथवा

हाल में पढ़ी पुस्तक या देखे हुए चलचित्र (सिनेमा) की कहानी सुनाना।

- जब परीक्षार्थी बोलना आरंभ कर दे तो परीक्षक कम से कम हस्तक्षेप करे।

कौशलों के अंतरण का मूल्यांकन

(इस बात का निश्चय करना कि क्या विद्यार्थी में श्रवण और वाचन की निम्नलिखित योग्यताएँ हैं।)

	श्रवण (सुनना)		वाचन (बोलना)
1.	परिचित संदर्भों में प्रयुक्त शब्दों और पदों को समझने की सामान्य योग्यता है किन्तु वह सुसंबद्ध आशय को नहीं समझ पाता।	1.	केवल अलग-अलग शब्दों और पदों के प्रयोग की योग्यता प्रदर्शित करता है किन्तु एक सुसंबद्ध स्तर पर नहीं बोल सकता।
3.	छोटे संबद्ध कथनों को परिचित संदर्भों में समझने की योग्यता है।	3.	परिचित संदर्भों में केवल छोटे संबद्ध कथनों का सीमित शुद्धता से प्रयोग करता है।
5.	परिचित या अपरिचित दोनों संदर्भों में कथित सूचना को स्पष्ट समझने की योग्यता है।	5.	अपेक्षाकृत दीर्घ भाषण में अधिक जटिल कथनों के प्रयोग की योग्यता प्रदर्शित करता है, अभी भी कुछ अशुद्धियाँ करता है, जिससे प्रेषण में रुकावट आती है।
7.	दीर्घ कथनों की श्रृंखला को पर्याप्त शुद्धता से समझने ढंग और निष्कर्ष निकाल सकने की योग्यता है।	7.	अपरिचित स्थितियों में विचारों को तार्किक ढंग से संगठित कर धारा-प्रवाह रूप में प्रस्तुत करता है। ऐसी गलतियाँ करता है जिनसे प्रेषण में रुकावट नहीं आती।
9.	जटिल कथनों के विचार-बिंदुओं को समझने की योग्यता प्रदर्शित करने की क्षमता है। वह उद्देश्य के अनुकूल सुनने की कुशलता प्रदर्शित करता है।	9.	उद्देश्य और श्रोता के लिए उपयुक्त शैली को अपना सकता है, ऐसा करते समय वह केवल मामूली गलतियाँ करता है।

प्रस्तावित पुस्तकें:

1. आरोह भाग-1 एन.सी.ई.आर.टी. द्वारा प्रकाशित
2. वितान भाग-1 एन.सी.ई.आर.टी. द्वारा प्रकाशित
3. अभिव्यक्ति और माध्यम - एन.सी.ई.आर.टी. द्वारा प्रकाशित (खण्ड-ख कामकाजी हिंदी और रचनात्मक लेखन हेतु)

हिंदी (आधार)

कोड सं० 302: कक्षा - 12 (2013-14)

खण्ड	विषय	अंक
(क)	अपठित बोध	20
	1. अपठित गद्यांश - बोध (गद्यांश पर आधारित बोध, प्रयोग, रचनांतरण, शीर्षक आदि पर लघूत्तरात्मक प्रश्न	15
	2. अपठित काव्यांश-बोध (काव्यांश पर आधारित पाँच लघूत्तरात्मक प्रश्न) (1x5)	05
(ख)	कामकाजी हिंदी और रचनात्मक लेखन	25
	3. किसी एक विषय पर निबंध	05
	4. कार्यालयी पत्र	05
	5. प्रिंट माध्यम, सम्पादकीय, रिपोर्ट, आलेख आदि पर पांच अतिलघूत्तरात्मक प्रश्न	05
	6. किसी एक विषय पर आलेख अथवा हाल ही में पढ़ी पुस्तक की समीक्षा	05
7. जीवन-संदर्भों से जुड़ी घटनाओं और स्थितियों पर फीचर लेखन	05	
(ग)	पाठ्यपुस्तक	
1)	आरोह भाग-1	40
अ)	काव्य भाग	20
8.	दो काव्यांशों में से किसी एक पर अर्थग्रहण के चार / पांच प्रश्न	08
9.	काव्यांश के सौंदर्यबोध पर किसी एक काव्यांश पर तीन प्रश्न	06
10.	कविताओं की विषय-वस्तु से संबंधित दो लघुत्तरात्मक प्रश्न (3+3)	06
ब)	गद्य भाग	15
11.	एक गद्यांश पर आधारित अर्थग्रहण के चार प्रश्न (2+2+2+2)	08
12.	पाठों की विषयवस्तु पर आधारित चार बोधात्मक प्रश्न (3+3+3+3)	12
2)	वितान भाग-1	15
13.	पाठों की विषयवस्तु पर आधारित एक मूल्यपरक प्रश्न	05
14.	विषयवस्तु पर आधारित दो निबंधात्मक प्रश्न (5+5)	10
कुल		100

प्रस्तावित पुस्तकें:

1. आरोह भाग-2 एन.सी.ई.आर.टी. द्वारा प्रकाशित
2. वितान भाग-2 एन.सी.ई.आर.टी. द्वारा प्रकाशित
3. 'अभिव्यक्ति और माध्यम' एन.सी.ई.आर.टी. द्वारा प्रकाशित (खण्ड- ख कामकाजी हिंदी और रचनात्मक लेखन हेतु)

हिन्दी आधार कक्षा-बारहवीं

प्रश्न पत्र तैयार करने हेतु आधारभूत-प्रारूप (अधिकतम अंक - 100)

क्रम संख्या	प्रश्नों का प्रकार	अधिगम के परिणाम तथा कौशल	लघूत्तरात्मक बहुविकल्पात्मक (1 अंक)	लघूत्तरात्मक (3 अंक)	दीर्घउत्तरात्मक (5 अंक)	कुल अंक	प्रतिशत/ लगभग
1	स्मृति (ज्ञानाधारित-स्मृति के प्रयोग पर सरल प्रश्न)	● श्रवण, भाषण तथा लेखन कौशल	7	1	----	10	10
2	बोध (अर्थपूर्ण परिचित बोध पर आधारित प्रश्न)	● तर्क-वितर्क ● विश्लेषणात्मक कौशल	6	3*	2*	25	25
3	अनुप्रयोग (नवीन स्थितियों में ज्ञान के अनुप्रयोग पर आनुमानिक प्रकार के प्रश्न)	● रचनात्मक कौशल सार लेखन, व्याख्या करना	1	3*	2*	25	25
4	उच्च स्तरीय चिन्तन कौशल (विश्लेषण एवं मूल्यांकन पर आधारित प्रश्न)	● मूल्यांकन स्पष्टीकरण, तुलना करना, भेद करना, उचित/अनुचित सिद्ध करना	2	1*	2*	15	15
5	रचनात्मक (निर्णय अथवा स्थिति के मूल्यांकन की क्षमता एवं बहुविषयात्मक)	● मूल्यपरक विचारों की अभिव्यक्ति करना	----	----	5	25	25
	कुल		16**	8**	11*	100	100

*अंकित प्रश्नों के उप भाग भी लिये जा सकते हैं।

**यह प्रश्न वृहदतर प्रश्नों के भाग हो सकते हैं।

5. हिंदी (ऐच्छिक) कोड संख्या-002

कक्षा-XI-XII

प्रस्तावना

उच्चतर माध्यमिक स्तर में प्रवेश लेने वाला विद्यार्थी पहली बार सामान्य शिक्षा से विशेष अनुशासन की शिक्षा की ओर उन्मुख होता है। दस वर्षों में विद्यार्थी भाषा के कौशलों से परिचित हो जाता है। भाषा और साहित्य के स्तर पर उसका दायरा अब घर, पास-पड़ोस, स्कूल, प्रांत और देश से होता हुआ धीरे-धीरे विश्व तक फैल जाता है। वह इस उम्र में पहुँच चुका है कि देश की सांस्कृतिक, सामाजिक, राजनीतिक और आर्थिक समस्याओं पर विचार-विमर्श कर सके, एक ज़िम्मेदार नागरिक की तरह अपनी ज़िम्मेदारियों को समझ सके तथा देश और खुद को सही दिशा दे सकने में भाषा की ताकत को पहचान सके। ऐसे दृढ़ भाषिक और वैचारिक आधार के साथ जब विद्यार्थी आता है तो उसे विमर्श की भाषा के रूप में हिंदी की व्यापक समझ और प्रयोग में दक्ष बनाना सबसे पहला उद्देश्य होगा। किशोरावस्था से युवावस्था के इस नाजुक मोड़ पर किसी भी विषय का चुनाव करते समय बच्चे और उनके अभिभावक इस बात को लेकर सबसे अधिक चिंतित रहते हैं कि चयनित विषय उनके भावी कैरियर और जीविका के अवसरों में मदद करेगा कि नहीं। इस उम्र के विद्यार्थियों में चिंतन और निर्णय करने की प्रवृत्ति भी प्रबल होती है। इसी आधार पर वे अपने मानसिक, सामाजिक, बौद्धिक और भाषिक विकास के प्रति भी सचेत होते हैं और अपने भावी अध्ययन की दिशा तय करते हैं। इस स्तर पर ऐच्छिक हिंदी का अध्ययन एक सृजनात्मक, साहित्यिक, सांस्कृतिक और विभिन्न प्रयुक्तियों की भाषा के रूप में होगा। इस बात पर भी बल दिया जाएगा कि निरंतर विकसित होती हिंदी के अखिल भारतीय स्वरूप से बच्चे का रिश्ता बन सके।

इस स्तर पर विद्यार्थियों में भाषा के लिखित प्रयोग के साथ-साथ उसके मौखिक प्रयोग की कुशलता और दक्षता का विकास भी ज़रूरी है। प्रयास यह भी होगा कि विद्यार्थी अपने बिखरे हुए विचारों और भावों की सहज और मौलिक अभिव्यक्ति की क्षमता हासिल कर सके।

इस पाठ्यक्रम के अध्ययन से

1. विद्यार्थी अपनी रुचि और आवश्यकता के अनुरूप साहित्य का गहन और विशेष अध्ययन जारी रख सकेंगे।
2. विश्वविद्यालय स्तर पर निर्धारित हिंदी-साहित्य से संबंधित पाठ्यक्रम के साथ सहज संबंध स्थापित कर सकेंगे।
3. लेखन-कौशल के व्यावहारिक और सृजनात्मक रूपों की अभिव्यक्ति में सक्षम हो सकेंगे।
4. रोजगार के किसी भी क्षेत्र में जाने पर भाषा का प्रयोग प्रभावी ढंग से कर सकेंगे।
5. यह पाठ्यक्रम विद्यार्थी को संचार तथा प्रकाशन जैसे विभिन्न-क्षेत्रों में अपनी क्षमता आजमाने के अवसर प्रदान कर सकता है।

उद्देश्य

- सृजनात्मक साहित्य की सराहना, उसका आनंद उठाना और उसके प्रति सृजनात्मक और आलोचनात्मक दृष्टि का विकास।
- साहित्य की विविध विधाओं (कविता, कहानी, निबंध आदि), महत्वपूर्ण कवियों और रचनाकारों, प्रमुख धाराओं और शैलियों का परिचय कराना।
- भाषा की सृजनात्मक बारीकियों और व्यावहारिक प्रयोगों का बोध तथा संदर्भ और समय के अनुसार प्रभावशाली ढंग से उसकी मौखिक और लिखित अभिव्यक्ति कर सकना।

- विभिन्न ज्ञानानुशासनों के विमर्श की भाषा के रूप में हिंदी की विशिष्ट प्रकृति एवं क्षमता का बोध कराना।
- साहित्य की प्रभावशाली क्षमता का उपयोग करते हुए सभी प्रकार की विविधताओं (धर्म, जाति, लिंग, वर्ग, भाषा आदि) एवं अंतरों के प्रति सकारात्मक और संवेदनशील रवैये का विकास कराना।
- देश-विदेश में प्रचलित हिंदी के रूपों से परिचित कराना।
- संचार-माध्यमों (प्रिंट और इलेक्ट्रॉनिक) में प्रयुक्त हिंदी की प्रकृति से अवगत कराना और नवीन विधियों के प्रयोग की क्षमता का विकास करना।
- साहित्य की व्यापक धारा के बीच रखकर विशिष्ट रचनाओं का विश्लेषण और विवेचन करने की क्षमता हासिल कराना।
- विपरीत परिस्थितियों में भी भाषा का इस्तेमाल शांति के साथ करना।
- अमूर्त विषयों पर प्रयुक्त भाषा का विकास और कल्पनाशीलता और मौलिक चिंतन के लिए प्रयोग करना।

शिक्षण-युक्तियाँ

इन कक्षाओं में उचित वातावरण-निर्माण में अध्यापकों की भूमिका सदैव सहायक की होनी चाहिए। उनको भाषा और साहित्य की पढ़ाई में इस बात पर ध्यान देने की ज़रूरत होगी कि-

- कक्षा का वातावरण संवादात्मक हो ताकि अध्यापक, विद्यार्थी और पुस्तक तीनों के बीच एक रिश्ता बन सके।
- गलत से सही की ओर पहुँचने का प्रयास हो। यानी बच्चों को स्वतंत्र रूप से बोलने, लिखने और पढ़ने दिया जाए और फिर उनसे होने वाली भूलों की पहचान करा कर अध्यापक अपनी पढ़ाने की शैली में परिवर्तन करे।
- ऐसे शिक्षण-बिंदुओं की पहचान की जाए, जिससे कक्षा में विद्यार्थी की सक्रिय भागीदारी रहे और अध्यापक भी उनका साथी बना रहे।
- शारीरिक बाधाग्रस्त विद्यार्थियों के लिए उपयुक्त शिक्षण-सामग्री का इस्तेमाल किया जाए तथा किसी भी प्रकार से उन्हें अन्य विद्यार्थियों से कमतर या अलग न समझा जाए।
- विभिन्न विधाओं से संबंधित रूचिकर और महत्वपूर्ण 10 अन्य पुस्तकें- जिनका ज़िक्र पाठ्यपुस्तक के अंत में किया जाएगा-स्वयं पढ़ने के लिए उन्हें प्रेरित किया जाए।
- कक्षा में अध्यापक को हर प्रकार की विभिन्नताओं (लिंग, धर्म, जाति, वर्ग आदि) के प्रति सकारात्मक और संवेदनशील वातावरण निर्मित करना चाहिए।
- सृजनात्मकता के अभ्यास के लिए विद्यार्थी से साल में कम से कम दो रचनाएं लिखवाई जाएं।

हिंदी (ऐच्छिक) कोड सं० 002

कक्षा - 11 (2013-14)

खण्ड	विषय	अंक
(क)	अपठित बोध	15
	1. अपठित गद्यांश पर आधारित बोध, प्रयोग, रचनांतरण, शीर्षक आदि पर लघुत्तरात्मक प्रश्न	10
	2. अपठित काव्यांश पर आधारित पाँच लघुत्तरात्मक प्रश्न	05
(ख)	कामकाजी हिंदी और रचनात्मक लेखन (पुस्तक: अभिव्यक्ति और माध्यम)	25
	3. किसी एक विषय पर निबंध (विकल्प सहित)	10
	4. कार्यालयी पत्र (विकल्प सहित)	05
	5. जनसंचार माध्यम और पत्रकारिता के विविध आयामों पर पाँच लघुत्तरात्मक प्रश्न	05
	6. व्यावहारिक लेखन (प्रतिवेदन, कार्यसूची, कार्यवृत्त इत्यादि) पर एक प्रश्न	05
(ग)	पाठ्यपुस्तकें	
	1) अंतरा भाग-1	35
	अ) काव्य भाग	20
	7. एक काव्यांश की सप्रसंग व्याख्या	08
	8. कविता के कथ्य पर दो प्रश्न (3+3)	06
	9. कविताओं के काव्य-सौंदर्य पर दो प्रश्न (3+3)	06
	ब) गद्य भाग	15
	10. एक गद्यांश की सप्रसंग व्याख्या	04
	11. पाठों की विषयवस्तु पर दो प्रश्न (3+3)	06
	12. किसी एक लेखक/कवि का साहित्यिक परिचय	05
	2) अंतराल भाग-1	15
	13. पाठों की विषयवस्तु पर आधारित एक मूल्यपरक प्रश्न	05
	13. विषयवस्तु पर आधारित दो निबंधात्मक प्रश्न (5+5)	10
(घ)	मौखिक परीक्षा (श्रवण तथा वाचन)	10
कुल		100

मौखिक परीक्षा (श्रवण तथा वाचन) हेतु दिशा निर्देश

श्रवण (सुनना): वर्णित या पठित सामग्री को सुनकर अर्थग्रहण करना, वार्तालाप करना, वाद-विवाद, भाषण, कवितापाठ आदि को सुनकर समझना, मूल्यांकन करना और अभिव्यक्ति के ढंग को समझना।

वाचन (बोलना): भाषण, सस्वर कविता-पाठ, वार्तालाप और उसकी औपचारिकता, कार्यक्रम-प्रस्तुति, कथा-कहानी अथवा घटना सुनाना, परिचय देना, भावानुकूल संवाद-वाचन।

वार्तालाप की दक्षताएँ:

टिप्पणी: वार्तालाप की दक्षताओं का मूल्यांकन निरंतरता के आधार पर परीक्षा के समय ही होगा। निर्धारित 10 अंकों में से 5 श्रवण (सुनना) कौशल के मूल्यांकन के लिए और 5 वाचन (बोलना) कौशल के मूल्यांकन के लिए होंगे।

श्रवण (सुनना) कौशल का मूल्यांकन:

परीक्षक किसी प्रासंगिक विषय पर एक अनुच्छेद का स्पष्ट वाचन करेगा। अनुच्छेद तथ्यात्मक या सुझावात्मक हो सकता है। अनुच्छेद लगभग 250 शब्दों का होना चाहिए। अध्यापक को सुनते-सुनते परीक्षार्थी अलग कागज़ पर दिए हुए श्रवण बोध के अभ्यासों को हल कर सकेंगे। अभ्यास रिक्तस्थान-पूर्ति, बहुविकल्पी अथवा सत्य/असत्य का चुनाव आदि विधाओं में हो सकते हैं। आधे-आधे अंक के 10 प्रश्न लिये जा सकते हैं।

मौखिक अभिव्यक्ति (बोलना) का मूल्यांकन:

1. चित्रों के क्रम पर आधारित वर्णन: इस भाग में अपेक्षा की जाएगी कि विद्यार्थी विवरणात्मक भाषा का प्रयोग करें।
2. किसी चित्र का वर्णन: चित्र लोगों या स्थानों के हो सकते हैं।
3. किसी निर्धारित विषय पर बोलना: जिससे विद्यार्थी अपने व्यक्तिगत अनुभव का प्रत्यास्मरण कर सकें।
4. कोई कहानी सुनाना या किसी घटना का वर्णन करना।

टिप्पणी:

1. परीक्षण से पूर्व परीक्षार्थी को कुछ तैयारी के लिए समय दिया जाए।
2. विवरणात्मक भाषा में वर्तमान काल का प्रयोग अपेक्षित है।
3. निर्धारित विषय परीक्षार्थी के अनुभव-जगत के हों। जैसे: कोई चुटकला या हास्य प्रसंग सुनाना।
हाल में पढ़ी पुस्तक या देखे हुए चलचित्र (सिनेमा) की कहानी सुनाना।
4. जब परीक्षार्थी बोलना आरंभ कर दे तो परीक्षक कम से कम हस्तक्षेप करे।

कौशलों के अंतरण का मूल्यांकन

(इस बात का निश्चय करना कि क्या विद्यार्थी में श्रवण और वाचन की निम्नलिखित योग्यताएँ हैं।)

	श्रवण (सुनना)		वाचन (बोलना)
1.	परिचित संदर्भों में प्रयुक्त शब्दों और पदों को समझने की सामान्य योग्यता है किन्तु वह सुसंबद्ध आशय को नहीं समझ पाता।	1.	केवल अलग-अलग शब्दों और पदों के प्रयोग की योग्यता प्रदर्शित करता है किन्तु एक सुसंबद्ध स्तर पर नहीं बोल सकता।
3.	छोटे संबद्ध कथनों को परिचित संदर्भों में समझने की योग्यता है।	3.	परिचित संदर्भों में केवल छोटे संबद्ध कथनों का सीमित शुद्धता से प्रयोग करता है।
5.	परिचित या अपरिचित दोनों संदर्भों में कथित सूचना को स्पष्ट समझने की योग्यता है।	5.	अपेक्षाकृत दीर्घ भाषण में अधिक जटिल कथनों के प्रयोग की योग्यता प्रदर्शित करता है, अभी भी कुछ अशुद्धियाँ करता है, जिससे प्रेषण में रुकावट आती है।
7.	दीर्घ कथनों की श्रृंखला को पर्याप्त शुद्धता से समझने ढंग और निष्कर्ष निकाल सकने की योग्यता है।	7.	अपरिचित स्थितियों में विचारों को तार्किक ढंग से संगठित कर धारा-प्रवाह रूप में प्रस्तुत करता है। ऐसी गलतियाँ करता है जिनसे प्रेषण में रुकावट नहीं आती।
9.	जटिल कथनों के विचार-बिंदुओं को समझने की योग्यता प्रदर्शित करने की क्षमता है। वह उद्देश्य के अनुकूल सुनने की कुशलता प्रदर्शित करता है।	9.	उद्देश्य और श्रोता के लिए उपयुक्त शैली को अपना सकता है, ऐसा करते समय वह केवल मामूली गलतियाँ करता है।

प्रस्तावित पुस्तकें:

1. अंतरा भाग-1 एन.सी.ई.आर.टी. द्वारा प्रकाशित
2. अंतराल भाग-1 एन.सी.ई.आर.टी. द्वारा प्रकाशित
3. 'अभिव्यक्ति और माध्यम' - एन.सी.ई.आर.टी. द्वारा प्रकाशित (खण्ड-ख कामकाजी हिंदी और रचनात्मक लेखन हेतु)

हिंदी (ऐच्छिक) कोड सं० 002 (2014-15)

कक्षा - 12

खण्ड	विषय	अंक
(क)	अपठित बोध	20
	1. अपठित गद्यांश पर आधारित बोध, प्रयोग, रचनांतरण, शीर्षक आदि पर लघुतरात्मक प्रश्न	15
	2. अपठित काव्यांश पर आधारित पाँच लघुतरात्मक प्रश्न	05
(ख)	कामकाजी हिंदी और रचनात्मक लेखन (पुस्तक: अभिव्यक्ति और माध्यम)	25
	3. किसी एक विषय पर निबंध (विकल्प सहित)	10
	4. कार्यालयी पत्र (विकल्प सहित)	05
	5. जनसंचार माध्यम और पत्रकारिता के विविध आयामों पर पाँच लघुतरात्मक प्रश्न	05
	6. रचनात्मक लेखन पर एक प्रश्न	05
	(ग)	पाठ्यपुस्तक
1)	अंतरा भाग-1	40
अ)	काव्य भाग	20
7.	एक काव्यांश की सप्रसंग व्याख्या	08
8.	कविता के कथ्य पर दो प्रश्न (3+3)	06
9.	कविताओं के काव्य-सौन्दर्य पर दो प्रश्न (3+3)	06
ब)	गद्य भाग	20
10.	एक गद्यांश की सप्रसंग व्याख्या	06
11.	पाठों की विषयवस्तु पर दो प्रश्न (4+4)	08
12.	किसी एक लेखक/कवि का साहित्यिक परिचय	06
2)	अंतराल भाग-2	15
13.	पाठों की विषयवस्तु पर आधारित एक मूल्यपरक प्रश्न	05
14.	विषयवस्तु पर आधारित दो निबंधात्मक प्रश्न (5+5)	10
	कुल	100

प्रस्तावित पुस्तकें:

1. अंतरा भाग-2 एन.सी.ई.आर.टी. द्वारा प्रकाशित
2. अंतराल भाग-2 (विविध विधाओं का संकलन) एन.सी.ई.आर.टी. द्वारा प्रकाशित
3. 'अभिव्यक्ति और माध्यम' एन.सी.ई.आर.टी. द्वारा प्रकाशित (खण्ड-ख कामकाजी हिंदी और रचनात्मक लेखन हेतु)

हिन्दी केन्द्रिक कक्षा-बारहवीं

प्रश्न पत्र तैयार करने हेतु आधारभूत-प्रारूप (अधिकतम अंक - 100)

क्रम संख्या	प्रश्नों का प्रकार	अधिगम के परिणाम तथा कौशल	लघूत्तरात्मक बहुविकल्पात्मक (1 अंक)	लघूत्तरात्मक (3 अंक)	दीर्घउत्तरात्मक (5 अंक)	कुल अंक	प्रतिशत/ लगभग
1	स्मृति (ज्ञानाधारित-स्मृति के प्रयोग पर सरल प्रश्न)	● श्रवण, भाषण तथा लेखन कौशल	7	1	-----	10	10
2	बोध (अर्थपूर्ण परिचित बोध पर आधारित प्रश्न)	● तर्क-वर्तिक ● विश्लेषणात्मक कौशल	6	3*	2*	25	25
3	अनुप्रयोग (नवीन स्थितियों में ज्ञान के अनुप्रयोग पर आनुमानिक प्रकार के प्रश्न)	● रचनात्मक कौशल सार लेखन, व्याख्या करना	1	3*	2*	25	25
4	उच्च स्तरीय चिन्तन कौशल (विश्लेषण एवं मूल्यांकन पर आधारित प्रश्न)	● मूल्यांकन स्पष्टीकरण, तुलना करना, भेद करना, उचित/अनुचित सिद्ध करना	2	1*	2*	15	15
5	रचनात्मक (निर्णय अथवा स्थिति के मूल्यांकन की क्षमता एवं बहुविषयात्मक)	● मूल्यपरक विचारों की अभिव्यक्ति करना	-----	-----	5	25	25
	कुल		16**	8**	11*	100	100

*अंकित प्रश्नों के उप भाग भी लिये जा सकते हैं।

**यह प्रश्न वृहदतर प्रश्नों के भाग हो सकते हैं।

6. MATHEMATICS (CODE NO 041)

The Syllabus in the subject of Mathematics has undergone changes from time to time in accordance with growth of the subject and emerging needs of the society. Senior Secondary stage is a launching stage from where the students go either for higher academic education in Mathematics or for professional courses like Engineering, Physical and Bioscience, Commerce or Computer Applications. The present revised syllabus has been designed in accordance with National Curriculum Framework 2005 and as per guidelines given in Focus Group on Teaching of Mathematics 2005 which is to meet the emerging needs of all categories of students. Motivating the topics from real life situations and other subject areas, greater emphasis has been laid on application of various concepts.

Objectives

The broad objectives of teaching Mathematics at senior school stage intend to help the students:

- to acquire knowledge and critical understanding, particularly by way of motivation and visualization, of basic concepts, terms, principles, symbols and mastery of underlying processes and skills.
- to feel the flow of reasons while proving a result or solving a problem.
- to apply the knowledge and skills acquired to solve problems and wherever possible, by more than one method.
- to develop positive attitude to think, analyze and articulate logically.
- to develop interest in the subject by participating in related competitions.
- to acquaint students with different aspects of Mathematics used in daily life.
- to develop an interest in students to study Mathematics as a discipline.
- to develop awareness of the need for national integration, protection of environment, observance of small family norms, removal of social barriers, elimination of gender biases.
- to develop reverence and respect towards great Mathematicians for their contributions to the field of Mathematics.

COURSE STRUCTURE CLASS XI (2013-14)

One Paper
Three Hours

Total Periods - 240
Max Marks. 100

Units		No. of Periods	Marks
I.	Sets and Functions	60	29
II.	Algebra	70	37
III.	Coordinate Geometry	40	13
IV.	Calculus	30	06
V.	MatheMatical Reasoning	10	03
VI.	Statistics and Probability	30	12
Total		240	100

*No chapter/unitwise weightage. Care to be taken to cover all the chapters.

Unit-I: Sets and Functions**1. Sets: (20) Periods**

Sets and their representations. Empty set. Finite and Infinite sets. Equal sets. Subsets. Subsets of a set of real numbers especially intervals (with notations). Power set. Universal set. Venn diagrams. Union and Intersection of sets. Difference of sets. Complement of a set. Properties of Complement Sets.

2. Relations & Functions: (20) Periods

Ordered pairs, Cartesian product of sets. Number of elements in the cartesian product of two finite sets. Cartesian product of the set of reals with itself (upto $\mathbb{R} \times \mathbb{R} \times \mathbb{R}$). Definition of relation, pictorial diagrams, domain, co-domain and range of a relation. Function as a special kind of relation from one set to another. Pictorial representation of a function, domain, co-domain and range of a function. Real valued functions, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum and greatest integer functions, with their graphs. Sum, difference, product and quotients of functions. Concept of exponential and logarithmic function.

3. Trigonometric Functions: (20) Periods

Positive and negative angles. Measuring angles in radians and in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity $\sin^2x + \cos^2x = 1$, for all x . Signs of trigonometric functions. Domain and range of trigonometric functions and their graphs. Expressing $\sin(x \pm y)$ and $\cos(x \pm y)$ in terms of $\sin x$, $\sin y$, $\cos x$ & $\cos y$. Deducing the identities like the following:

$$\tan(x \pm y) = \frac{\tan x \pm \tan y}{1 \mp \tan x \tan y}, \cot(x \pm y) = \frac{\cot x \cot y \mp 1}{\cot y \pm \cot x}$$

$$\sin x + \sin y = 2 \sin \frac{x+y}{2} \cos \frac{x-y}{2}, \cos x + \cos y = 2 \cos \frac{x+y}{2} \cos \frac{x-y}{2},$$

$$\sin x - \sin y = 2 \cos \frac{x+y}{2} \sin \frac{x-y}{2}, \cos x - \cos y = -2 \sin \frac{x+y}{2} \sin \frac{x-y}{2}$$

Identities related to $\sin 2x$, $\cos 2x$, $\tan 2x$, $\sin 3x$, $\cos 3x$ and $\tan 3x$. General solution of trigonometric equations of the type $\sin q = \sin a$, $\cos q = \cos a$ and $\tan q = \tan a$. Proof and simple applications of sine and cosine formulae.

Unit-II: Algebra**1. Principle of Mathematical Induction: (10) Periods**

Process of the proof by induction, motivating the application of the method by looking at natural numbers as the least inductive subset of real numbers. The principle of mathematical induction and simple applications.

2. Complex Numbers and Quadratic Equations: (15) Periods

Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve some of the quadratic equations. Algebraic properties of complex numbers. Argand plane and polar representation of complex numbers. Statement of Fundamental Theorem of Algebra, solution of quadratic equations in the complex number system. Square root of a complex number.

3. Linear Inequalities: (15) Periods

Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical solution of linear inequalities in two variables. Graphical solution of system of linear inequalities in two variables.

4. **Permutations and Combinations:** (10) Periods
 Fundamental principle of counting. Factorial n . $(n!)$ Permutations and combinations, derivation of formulae and their connections, simple applications.
5. **Binomial Theorem:** (10) Periods
 History, statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, General and middle term in binomial expansion, simple applications.
6. **Sequence and Series:** (10) Periods
 Sequence and Series. Arithmetic Progression (A. P.). Arithmetic Mean (A.M.) Geometric Progression (G.P.), general term of a G.P., sum of n terms of a G.P., Arithmetic and Geometric series infinite G.P. and its sum, geometric mean (G.M.), relation between A.M. and G.M. Sum to n terms of the special series

$$\sum_{k=1}^n k, \sum_{k=1}^n k^2 \text{ and } \sum_{k=1}^n k^3$$

Unit-III: Coordinate Geometry

1. **Straight Lines:** (10) Periods
 Brief recall of two dimensional geometry from earlier classes. Shifting of origin. Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axis, point-slope form, slope-intercept form, two-point form, intercept form and normal form. General equation of a line. Equation of family of lines passing through the point of intersection of two lines. Distance of a point from a line.
2. **Conic Sections:** (20) Periods
 Sections of a cone: circles, ellipse, parabola, hyperbola, a point, a straight line and a pair of intersecting lines as a degenerated case of a conic section. Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.
3. **Introduction to Three-dimensional Geometry** (10) Periods
 Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points and section formula.

Unit-IV: Calculus

1. **Limits and Derivatives:** (30) Periods
 Derivative introduced as rate of change both as that of distance function and geometrically.
 Intuitive idea of limit. Limits of polynomials and rational functions trigonometric, exponential and logarithmic functions. Definition of derivative relate it to slope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.

Unit-V: Mathematical Reasoning

1. **Mathematical Reasoning:** (10) Periods
 Mathematically acceptable statements. Connecting words/ phrases - consolidating the understanding of "if and only if (necessary and sufficient) condition", "implies", "and/or", "implied by", "and", "or", "there exists" and their use through variety of examples related to real life and Mathematics. Validating the statements involving the connecting words-difference between contradiction, converse and contrapositive.

Unit-VI: Statistics and Probability

1. **Statistics:** **(15) Periods**
Measures of dispersion; mean deviation, variance and standard deviation of ungrouped/grouped data. Analysis of frequency distributions with equal means but different variances.
2. **Probability:** **(15) Periods**
Random experiments; outcomes, sample spaces (set representation). Events; occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events, Axiomatic (set theoretic) probability, connections with the theories of earlier classes. Probability of an event, probability of 'not', 'and' and 'or' events.

MATHEMATICS (CODE - 041)
QUESTION PAPER DESIGN
CLASS - XI (2013-14)

Time 3 Hours

Max. Marks: 100

S. No.	Typology of Questions	Learning Outcomes and Testing Competencies	Very Short Answer (1 marks)	Long Answer I (4 marks)	Long Answer II (6 marks)	Marks	% Weightage
1	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	<ul style="list-style-type: none"> ● Reasoning ● Analytical Skills ● Critical thinking ● Derivative 	2	3	1	20	20%
2	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)		2	2	1	16	16%
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)		1	3	2	25	25%
4	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		1	2	2	21	21%
5	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		-	2+1 (values based)	1	18	18%
	TOTAL		6x1=6	13x4=52	7x6=42	100	100%

QUESTION WISE BREAK UP

Type of Question	Mark per Question	Total No. of Questions	Total Marks
VSA	1	6	06
LA-I	4	13	52
LA-II	6	7	42
Total		26	100

1. *No chapter wise weightage. Care to be taken to cover all the chapters.*
2. *The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.*

CLASS-XII

One Paper

Time: 3 hrs.
Max Marks. 100

Units		No. of Periods	Marks
I.	Relations and Functions	30	10
II.	Algebra	50	13
III.	Calculus	80	44
IV.	Vectors and Three - Dimensional Geometry	30	17
V.	Linear Programming	20	06
VI.	Probability	30	10
Total		240	100

Unit - I: Relations and Functions**1. Relations and Functions : 15 Periods**

Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions, composite functions, inverse of a function. Binary operations.

2. Inverse Trigonometric Functions: 15 Periods

Definition, range, domain, principal value branches. Graphs of inverse trigonometric functions. Elementary properties of inverse trigonometric functions.

Unit-II: Algebra**1. Matrices: 25 Periods**

Concept, notation, order, equality, types of matrices, zero matrix, transpose of a matrix, symmetric and skew symmetric matrices. Addition, multiplication and scalar multiplication of matrices, simple properties of addition, multiplication and scalar multiplication. Non-commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Concept of elementary row and column operations. Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).

2. Determinants: 25 Periods

Determinant of a square matrix (up to 3×3 matrices), properties of determinants, minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

Unit-III: Calculus**1. Continuity and Differentiability: 20 Periods**

Continuity and differentiability, derivative of composite functions, chain rule, derivatives of inverse trigonometric functions, derivative of implicit functions. Concept of exponential and logarithmic functions.

Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives. Rolle's and Lagrange's Mean Value Theorems (without proof) and their geometric interpretation.

2. Applications of Derivatives: 10 Periods

Applications of derivatives: rate of change of bodies, increasing/decreasing functions, tangents and normals, use of derivatives in approximation, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations).

3. Integrals: 20 Periods

Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, simple integrals of the following type to be evaluated.

$$\frac{dx}{x^2 \pm a^2}, \frac{dx}{\sqrt{x^2 \pm a^2}}, \frac{dx}{\sqrt{a^2 - x^2}}, \frac{dx}{ax^2 + bx + c}, \frac{dx}{\sqrt{ax^2 + bx + c}}$$

$$\frac{px + q}{ax^2 + bx + c} dx, \frac{px + q}{\sqrt{ax^2 + bx + c}} dx, \sqrt{a^2 \pm x^2} dx, \sqrt{x^2 - a^2} dx$$

$$\sqrt{ax^2 + bx + c} dx, (px + q)\sqrt{ax^2 + bx + c} dx.$$

Definite integrals as a limit of a sum, Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.

4. Applications of the Integrals: 15 Periods

Applications in finding the area under simple curves, especially lines, circles/parabolas/ellipses (in standard form only), Area between the two above said curves (the region should be clearly identifiable).

5. Differential Equations: 15 Periods

Definition, order and degree, general and particular solutions of a differential equation. Formation of differential equation whose general solution is given. Solution of differential equations by method of separation of variables, homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type:

$$\frac{dy}{dx} + py = q, \text{ where } p \text{ and } q \text{ are functions of } x \text{ or constants}$$

$$\frac{dx}{dy} + px = q, \text{ where } p \text{ and } q \text{ are functions of } y \text{ or constants}$$

Unit-IV: Vectors and Three-Dimensional Geometry

1. Vectors: 15 Periods

Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Scalar (dot) product of vectors, projection of a vector on a line. Vector (cross) product of vectors. Scalar triple product of vectors.

2. Three - dimensional Geometry: 15 Periods

Direction cosines and direction ratios of a line joining two points. Cartesian and vector equation of a line, coplanar and skew lines, shortest distance between two lines. Cartesian and vector equation of a plane. Angle between (i) two lines, (ii) two planes, (iii) a line and a plane. Distance of a point from a plane.

Unit-V: Linear Programming

1. **Linear Programming:** **20 Periods**

Introduction, related terminology such as constraints, objective function, optimization, different types of linear programming (L.P.) problems, mathematical formulation of L.P. problems, graphical method of solution for problems in two variables, feasible and infeasible regions, feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).

Unit-VI: Probability

1. **Probability:** **30 Periods**

Conditional probability, multiplication theorem on probability, independent events, total probability, Baye's theorem, Random variable and its probability distribution, mean and variance of random variable. Repeated independent (Bernoulli) trials and Binomial distribution.

Prescribed Books:

- 1) **Mathematics Part I** - Textbook for Class XI, NCERT Publication
- 2) **Mathematics Part II** - Textbook for Class XII, NCERT Publication
- 3) Laboratory Manual Mathematics (Higher Secondary Stage) NCERT Publication

MATHEMATICS (CODE - 041)
QUESTION PAPER DESIGN
CLASS - XII (2014-15)

Time 3 Hours

Max. Marks: 100

S. No.	Typology of Questions	Learning Outcomes and Testing Competencies	Very Short Answer (1 marks)	Long Answer I (4 marks)	Long Answer II (6 marks)	Marks	% Weightage
1	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	<ul style="list-style-type: none"> ● Reasoning ● Analytical Skills ● Critical thinking ● Derivative 	2	3	1	20	20%
2	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)		2	2	1	16	16%
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)		1	3	2	25	25%
4	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		1	2	2	21	21%
5	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		-	2+1 (values based)	1	18	18%
	TOTAL		6x1=6	13x4=52	7x6=42	100	100%

QUESTION WISE BREAK UP

Type of Question	Mark per Question	Total No. of Questions	Total Marks
VSA	1	6	06
LA-I	4	13	52
LA-II	6	7	42
Total		26	100

1. *No chapter wise weightage. Care to be taken to cover all the chapters.*
2. *The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.*

7. PHYSICS (CODE 042)

Senior Secondary stage of school education is a stage of transition from general education to discipline-based focus on curriculum. The present updated syllabus keeps in view the rigour and depth of disciplinary approach as well as the comprehension level of learners. Due care has also been taken that the syllabus is comparable to the international standards. Salient features of the syllabus include:

- Emphasis on basic conceptual understanding of the content.
- Emphasis on use of SI units, symbols, nomenclature of physical quantities and formulations as per international standards.
- Providing logical sequencing of units of the subject matter and proper placement of concepts with their linkage for better learning.
- Reducing the curriculum load by eliminating overlapping of concepts/content within the discipline and other disciplines.
- Promotion of process-skills, problem-solving abilities and applications of Physics concepts.

Besides, the syllabus also attempts to

- strengthen the concepts developed at the secondary stage to provide firm foundation for further learning in the subject.
- expose the learners to different processes used in Physics-related industrial and technological applications.
- develop process-skills and experimental, observational, manipulative, decision making and investigatory skills in the learners.
- promote problem solving abilities and creative thinking in learners.
- develop conceptual competence in the learners and make them realize and appreciate the interface of Physics with other disciplines.

PHYSICS (CODE 042) COURSE STRUCTURE Class XI (Theory) (2013-14)

One Paper

Time: 3 hrs.
Max Marks: 70

	No. of Periods	Marks
Unit I Physical World and Measurement	10	} 23
Unit II Kinematics	24	
Unit III Laws of Motion	14	
Unit IV Work, Energy and Power	12	} 17
Unit V Motion of System of Particles and Rigid Body	18	
Unit VI Gravitation	12	
Unit VII Properties of Bulk Matter	24	} 20
Unit VIII Thermodynamics	12	
Unit IX Behaviour of Perfect Gases and Kinetic Theory of gases	08	
Unit X Oscillations and Waves	26	10
Total	160	70

Unit I: Physical World and Measurement **10 Periods**

Physics - scope and excitement; nature of physical laws; Physics, technology and society.

Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. Length, mass and time measurements; accuracy and precision of measuring instruments; errors in measurement; significant figures.

Dimensions of physical quantities, dimensional analysis and its applications.

Unit II: Kinematics **24 Periods**

Frame of reference, Motion in a straight line: Position-time graph, speed and velocity.

Elementary concepts of differentiation and integration for describing motion. Uniform and non-uniform motion, average speed and instantaneous velocity. Uniformly accelerated motion, velocity time and position-time graphs.

Relations for uniformly accelerated motion (graphical treatment).

Scalar and vector quantities; Position and displacement vectors, general vectors and their notations; equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors. Relative velocity. Unit vector; Resolution of a vector in a plane - rectangular components. Scalar and Vector product of vectors.

Motion in a plane. Cases of uniform velocity and uniform acceleration-projectile motion. Uniform circular motion.

Unit III: Laws of Motion **14 Periods**

Intuitive concept of force. Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion.

Law of conservation of linear momentum and its applications.

Equilibrium of concurrent forces. Static and kinetic friction, laws of friction, rolling friction, lubrication.

Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on a level circular road, vehicle on banked road).

Unit IV: Work, Energy and Power **12 Periods**

Work done by a constant force and a variable force; kinetic energy, work-energy theorem, power.

Notion of potential energy, potential energy of a spring, conservative forces: conservation of mechanical energy (kinetic and potential energies); non-conservative forces: motion in a vertical circle; elastic and inelastic collisions in one and two dimensions.

Unit V: Motion of System of Particles and Rigid Body **18 Periods**

Centre of mass of a two-particle system, momentum conservation and centre of mass motion.

Centre of mass of a rigid body; centre of mass of a uniform rod.

Moment of a force, torque, angular momentum, laws of conservation of angular momentum and its applications.

Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions.

Moment of inertia, radius of gyration. Values of moments of inertia, for simple geometrical objects (no derivation). Statement of parallel and perpendicular axes theorems and their applications.

Unit VI: Gravitation

12 Periods

Keplar's laws of planetary motion. The universal law of gravitation.

Acceleration due to gravity and its variation with altitude and depth.

Gravitational potential energy and gravitational potential. Escape velocity. Orbital velocity of a satellite. Geo-stationary satellites.

Unit VII: Properties of Bulk Matter

24 Periods

Elastic behaviour, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear modulus of rigidity, Poisson's ratio; elastic energy.

Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes). Effect of gravity on fluid pressure.

Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, critical velocity. Bernoulli's theorem and its applications.

Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to drops, bubbles and capillary rise.

Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; C_p , C_v - calorimetry; change of state - latent heat capacity.

Heat transfer-conduction, convection and radiation, thermal conductivity, Qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law, Green house effect.

Unit VIII: Thermodynamics

12 Periods

Thermal equilibrium and definition of temperature (zeroth law of thermodynamics). Heat, work and internal energy. First law of thermodynamics. Isothermal and adiabatic processes.

Second law of thermodynamics: reversible and irreversible processes. Heat engine and refrigerator.

Unit IX: Behaviour of Perfect Gases and Kinetic Theory of Gases

08 Periods

Equation of state of a perfect gas, work done in compressing a gas.

Kinetic theory of gases - assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equi-partition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number.

Unit X: Oscillations and Waves

26 Periods

Periodic motion - time period, frequency, displacement as a function of time. Periodic functions.

Simple harmonic motion (S.H.M) and its equation; phase; oscillations of a spring-restoring force and force constant; energy in S.H.M. Kinetic and potential energies; simple pendulum derivation of expression for its time period.

Free, forced and damped oscillations (qualitative ideas only), resonance.

Wave motion. Transverse and longitudinal waves, speed of wave motion. Displacement relation for a progressive wave. Principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats, Doppler effect.

PRACTICALS

Total Periods: 60

The record, to be submitted by the students, at the time of their annual examination, has to include:

- Record of at least 15 Experiments [with a minimum of 8 from section A and 7 from section B], to be performed by the students.
- Record of at least 5 Activities [with a minimum of 2 each from section A and section B], to be performed by the students.
- Report of the project to be carried out by the students.

EVALUATION SCHEME

Two experiments one from each section	8 + 8 Marks
Practical record (experiment and activities)	6 Marks
Investigatory Project	3 Marks
Viva on experiments, activities and project	5 Marks
Total 30 Marks	

SECTION-A

Experiments

(Any 8 experiments out of the following to be performed by the Students)

1. To measure diameter of a small spherical/cylindrical body and to measure internal diameter and depth of a given beaker/calorimeter using Vernier Callipers and hence find its volume.
2. To measure diameter of a given wire and thickness of a given sheet using screw gauge.
3. To determine volume of an irregular lamina using screw gauge.
4. To determine radius of curvature of a given spherical surface by a spherometer.
5. To determine the mass of two different objects using a beam balance.
6. To find the weight of a given body using parallelogram law of vectors.
7. Using a simple pendulum, plot L-T and L-T² graphs. Hence find the effective length of second's pendulum using appropriate graph.
8. To study variation of time period of a simple pendulum by changing its length and taking bobs of different masses independently and interpret the result.
9. To study the relationship between force of limiting friction and normal reaction and to find the coefficient of friction between a block and a horizontal surface.
10. To find the downward force, along an inclined plane, acting on a roller due to Gravitational pull of the earth and study its relationship with the angle of inclination (θ) by plotting graph between force and $\sin\theta$.

Activities

1. To make a paper scale of given least count, e.g., 0.2cm, 0.5 cm.
2. To determine mass of a given body using a metre scale by principle of moments.

3. To plot a graph for a given set of data, with proper choice of scales and error bars.
4. To measure the force of limiting friction for rolling of a roller on a horizontal plane.
5. To study the variation in range of a Projectile with angle of projection.
6. To study the conservation of energy of a ball rolling down on an inclined plane (using a double inclined plane).
7. To study dissipation of energy of a simple pendulum by plotting a graph between square of amplitude and time.

SECTION-B

Experiments

(Any 7 experiments out of the following to be performed by the students)

1. To determine Young's modulus of elasticity of the material of a given wire.
2. To find the force constant of a helical spring by plotting a graph between load and extension.
3. To study the variation in volume with pressure for a sample of air at constant temperature by plotting graphs between P and V, and between P and $1/v$.
4. To determine the surface tension of water by capillary rise method.
5. To determine the coefficient of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body.
6. To study the relationship between the temperature of a hot body and time by plotting a cooling curve.
7. To determine specific heat capacity of a given (i) solid, (ii) liquid, by method of mixtures.
8. To study the relation between frequency and length of a given wire under constant tension using sonometer.

OR

To study the relation between the length of a given wire and tension for constant frequency using sonometer.

9. To find the speed of sound in air at room temperature using a resonance tube by two resonance positions.

Activities

1. To observe change of state and plot a cooling curve for molten wax.
2. To observe and explain the effect of heating on a bi-metallic strip.
3. To note the change in level of liquid in a container on heating and interpret the observations.
4. To study the effect of detergent on surface tension of water by observing capillary rise.
5. To study the factors affecting the rate of loss of heat of a liquid.
6. To study the effect of load on depression of a suitably clamped metre scale loaded at (i) its end (ii) in the middle.
7. To observe the decrease in pressure with increase in velocity of a fluid.

Prescribed Books:

1. Physics Part-I, Textbook for Class XI, Published by NCERT
2. Physics Part-II, Textbook for Class XI, Published by NCERT

PHYSICS (CODE - 042)
QUESTION PAPER DESIGN
CLASS - XI (2013-14)

Time 3 Hours

Max. Marks: 70

S. No.	Typology of Questions	Very Short Answer (VSA) (1 mark)	Short Answer-I (SA-I) (2 marks)	Short Answer -II (SA-II) (3 marks)	Value based question (4 marks)	Long Anser (L.A.) (5 marks)	Total Marks	% Weigh-tage
1	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	2	1	1	-	-	7	10%
2	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)	-	2	4	-	1	21	30%
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)	-	2	4	-	1	21	30%
4	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)	2	-	1	-	1	10	14%
5	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)	1	-	2	1	-	11	16%
	TOTAL	5x1=5	5x2=10	12x3=36	1x4=4	3x5=15	70(26)	100%

QUESTION WISE BREAK UP

Type of Question(s)	Mark(s) per Question	Total No. of Questions	Total Marks
VSA	1	5	05
SA-I	2	5	10
SA-II	3	12	36
VBQ	4	1	04
LA	5	3	15
Total		26	70

1. **Internal Choice:** *There is no overall choice in the paper. However, there is an internal choice in one question of 2 marks weightage, one question of 3 marks weightage and all the three questions of 5 marks weightage.*
2. *The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.*

**CLASS XII (2014-15)
(THEORY)**

One Paper

Time: 3 hrs.
Max Marks: 70

	No. of Periods	Marks
Unit I Electrostatics	22	} 15
Unit II Current Electricity	20	
Unit III Magnetic Effect of Current and Magnetism	22	} 16
Unit IV Electromagnetic Induction and Alternating Current	20	
Unit V Electromagnetic Waves	04	} 17
Unit VI Optics	25	
Unit VII Dual Nature of Matter	08	} 10
Unit VIII Atoms and Nuclei	14	
Unit IX Electronic Devices	15	} 12
Unit X Communication Systems	10	
Total	160	70

Unit I: Electrostatics

22 Periods

Electric Charges; Conservation of charge, Coulomb's law-force between two point charges, forces between multiple charges; superposition principle and continuous charge distribution.

Electric field, electric field due to a point charge, electric field lines, electric dipole, electric field due to a dipole, torque on a dipole in uniform electric field.

Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside).

Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two point charges and of electric dipole in an electrostatic field.

Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarisation, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor.

Unit II: Current Electricity

20 Periods

Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current; Ohm's law, electrical resistance, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity. Carbon resistors, colour code for carbon resistors; series and parallel combinations of resistors; temperature dependence of resistance.

Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel. Kirchhoff's laws and simple applications. Wheatstone bridge, metre bridge.

Potentiometer - principle and its applications to measure potential difference and for comparing EMF of two cells; measurement of internal resistance of a cell.

Unit III: Magnetic Effects of Current and Magnetism **22 Periods**

Concept of magnetic field, Oersted's experiment.

Biot - Savart law and its application to current carrying circular loop.

Ampere's law and its applications to infinitely long straight wire. Straight and toroidal solenoids, force on a moving charge in uniform magnetic and electric fields. Cyclotron.

Force on a current-carrying conductor in a uniform magnetic field. Force between two parallel current-carrying conductors-definition of ampere. Torque experienced by a current loop in uniform magnetic field; moving coil galvanometer-its current sensitivity and conversion to ammeter and voltmeter.

Current loop as a magnetic dipole and its magnetic dipole moment. Magnetic dipole moment of a revolving electron. Magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis. Torque on a magnetic dipole (bar magnet) in a uniform magnetic field; bar magnet as an equivalent solenoid, magnetic field lines; Earth's magnetic field and magnetic elements.

Para-, dia- and ferro - magnetic substances, with examples. Electromagnets and factors affecting their strengths. Permanent magnets.

Unit IV: Electromagnetic Induction and Alternating Currents **20 Periods**

Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Eddy currents. Self and mutual induction.

Alternating currents, peak and RMS value of alternating current/voltage; reactance and impedance; LC oscillations (qualitative treatment only), LCR series circuit, resonance; power in AC circuits, wattless current.

AC generator and transformer.

Unit V: Electromagnetic waves **04 Periods**

Need for displacement current, Electromagnetic waves and their characteristics (qualitative ideas only). Transverse nature of electromagnetic waves.

Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.

Unit VI: Optics **25 Periods**

Reflection of light, spherical mirrors, mirror formula. Refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lensmaker's formula. Magnification, power of a lens, combination of thin lenses in contact, combination of a lens and a mirror. Refraction and dispersion of light through a prism.

Scattering of light - blue colour of sky and reddish appearance of the sun at sunrise and sunset.

Optical instruments : Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

Wave optics: Wave front and Huygen's principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygen's principle.

Interference, Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light. Diffraction due to a single slit, width of central maximum. Resolving power of microscopes and astronomical telescope. Polarisation, plane polarised light, Brewster's law, uses of plane polarised light and Polaroids.

Unit VII: Dual Nature of Matter and Radiation

08 Periods

Dual nature of radiation. Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light.

Matter waves-wave nature of particles, de Broglie relation. Davisson-Germer experiment (experimental details should be omitted; only conclusion should be explained).

Unit VIII: Atoms and Nuclei

14 Periods

Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model, energy levels, hydrogen spectrum.

Composition and size of nucleus, Radioactivity, alpha, beta and gamma particles/rays and their properties; radioactive decay law.

Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission, nuclear fusion.

Unit IX: Electronic Devices

15 Periods

Energy bands in solids (Qualitative ideas only) conductor, insulator and semiconductor; semiconductor diode - I-V characteristics in forward and reverse bias, diode as a rectifier; I-V characteristics of LED, photodiode, solar cell, and Zener diode; Zener diode as a voltage regulator.

Junction transistor, transistor action, characteristics of a transistor, transistor as an amplifier (common emitter configuration). Logic gates (OR, AND, NOT, NAND and NOR).

Unit X: Communication Systems

10 Periods

Elements of a communication system (block diagram only); bandwidth of signals (speech, TV and digital data); bandwidth of transmission medium. Propagation of electromagnetic waves in the atmosphere, sky and space wave propagation. Need for modulation. Production and detection of an amplitude-modulated wave. Basic ideas about internet, mobile telephony and global positioning system (GPS)

PRACTICALS

(Total Periods 60)

The record, to be submitted by the students, at the time of their annual examination, has to include:

- Record of at least 15 Experiments [with a minimum of 7 from section A and 8 from section B], to be performed by the students.
- Record of at least 5 Activities [with a minimum of 2 each from section A and section B], to be demonstrated by the teachers.
- The Report of the project, to be carried out by the students.

Evaluation Scheme

Two experiments one from each section	8 + 8 Marks
Practical record [experiments and activities]	6 Marks
Investigatory Project	3 Marks
Viva on experiments, activities and project	5 Marks
Total 30 marks	

SECTION-A

Experiments

(Any 7 experiments out of the following to be performed by the students)

- To determine resistance per cm of a given wire by plotting a graph of potential difference versus current.
- To find resistance of a given wire using metre bridge and hence determine the resistivity (specific resistance) of its material
- To verify the laws of combination (series/parallel) of resistances using a metre bridge.
- To compare the EMF of two given primary cells using potentiometer.
- To determine the internal resistance of given primary cell using potentiometer.
- To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.
- To convert the given galvanometer (of known resistance and figure of merit) into an ammeter and voltmeter of desired range and to verify the same.
- To find the frequency of AC mains with a sonometer.

Activities (For the purpose of demonstration only)

- To measure the resistance and impedance of an inductor with or without iron core.
- To measure resistance, voltage (AC/DC), current (AC) and check continuity of a given circuit using multimeter.
- To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.
- To assemble the components of a given electrical circuit.
- To study the variation in potential drop with length of a wire for a steady current.
- To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.

SECTION-B

Experiments

(Any 8 experiments out of the following to be performed by the students)

- To find the value of v for different values of u in case of a concave mirror and to find the focal length.
- To find the focal length of a convex mirror, using a convex lens.
- To find the focal length of a convex lens by plotting graphs between u and v or between $1/u$ and $1/v$.

4. To find the focal length of a concave lens, using a convex lens.
5. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.
6. To determine refractive index of a glass slab using a travelling microscope.
7. To find refractive index of a liquid by using (i) concave mirror, (ii) convex lens and plane mirror.
8. To draw the I-V characteristic curve of a p-n junction in forward bias and reverse bias.
9. To draw the characteristic curve of a zener diode and to determine its reverse break down voltage.
10. To study the characteristic of a common - emitter *npn* or *pnp* transistor and to find out the values of current and voltage gains.

Activities *(For the purpose of demonstration only)*

1. To identify a diode, an LED, a transistor, an IC, a resistor and a capacitor from a mixed collection of such items.
2. Use of multimeter to (i) identify base of transistor, (ii) distinguish between npn and pnp type transistors, (iii) see the unidirectional flow of current in case of a diode and an LED, (iv) check whether a given electronic component (e.g., diode, transistor or IC) is in Working order.
3. To study effect of intensity of light (by varying distance of the source) on an LDR.
4. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.
5. To observe polarization of light using two Polaroids.
6. To observe diffraction of light due to a thin slit.
7. To study the nature and size of the image formed by a (i) convex lens, (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).
8. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses.

Suggested Investigatory Projects

1. To study various factors on which the internal resistance/EMF of a cell depends.
2. To study the variations, in current flowing, in a circuit containing an LDR, because of a variation.
(a) in the power of the incandescent lamp, used to 'illuminate' the LDR. (keeping all the lamps at a fixed distance). (b) in the distance of a incandescent lamp (of fixed power) used to 'illuminate' the LDR.
3. To find the refractive indices of (a) water (b) oil (transparent) using a plane mirror, an equi convex lens, (made from a glass of known refractive index) and an adjustable object needle.
4. To design an appropriate logic gate combination for a given truth table.
5. To investigate the relation between the ratio of (i) output and input voltage and (ii) number of turns in the secondary coil and primary coil of a self designed transformer.
6. To investigate the dependence of the angle of deviation on the angle of incidence, using a hollow prism filled, one by one, with different transparent fluids.
7. To estimate the charge induced on each one of the two identical styrofoam (or pith) balls suspended in a vertical plane by making use of Coulomb's law.
8. To set up a common base transistor circuit and to study its input and output characteristic and to calculate its current gain.

9. To study the factor on which the self inductance of a coil depends by observing the effect of this coil, when put in series with a resistor/(bulb) in a circuit fed up by an A.C. source of adjustable frequency.
10. To construct a switch using a transistor and to draw the graph between the input and output voltage and mark the cut-off, saturation and active regions.
11. To study the earth's magnetic field using a tangent galvanometer.

Prescribed Books:

1. Physics, Class XI, Part -I and II, Published by NCERT.
2. Physics, Class XII, Part -I and II, Published by NCERT.

PHYSICS (CODE - 042)
QUESTION PAPER DESIGN
CLASS - XII (2014-15)

Time 3 Hours

Max. Marks: 70

S. No.	Typology of Questions	Very Short Answer (VSA) (1 mark)	Short Answer-I (SA-I) (2 marks)	Short Answer -II (SA-II) (3 marks)	Value based question (4 marks)	Long Anser (L.A.) (5 marks)	Total Marks	% Weigh-tage
1	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	2	1	1	-	-	7	10%
2	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)	-	2	4	-	1	21	30%
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)	-	2	4	-	1	21	30%
4	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)	2	-	1	-	1	10	14%
5	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)	1	-	2	1	-	11	16%
	TOTAL	5x1=5	5x2=10	12x3=36	1x4=4	3x5=15	70(26)	100%

QUESTION WISE BREAK UP

Type of Question(s)	Mark(s) per Question	Total No. of Questions	Total Marks
VSA	1	5	05
SA-I	2	5	10
SA-II	3	12	36
VBQ	4	1	04
LA	5	3	15
Total		26	70

1. **Internal Choice:** *There is no overall choice in the paper. However, there is an internal choice in one question of 2 marks weightage, one question of 3 marks weightage and all the three questions of 5 marks weightage.*
2. *The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.*

8. CHEMISTRY (CODE NO.043)

Rationale

Higher Secondary is the most crucial stage of school education because at this juncture specialized discipline based, content-oriented courses are introduced. Students reach this stage after 10 years of general education and opt for Chemistry with a purpose of pursuing their career in basic sciences or professional courses like medicine, engineering, technology and study courses in applied areas of science and technology at tertiary level. Therefore, there is a need to provide learners with sufficient conceptual background of Chemistry, which will make them competent to meet the challenges of academic and professional courses after the senior secondary stage.

The new and updated curriculum is based on disciplinary approach with rigour and depth taking care that the syllabus is not heavy and at the same time it is comparable to the international level. The knowledge related to the subject of Chemistry has undergone tremendous changes during the past one decade. Many new areas like synthetic materials, bio-molecules, natural resources, industrial chemistry are coming in a big way and deserve to be an integral part of chemistry syllabus at senior secondary stage. At international level, new formulations and nomenclature of elements and compounds, symbols and units of physical quantities floated by scientific bodies like IUPAC and CGPM are of immense importance and need to be incorporated in the updated syllabus. The revised syllabus takes care of all these aspects. Greater emphasis has been laid on use of new nomenclature, symbols and formulations, teaching of fundamental concepts, application of concepts in chemistry to industry/technology, logical sequencing of units, removal of obsolete content and repetition, etc.

Objectives

The broad objectives of teaching Chemistry at Senior Secondary Stage are:

- to promote understanding of basic facts and concepts in chemistry while retaining the excitement of chemistry.
- to make students capable of studying chemistry in academic and professional courses (such as medicine, engineering, technology) at tertiary level.
- to expose the students to various emerging new areas of chemistry and apprise them with their relevance in future studies and their application in various spheres of chemical sciences and technology.
- to equip students to face various challenges related to health, nutrition, environment, population, weather, industries and agriculture.
- to develop problem solving skills in students.
- to expose the students to different processes used in industries and their technological applications.
- to apprise students with interface of chemistry with other disciplines of science such as physics, biology, geology, engineering etc.
- to acquaint students with different aspects of chemistry used in daily life.
- to develop an interest in students to study chemistry as a discipline.

COURSE STRUCTURE
CLASS-XI (THEORY) (2013-14)

Total Periods (Theory 160 + Practical 60)

Time: 3 Hours

Total Marks 70

Unit No.	Title	No. of Periods	Marks
Unit I	Some Basic Concepts of Chemistry	12	} 11
Unit II	Structure of Atom	14	
Unit III	Classification of Elements and Periodicity in Properties	08	04
Unit IV	Chemical Bonding and Molecular Structure	14	} 21
Unit V	States of Matter: Gases and Liquids	12	
Unit VI	Thermodynamics	16	
Unit VII	Equilibrium	14	
Unit VIII	Redox Reactions	06	} 16
Unit IX	Hydrogen	08	
Unit X	s-Block Elements	10	
Unit XI	Some p-Block Elements	14	
Unit XII	Organic Chemistry: Some basic Principles and Techniques	14	} 18
Unit XIII	Hydrocarbons	12	
Unit XIV	Environmental Chemistry	06	
Total		160	70

Unit I: Some Basic Concepts of Chemistry **12 Periods**

General Introduction: Importance and scope of chemistry.

Nature of matter, laws of chemical combination, Dalton's atomic theory: concept of elements, atoms and molecules.

Atomic and molecular masses, mole concept and molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on stoichiometry.

Unit II: Structure of Atom **14 Periods**

Discovery of Electron, Proton and Neutron, atomic number, isotopes and isobars. Thomson's model and its limitations. Rutherford's model and its limitations, Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half filled and completely filled orbitals.

Unit III: Classification of Elements and Periodicity in Properties **08 Periods**

Significance of classification, brief history of the development of periodic table, modern periodic law and the present form of periodic table, periodic trends in properties of elements -atomic radii,

ionic radii, inert gas radii Ionization enthalpy, electron gain enthalpy, electronegativity, valency. Nomenclature of elements with atomic number greater than 100.

Unit IV: Chemical Bonding and Molecular structure **14 Periods**

Valence electrons, ionic bond, covalent bond; bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization, involving s,p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules(qualitative idea only), hydrogen bond.

Unit V: States of Matter: Gases and Liquids **12 Periods**

Three states of matter, intermolecular interactions, types of bonding, melting and boiling points, role of gas laws in elucidating the concept of the molecule, Boyle's law, Charles law, Gay Lussac's law, Avogadro's law, ideal behaviour, empirical derivation of gas equation, Avogadro's number, ideal gas equation. Deviation from ideal behaviour, liquefaction of gases, critical temperature, kinetic energy and molecular speeds (elementary idea)Liquid State- vapour pressure, viscosity and surface tension (qualitative idea only, no mathematical derivations)

Unit VI: Chemical Thermodynamics **16 Periods**

Concepts of System and types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions.

First law of thermodynamics -internal energy and enthalpy, heat capacity and specific heat, measurement of ΔU and ΔH , Hess's law of constant heat summation, enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution. Second law of Thermodynamics (brief introduction)

Introduction of entropy as a state function, Gibb's energy change for spontaneous and non-spontaneous processes, criteria for equilibrium.

Third law of thermodynamics (brief introduction).

Unit VII: Equilibrium **14 Periods**

Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium - Le Chatelier's principle, ionic equilibrium- ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionization of poly basic acids, acid strength, concept of pH, Henderson Equation, hydrolysis of salts (elementary idea), buffer solution, solubility product, common ion effect (with illustrative examples).

Unit VIII: Redox Reactions **06 Periods**

Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number, applications of redox reactions

Unit IX: Hydrogen **08 Periods**

Position of hydrogen in periodic table, occurrence, isotopes, preparation, properties and uses of hydrogen, hydrides-ionic covalent and interstitial; physical and chemical properties of water, heavy water, hydrogen peroxide -preparation, reactions and structure and use; hydrogen as a fuel.

Unit X: s -Block Elements (Alkali and Alkaline Earth Metals) 10 Periods

Group 1 and Group 2 Elements

General introduction, electronic configuration, occurrence, anomalous properties of the first element of each group, diagonal relationship, trends in the variation of properties (such as ionization enthalpy, atomic and ionic radii), trends in chemical reactivity with oxygen, water, hydrogen and halogens, uses.

Preparation and Properties of Some Important Compounds:

Sodium Carbonate, Sodium Chloride, Sodium Hydroxide and Sodium Hydrogencarbonate, Biological importance of Sodium and Potassium.

Calcium Oxide and Calcium Carbonate and their industrial uses, biological importance of Magnesium and Calcium.

Unit XI: Some p -Block Elements 14 Periods

General Introduction to p -Block Elements

Group 13 Elements: General introduction, electronic configuration, occurrence, variation of properties, oxidation states, trends in chemical reactivity, anomalous properties of first element of the group, Boron - physical and chemical properties, some important compounds, Borax, Boric acid, Boron Hydrides, Aluminium: Reactions with acids and alkalies, uses.

Group 14 Elements: General introduction, electronic configuration, occurrence, variation of properties, oxidation states, trends in chemical reactivity, anomalous behaviour of first elements. Carbon-catenation, allotropic forms, physical and chemical properties; uses of some important compounds: oxides. Important compounds of Silicon and a few uses: Silicon Tetrachloride, Silicones, Silicates and Zeolites, their uses.

Unit XII: Organic Chemistry -Some Basic Principles and Technique 14 Periods

General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions.

Unit XIII: Hydrocarbons 12 Periods

Classification of Hydrocarbons

Aliphatic Hydrocarbons:

Alkanes- Nomenclature, isomerism, conformation (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis.

Alkenes - Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation, chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markownikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition.

Alkynes - Nomenclature, structure of triple bond (ethyne), physical properties, methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of - hydrogen, halogens, hydrogen halides and water.

Aromatic Hydrocarbons: Introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of electrophilic substitution. nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of functional group in monosubstituted benzene. Carcinogenicity and toxicity.

Unit XIV: Environmental Chemistry

06 Periods

Environmental pollution - air, water and soil pollution, chemical reactions in atmosphere, smog, major atmospheric pollutants, acid rain, ozone and its reactions, effects of depletion of ozone layer, greenhouse effect and global warming- pollution due to industrial wastes, green chemistry as an alternative tool for reducing pollution, strategies for control of environmental pollution.

PRACTICALS

Evaluation Scheme for Examination	Marks
Volumetric Analysis	08
Salt Analysis	08
Content Based Experiment	06
Project Work	04
Class record and viva	04
Total	30

PRACTICAL SYLLABUS

Total Periods 60

Micro-chemical methods are available for several of the practical experiments.

Wherever possible such techniques should be used:

A. Basic Laboratory Techniques

1. Cutting glass tube and glass rod
2. Bending a glass tube
3. Drawing out a glass jet
4. Boring a cork

B. Characterization and Purification of Chemical Substances

1. Determination of melting point of an organic compound.
2. Determination of boiling point of an organic compound.
3. Crystallization of impure sample of any one of the following: Alum, Copper Sulphate, Benzoic Acid.

C. Experiments based on pH

- (a) Any one of the following experiments:
 - Determination of pH of some solutions obtained from fruit juices, solution of known and varied concentrations of acids, bases and salts using pH paper or universal indicator.
 - Comparing the pH of solutions of strong and weak acids of same concentration.
 - Study the pH change in the titration of a strong base using universal indicator.
- (b) Study the pH change by common-ion in case of weak acids and weak bases.

D. Chemical Equilibrium

One of the following experiments:

- Study the shift in equilibrium between ferric ions and thiocyanate ions by increasing/decreasing the concentration of either of the ions.
- Study the shift in equilibrium between $[\text{Co}(\text{H}_2\text{O})_6]^{2+}$ and chloride ions by changing the concentration of either of the ions.

E. Quantitative Estimation

- Using a chemical balance.
- Preparation of standard solution of Oxalic acid.
- Determination of strength of a given solution of Sodium Hydroxide by titrating it against standard solution of Oxalic acid.
- Preparation of standard solution of Sodium Carbonate.
- Determination of strength of a given solution of Hydrochloric acid by titrating it against standard Sodium Carbonate solution.

F. Qualitative Analysis

(a) Determination of one anion and one cation in a given salt

Cations- Pb^{2+} , Cu^{2+} , As^{3+} , Al^{3+} , Fe^{3+} , Mn^{2+} , Ni^{2+} , Zn^{2+} , Co^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Mg^{2+} ,

Anions- CO_3^{2-} , S^{2-} , SO_3^{2-} , SO_4^{2-} , NO_3^- , Cl^- , Br^- , I^- , PO_4^{3-} , $\text{C}_2\text{O}_4^{2-}$, CH_3COO^-

(Note: Insoluble salts excluded)

(b) Detection of -Nitrogen, Sulphur, Chlorine in organic compounds.

PROJECT

Scientific investigations involving laboratory testing and collecting information from other sources.

A few suggested Projects

- Checking the bacterial contamination in drinking water by testing sulphide ion.
- Study of the methods of purification of water.
- Testing the hardness, presence of Iron, Fluoride, Chloride, etc., depending upon the regional variation in drinking water and study of causes of presence of these ions above permissible limit (if any).
- Investigation of the foaming capacity of different washing soaps and the effect of addition of Sodium Carbonate on it.
- Study the acidity of different samples of tea leaves.
- Determination of the rate of evaporation of different liquids.
- Study the effect of acids and bases on the tensile strength of fibers.
- Study of acidity of fruit and vegetable juices.

Note: Any other investigatory project, which involves about 10 periods of work, can be chosen with the approval of the teacher.

Prescribed Books:

- Chemistry Part -I, Class-XI, Published by NCERT.
- Chemistry Part -II, Class-XI, Published by NCERT.

CHEMISTRY (CODE-043)
QUESTION PAPER DESIGN
CLASS - XI (2013-14)

Time 3 Hours

Max. Marks: 70

S. No.	Typology of Questions	Very Short Answer (VSA) (1 mark)	Short Answer-I (SA-I) (2 marks)	Short Answer -II (SA-II) (3 marks)	Value based question (4 marks)	Long Answer (L.A.) (5 marks)	Total Marks	% Weigh-tage
1	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	2	1	1	-	-	7	10%
2	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)	-	2	4	-	1	21	30%
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)	-	2	4	-	1	21	30%
4	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)	2	-	1	-	1	10	14%
5	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)	1	-	2	1	-	11	16%
	TOTAL	5x1 = 5	5x2 = 10	12x3 = 36	1x4 = 4	3x5 = 15	70(26)	100%

QUESTION WISE BREAK UP

Type of Question(s)	Mark(s) per Question	Total No. of Questions	Total Marks
VSA	1	5	05
SA-I	2	5	10
SA-II	3	12	36
VBQ	4	1	04
LA	5	3	15
Total		26	70

1. **Internal Choice:** *There is no overall choice in the paper. However, there is an internal choice in one question of 2 marks weightage, one question of 3 marks weightage and all the three questions of 5 marks weightage.*
2. *The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.*

CLASS XII (2014-15)
(THEORY)

Total Periods (Theory 160 + Practical 60)

Time: 3 Hours

70 Marks

Unit No.	Title	No. of Periods	Marks
Unit I	Solid State	10	} 23
Unit II	Solutions	10	
Unit III	Electrochemistry	12	
Unit IV	Chemical Kinetics	10	
Unit V	Surface Chemistry	08	
Unit VI	General Principles and Processes of Isolation of Elements	08	} 19
Unit VII	p-Block Elements	12	
Unit VIII	d- and f-Block Elements	12	
Unit IX	Coordination Compounds	12	} 28
Unit X	Haloalkanes and Haloarenes	10	
Unit XI	Alcohols, Phenols and Ethers	10	
Unit XII	Aldehydes, Ketones and Carboxylic Acids	10	
Unit XIII	Organic Compounds containing Nitrogen	10	
Unit XIV	Biomolecules	12	
Unit XV	Polymers	08	
Unit XVI	Chemistry in Everyday Life	06	
Total		160	70

Unit I: Solid State

10 Periods

Classification of solids based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea). Unit cell in two dimensional and three dimensional lattices, calculation of density of unit cell, packing in solids, packing efficiency, voids, number of atoms per unit cell in a cubic unit cell, point defects, electrical and magnetic properties.

Band theory of metals, conductors, semiconductors and insulators and n and p type semiconductors.

Unit II: Solutions

10 Periods

Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, colligative properties - relative lowering of vapour pressure, Raoult's law, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass, Van't Hoff factor.

Unit III: Electrochemistry

12 Periods

Redox reactions, conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law, electrolysis and law of electrolysis (elementary idea), dry cell -electrolytic cells and Galvanic cells, lead accumulator, EMF of a cell, standard

electrode potential, Nernst equation and its application to chemical cells, Relation between Gibbs energy change and EMF of a cell, fuel cells, corrosion.

Unit IV: Chemical Kinetics **10 Periods**

Rate of a reaction (Average and instantaneous), factors affecting rate of reaction: concentration, temperature, catalyst; order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half life (only for zero and first order reactions), concept of collision theory (elementary idea, no mathematical treatment). Activation energy, Arrhenius equation.

Unit V: Surface Chemistry **08 Periods**

Adsorption - physisorption and chemisorption, factors affecting adsorption of gases on solids, catalysis, homogenous and heterogenous activity and selectivity; enzyme catalysis colloidal state distinction between true solutions, colloids and suspension; lyophilic, lyophobic multimolecular and macromolecular colloids; properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation, emulsion - types of emulsions.

Unit VI: General Principles and Processes of Isolation of Elements **08 Periods**

Principles and methods of extraction - concentration, oxidation, reduction - electrolytic method and refining; occurrence and principles of extraction of aluminium, copper, zinc and iron.

Unit VII: "p"-Block Elements **12 Periods**

Group -15 Elements: General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties; Nitrogen preparation properties and uses; compounds of Nitrogen, preparation and properties of Ammonia and Nitric Acid, Oxides of Nitrogen (Structure only) ; Phosphorus - allotropic forms, compounds of Phosphorus: Preparation and Properties of Phosphine, Halides and Oxoacids (elementary idea only).

Group 16 Elements: General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties, dioxygen: Preparation, Properties and uses, classification of Oxides, Ozone, Sulphur -allotropic forms; compounds of Sulphur: Preparation Properties and uses of Sulphur-dioxide, Sulphuric Acid: industrial process of manufacture, properties and uses; Oxoacids of Sulphur (Structures only).

Group 17 Elements: General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; compounds of halogens, Preparation, properties and uses of Chlorine and Hydrochloric acid, interhalogen compounds, Oxoacids of halogens (structures only).

Group 18 Elements: General introduction, electronic configuration, occurrence, trends in physical and chemical properties, uses.

Unit VIII: "d" and "f" Block Elements **12 Periods**

General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals - metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation, preparation and properties of $K_2Cr_2O_7$ and $KMnO_4$.

Lanthanoids - Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences.

Actinoids - Electronic configuration, oxidation states and comparison with lanthanoids.

Unit IX: Coordination Compounds **12 Periods**

Coordination compounds - Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner's theory, VBT, and CFT; structure and stereoisomerism, importance of coordination compounds (in qualitative inclusion, extraction of metals and biological system).

Unit X: Haloalkanes and Haloarenes. **10 Periods**

Haloalkanes: Nomenclature, nature of C-X bond, physical and chemical properties, mechanism of substitution reactions, optical rotation.

Haloarenes: Nature of C-X bond, substitution reactions (Directive influence of halogen in monosubstituted compounds only).

Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.

Unit XI: Alcohols, Phenols and Ethers **10 Periods**

Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration, uses with special reference to methanol and ethanol.

Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reactions, uses of phenols.

Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses.

Unit XII: Aldehydes, Ketones and Carboxylic Acids **10 Periods**

Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes: uses.

Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.

Unit XIII: Organic compounds containing Nitrogen **10 Periods**

Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines.

Cyanides and Isocyanides - will be mentioned at relevant places in text.

Diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry.

Unit XIV: Biomolecules **12 Periods**

Carbohydrates - Classification (aldoses and ketoses), monosaccharides (glucose and fructose), D-L configuration oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); Importance of carbohydrates.

Proteins -Elementary idea of - amino acids, peptide bond, polypeptides, proteins, structure of proteins - primary, secondary, tertiary structure and quaternary structures (qualitative idea only), denaturation of proteins; enzymes. Hormones - Elementary idea excluding structure.

Vitamins - Classification and functions.

Nucleic Acids: DNA and RNA.

Unit XV: Polymers

08 Periods

Classification - natural and synthetic, methods of polymerization (addition and condensation), copolymerization, some important polymers: natural and synthetic like polythene, nylon polyesters, bakelite, rubber. Biodegradable and non-biodegradable polymers.

Unit XVI: Chemistry in Everyday life

06 Periods

Chemicals in medicines - analgesics, tranquilizers antiseptics, disinfectants, antimicrobials, antifertility drugs, antibiotics, antacids, antihistamines.

Chemicals in food - preservatives, artificial sweetening agents, elementary idea of antioxidants.

Cleansing agents- soaps and detergents, cleansing action.

PRACTICALS

Evaluation Scheme for Examination	Marks
Volumetric Analysis	08
Salt Analysis	08
Content Based Experiment	06
Project work	04
Class record and viva	04
Total	30

PRACTICALS SYLLABUS

60 Periods

Micro-chemical methods are available for several of the practical experiments.

Wherever possible, such techniques should be used.

A. Surface Chemistry

- Preparation of one lyophilic and one lyophobic sol
Lyophilic sol - starch, egg albumin and gum
Lyophobic sol - aluminium hydroxide, ferric hydroxide, arsenous sulphide.
- Dialysis of sol-prepared in (a) above.
- Study of the role of emulsifying agents in stabilizing the emulsion of different oils.

B. Chemical Kinetics

- Effect of concentration and temperature on the rate of reaction between Sodium Thiosulphate and Hydrochloric acid.
- Study of reaction rates of any one of the following:

- (i) Reaction of Iodide ion with Hydrogen Peroxide at room temperature using different concentration of Iodide ions.
- (ii) Reaction between Potassium Iodate, (KIO_3) and Sodium Sulphite: (Na_2SO_3) using starch solution as indicator (clock reaction).

C. Thermochemistry

Any one of the following experiments

- i) Enthalpy of dissolution of Copper Sulphate or Potassium Nitrate.
- ii) Enthalpy of neutralization of strong acid (HCl) and strong base (NaOH).
- iii) Determination of enthalpy change during interaction (Hydrogen bond formation) between Acetone and Chloroform.

D. Electrochemistry

Variation of cell potential in $\text{Zn}/\text{Zn}^{2+} \parallel \text{Cu}^{2+}/\text{Cu}$ with change in concentration of electrolytes (CuSO_4 or ZnSO_4) at room temperature.

E. Chromatography

- i) Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of R_f values.
- ii) Separation of constituents present in an inorganic mixture containing two cations only (constituents having large difference in R_f values to be provided).

F. Preparation of Inorganic Compounds

- i) Preparation of double salt of Ferrous Ammonium Sulphate or Potash Alum.
- ii) Preparation of Potassium Ferric Oxalate.

G. Preparation of Organic Compounds

Preparation of any one of the following compounds

- i) Acetanilide
- ii) Di-benzal Acetone
- iii) p-Nitroacetanilide
- iv) Aniline yellow or 2-Naphthol Aniline dye.

H. Tests for the functional groups present in organic compounds:

Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (Primary) groups.

I. Characteristic tests of carbohydrates, fats and proteins in pure samples and their detection in given food stuffs.

J. Determination of concentration/ molarity of KMnO_4 solution by titrating it against a standard solution of:

- i) Oxalic acid,
- ii) Ferrous Ammonium Sulphate

(Students will be required to prepare standard solutions by weighing themselves).

K. Qualitative analysis

Determination of one cation and one anion in a given salt.

Cation- Pb^{2+} , Cu^{2+} , As^{3+} , Al^{3+} , Fe^{3+} , Mn^{2+} , Zn^{2+} , Co^{2+} , Ni^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Mg^{2+} , NH_4^+

Anions- C_3^{2-} , S^{2-} , S_3^{2-} , S_4^{2-} , NO_2^- , Cl^- , Br^- , I^- , PO_4^{3-} , C_2^{2-} , O_4^{2-} , CH_3COO^-

(Note: Insoluble salts excluded)

PROJECT

Scientific investigations involving laboratory testing and collecting information from other sources.

A few suggested Projects.

- Study of the presence of oxalate ions in guava fruit at different stages of ripening.
- Study of quantity of casein present in different samples of milk.
- Preparation of soybean milk and its comparison with the natural milk with respect to curd formation, effect of temperature, etc.
- Study of the effect of Potassium Bisulphate as food preservative under various conditions (temperature, concentration, time, etc.)
- Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
- Comparative study of the rate of fermentation of following materials: wheat flour, gram flour, potato juice, carrot juice, etc.
- Extraction of essential oils present in Saunf (aniseed), Ajwain (carum), Illaichi (cardamom).
- Study of common food adulterants in fat, oil, butter, sugar, turmeric powder, chilli powder and pepper.

Note: Any other investigatory project, which involves about 10 periods of work, can be chosen with the approval of the teacher.

Prescribed Books:

1. Chemistry Part -I, Class-XII, Published by NCERT.
2. Chemistry Part -II, Class-XII, Published by NCERT.

CHEMISTRY (CODE-043)
QUESTION PAPER DESIGN
CLASS - XII (2014-15)

Time 3 Hours

Max. Marks: 70

S. No.	Typology of Questions	Very Short Answer (VSA) (1 mark)	Short Answer-I (SA-I) (2 marks)	Short Answer -II (SA-II) (3 marks)	Value based question (4 marks)	Long Answer (L.A.) (5 marks)	Total Marks	% Weigh-tage
1	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	2	1	1	-	-	7	10%
2	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)	-	2	4	-	1	21	30%
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)	-	2	4	-	1	21	30%
4	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)	2	-	1	-	1	10	14%
5	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)	1	-	2	1	-	11	16%
	TOTAL	5x1 = 5	5x2 = 10	12x3 = 36	1x4 = 4	3x5 = 15	70(26)	100%

QUESTION WISE BREAK UP

Type of Question(s)	Mark(s) per Question	Total No. of Questions	Total Marks
VSA	1	5	05
SA-I	2	5	10
SA-II	3	12	36
VBQ	4	1	04
LA	5	3	15
Total		26	70

1. **Internal Choice:** *There is no overall choice in the paper. However, there is an internal choice in one question of 2 marks weightage, one question of 3 marks weightage and all the three questions of 5 marks weightage.*
2. *The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.*

9. BIOLOGY (CODE-044)

The present syllabus reinforces the ideas introduced till the secondary classes. It provides the students with new concepts along with an extended exposure to contemporary areas of the subject. The syllabus also aims at emphasizing on the underlying principles that are common to both animals and plants as well as highlighting the relationship of biology with other areas of knowledge. The format of the syllabus allows a simple, clear, sequential flow of concepts without any jarring jumps. The syllabus also stresses on making better connections among biological concepts. It relates the study of biology to real life through the use of technology. It links the discoveries and innovations in biology to everyday life such as environment, industry, health and agriculture. The updated syllabus also focuses on reducing the curriculum load while ensuring that ample opportunities and scope for learning and appreciating basic concepts of the subject continue to be available within its framework. The prescribed syllabus is expected to:

- promote understanding of basic principles of Biology.
- encourage learning of emerging knowledge and its relevance to individual and society.
- promote rational/scientific attitude to issues related to population, environment and development.
- enhance awareness about environmental issues, problems and their appropriate solutions.
- create awareness amongst the learners about diversity in the living organisms and developing respect for other living beings.
- appreciate that the most complex biological phenomena are built on essentially simple processes.

It is expected that the students would get an exposure to various branches of Biology in the syllabus in a more contextual and friendly manner as they study its various units.

BIOLOGY (CODE-044) COURSE STRUCTURE CLASS XI (2013-14) (THEORY)

Time: 3 Hours

Max. Marks: 70

Unit	Title	No. of Periods	Marks
1.	Diversity of Living Organisms	23	07
2.	Structural Organisation in Plants and Animals	22	12
3.	Cell: Structure and Function	35	15
4.	Plant Physiology	40	18
5.	Human Physiology	40	18
Total		160	70

Note: The question paper will include a Section on Open Case studies based-questions on two case studies of 7 marks each from the syllabus, a total of 14 marks. The case studies will be supplied to students in advance. These case studies are designed to test the analytical and higher order thinking skills of students.

Unit I: Diversity of Living Organism

23 Periods

What is living? Biodiversity; Need for classification; three domains of life; taxonomy and systematics; concept of species and taxonomical hierarchy; binomial nomenclature; tools for study of taxonomy- museums, zoological parks, herbaria, botanical gardens.

Five kingdom classification; Salient features and classification of Monera, Protista and Fungi into

major groups: Lichens, Viruses and Viroids. Salient features and classification of plants into major groups - Algae, Bryophyta, Pteridophyta, Gymnospermae and Angiospermae (three to five salient and distinguishing features and at least two examples of each category); Angiosperms - classification upto class, characteristic features and examples.

Salient features and classification of animals non chordates up to phyla level and chordates up to class level (three to five salient features and at least two examples of each category).

(No live animals or specimen should be displayed.)

Unit 2: Structural Organisation in Animals and Plants **22 Periods**

Morphology and modifications: Tissues; anatomy and functions of different parts of flowering plants: root, stem, leaf, inflorescence, flower, fruit and seed (to be dealt along with the relevant practical of the Practical Syllabus).

Animal tissues: Morphology, anatomy and functions of different systems (digestive, circulatory, respiratory, nervous and reproductive) of an insect (cockroach). (a brief account only)

Unit 3: Cell Structure and Function **35 Periods**

Cell theory and cell as the basic unit of life: Structure of prokaryotic and eukaryotic cells; Plant cell and animal cell; Cell envelope, cell membrane, cell wall; Cell organelles - structure and function; endomembrane system, endoplasmic reticulum, Golgi bodies, lysosomes, vacuoles; mitochondria, ribosomes, plastids, microbodies; cytoskeleton, cilia, flagella, centrioles (ultrastructure and function); nucleus, nuclear membrane, chromatin, nucleolus. Chemical constituents of living cells: biomolecules, structure and function of proteins, carbohydrates, lipids, nucleic acids, enzymes, types, properties, enzyme action.

Cell division: Cell cycle, mitosis, meiosis and their significance.

Unit 4: Plant Physiology **40 Periods**

Transport in plants; Movement of water, gases and nutrients; cell to cell transport, Diffusion, facilitated diffusion, active transport; plant-water relations, Imbibition, water potential, osmosis, plasmolysis; long distance transport of water - Absorption, apoplast, symplast, transpiration pull, root pressure and guttation; transpiration, opening and closing of stomata; Uptake and translocation of mineral nutrients - Transport of food, phloem transport, massflow hypothesis; diffusion of gases.

Mineral nutrition: Essential minerals, macro- and micronutrients and their role; deficiency symptoms; mineral toxicity; elementary idea of hydroponics as a method to study mineral nutrition; nitrogen metabolism, nitrogen cycle, biological nitrogen fixation.

Photosynthesis: Photosynthesis as a mean of autotrophic nutrition; site of photosynthesis, pigments involved in photosynthesis (elementary idea); photochemical and biosynthetic phases of photosynthesis; cyclic and non cyclic photophosphorylation; chemiosmotic hypothesis; photorespiration; C₃ and C₄ pathways; factors affecting photosynthesis.

Respiration: Exchange of gases; cellular respiration - glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); energy relations - number of ATP molecules generated; amphibolic pathways; respiratory quotient.

Plant growth and development: Seed germination; phases of plant growth and plant growth rate; conditions of growth; differentiation, dedifferentiation and redifferentiation; sequence of developmental processes in a plant cell; growth regulators - auxin, gibberellin, cytokinin, ethylene, ABA; seed dormancy; vernalisation; photoperiodism.

Unit 5: Human Physiology**40 Periods**

Digestion and absorption: Alimentary canal and digestive glands, role of digestive enzymes and gastrointestinal hormones; Peristalsis, digestion, absorption and assimilation of proteins, carbohydrates and fats; calorific values of proteins, carbohydrates and fats; egestion; nutritional and digestive disorders - PEM, indigestion, constipation, vomiting, jaundice, diarrhoea.

Breathing and Respiration: Respiratory organs in animals (recall only); Respiratory system in humans; mechanism of breathing and its regulation in humans - exchange of gases, transport of gases and regulation of respiration, respiratory volume; disorders related to respiration - asthma, emphysema, occupational respiratory disorders.

Body fluids and circulation: Composition of blood, blood groups, coagulation of blood; composition of lymph and its function; human circulatory system - Structure of human heart and blood vessels; cardiac cycle, cardiac output, ECG; double circulation; regulation of cardiac activity; disorders of circulatory system - hypertension, coronary artery disease, angina pectoris, heart failure.

Excretory products and their elimination: Modes of excretion - ammonotelism, ureotelism, uricotelism; human excretory system - structure and function; urine formation, osmoregulation; regulation of kidney function - renin - angiotensin, atrial natriuretic factor, ADH and diabetes insipidus; role of other organs in excretion; disorders - uraemia, renal failure, renal calculi, nephritis; dialysis and artificial kidney.

Locomotion and movement: Types of movement - ciliary, flagellar, muscular; skeletal muscle-contractile proteins and muscle contraction; skeletal system and its functions; joints; disorders of muscular and skeletal system - myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout.

Neural control and coordination: Neuron and nerves; Nervous system in humans - central nervous system; peripheral nervous system and visceral nervous system; generation and conduction of nerve impulse; reflex action; sensory perception; sense organs; elementary structure and functions of eye and ear.

Chemical coordination and regulation: Endocrine glands and hormones; human endocrine system - hypothalamus, pituitary, pineal, thyroid, parathyroid, adrenal, pancreas, gonads; mechanism of hormone action (elementary Idea); role of hormones as messengers and regulators, hypo - and hyperactivity and related disorders; dwarfism, acromegaly, cretinism, goiter, exophthalmic goiter, diabetes, Addison's disease.

Note: Diseases related to all the human physiological systems to be taught in brief.

PRACTICALS

Evaluation Scheme	Maximum Marks : 30
One Major Experiment	5 Marks
One Minor Experiment	4 Marks
Slide Preparation	5 Marks
Spotting	7 Marks
Practical Record+ Viva Voce	4 Marks
Project Record + Viva Voce	5 Marks
Total	30 Marks

A. List of Experiments

60 Periods

1. Study and describe three locally available common flowering plants, one from each of the families Solanaceae, Fabaceae and Liliaceae including dissection and display of floral whorls, anther and ovary to show number of chambers. Types of root (Tap and adventitious); stem (herbaceous and woody); leaf (arrangement, shape, venation, simple and compound).
2. Preparation and study of T.S. of dicot and monocot roots and stems (primary).
3. Study of osmosis by potato osmometer.
4. Study of plasmolysis in epidermal peels (e.g. Rhoeo leaves).
5. Study of distribution of stomata in the upper and lower surface of leaves.
6. Comparative study of the rates of transpiration in the upper and lower surface of leaves.
7. Test for the presence of sugar, starch, proteins and fats. To detect these in suitable plant and animal materials.
8. Separation of plant pigments through paper chromatography.
9. Study of the rate of respiration in flower buds/leaf tissue and germinating seeds.
10. Test for presence of urea in urine.
11. Detect the presence of sugar in urine.
12. Detect the presence of albumin in urine.
13. Detect the presence of bile salts in urine.

B. Study/observation of the following (spotting)

1. Study of the parts of a compound microscope.
2. Study of the specimens/slides/models and identification with reasons Bacteria, Oscillatoria, Spirogyra, Rhizopus, mushroom, yeast, liverwort, moss, fern, pine, one monocotyledonous plant and one dicotyledonous plant and one lichen.
3. Study of virtual specimens/slides/models and identification with reasons - Amoeba, Hydra, liverfluke, Ascaris, leech, earthworm, prawn, silkworm, honeybee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit.
4. Study of tissues and diversity in shapes and sizes of plant and animal cells (palisade cells, guard cells, parenchyma, collenchyma, sclerenchyma, xylem, phloem, squamous epithelium, muscle fibers and mammalian blood smear) through temporary/permanent slides.
5. Study of mitosis in onion root tip cells and animals cells (grasshopper) from permanent slides.
6. Study of different modifications in root, stem and leaves.
7. Study and identification of different types of inflorescence (cymose and racemose)
8. Study of imbibition in seeds/raisins.
9. Observation and comments on the experimental set up for showing:
 - a) Anaerobic respiration
 - b) Phototropism

- c) Effect of apical bud removal
- d) Suction due to transpiration
- 10. Study of human skeleton and different types of joints with the help of virtual images/models only.
- 11. Study of external morphology of cockroach through virtual images/models.

Prescribed Books:

1. Biology Part I, Class-XI, Published by NCERT
2. Biology Part II, Class-XI, Published by NCERT

BIOLOGY (CODE - 044)
QUESTION PAPER DESIGN
Class - XI (2013-14)

Time 3 Hours

Max. Marks: 70)

S. No.	Typology of Questions	Very Short Answer (VSA) (1 mark)	Short Answer-I (SA-I) (2 marks)	Short Answer -II (SA-II) (3 marks)	Value based question (VBQ) (4 marks)	Long Anser (L.A.) (5 marks)	Total Marks	% Weigh-tage
1	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	2	1	1	-	-	7	10%
2	Understanding- (Comprehension -To be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)	-	2	4	-	1	21	30%
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)	-	2	4	-	1	21	30%
4	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)	2	-	1	-	1	10	14%
5	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)	1	-	2	1	-	11	16%
	TOTAL	5x1 = 5	5x2 = 10	12x3 = 36	4x1 = 4	5x3 = 15	70(26)	100%

Note: The question paper will include a section on **Open Case Studies** based-questions on two case studies of 7 marks each from the syllabus, a total of 14 marks. The case studies will be supplied to students in advance. These case studies are designed to test the analytical and higher order thinking skills of students.

QUESTION WISE BREAK UP

Type of Question(s)	Mark(s) per Question	Total No. of Questions	Total Marks
VSA	1	5	05
SA-I	2	5	10
SA-II	3	12	36
VBQ	4	1	04
LA	5	3	15
Total		26	70

1. **Internal Choice:** *There is no overall choice in the paper. However, there is an internal choice in one question of 2 marks weightage, one question of 3 marks weightage and all the three questions of 5 marks weightage.*
2. *The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.*

CLASS XII (2014-15)
(THEORY)

Time: 3 Hours

Max. Marks: 70

Unit	Title	No. of Periods	Marks
1.	Reproduction	30	14
2.	Genetics and Evolution	40	18
3.	Biology and Human Welfare	30	14
4.	Biotechnology and its Applications	30	10
5.	Ecology and Environment	30	14
Total		160	70

Unit 1: Reproduction

30 periods

Reproduction in organisms: Reproduction, a characteristic feature of all organisms for continuation of species; modes of reproduction - asexual and sexual reproduction; asexual reproduction - binary fission, sporulation, budding, gemmule, fragmentation; vegetative propagation in plants.

Sexual reproduction in flowering plants: Flower structure; development of male and female gametophytes; pollination - types, agencies and examples; outbreeding devices; pollen-pistil interaction; double fertilization; post fertilization events - development of endosperm and embryo, development of seed and formation of fruit; special modes-apomixis, parthenocarpy, polyembryony; Significance of seed dispersal and fruit formation.

Human Reproduction: Male and female reproductive systems; microscopic anatomy of testis and ovary; gametogenesis - spermatogenesis and oogenesis; menstrual cycle; fertilisation, embryo development upto blastocyst formation, implantation; pregnancy and placenta formation (elementary idea); parturition (elementary idea); lactation (elementary idea).

Reproductive health: Need for reproductive health and prevention of sexually transmitted diseases (STD); birth control - need and methods, contraception and medical termination of pregnancy (MTP); amniocentesis; infertility and assisted reproductive technologies - IVF, ZIFT, GIFT (elementary idea for general awareness).

Unit 2: Genetics and Evolution

40 Periods

Heredity and variation: Mendelian inheritance; deviations from Mendelism - incomplete dominance, co-dominance, multiple alleles and inheritance of blood groups, pleiotropy; elementary idea of polygenic inheritance; chromosome theory of inheritance; chromosomes and genes; Sex determination - in humans, birds and honey bee; linkage and crossing over; sex linked inheritance - haemophilia, colour blindness; Mendelian disorders in humans - thalassemia; chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes.

Molecular basis of inheritance: Search for genetic material and DNA as genetic material; Structure of DNA and RNA; DNA packaging; DNA replication; Central dogma; transcription, genetic code,

translation; gene expression and regulation - lac operon; genome and human genome project; DNA fingerprinting.

Evolution: Origin of life; biological evolution and evidences for biological evolution (paleontology, comparative anatomy, embryology and molecular evidence); Darwin's contribution, modern synthetic theory of evolution; mechanism of evolution - variation (mutation and recombination) and natural selection with examples, types of natural selection; Gene flow and genetic drift; Hardy - Weinberg's principle; adaptive radiation; human evolution.

Unit 3: Biology and Human Welfare 30 Periods

Health and disease: Pathogens; parasites causing human diseases (malaria, filariasis, ascariasis, typhoid, pneumonia, common cold, amoebiasis, ring worm); Basic concepts of immunology - vaccines; cancer, HIV and AIDS; Adolescence, drug and alcohol abuse.

Improvement in food production: Plant breeding, tissue culture, single cell protein, Biofortification, Apiculture and Animal husbandry.

Microbes in human welfare: In household food processing, industrial production, sewage treatment, energy generation and as biocontrol agents and biofertilizers.

Unit 4: Biotechnology and Its Applications 30 Periods

Principles and processes of biotechnology: Genetic Engineering (Recombinant DNA Technology).

Application of biotechnology in health and agriculture: Human insulin and vaccine production, gene therapy; genetically modified organisms - Bt crops; transgenic animals; biosafety issues, bio piracy and patents.

Unit 5: Ecology and Environment 30 Periods

Organisms and environment: Habitat and niche, population and ecological adaptations; population interactions - mutualism, competition, predation, parasitism; population attributes - growth, birth rate and death rate, age distribution.

Ecosystems: Patterns, components; productivity and decomposition; energy flow; pyramids of number, biomass, energy; nutrient cycles (carbon and phosphorous); ecological succession; ecological services - carbon fixation, pollination, seed dispersal, oxygen release.

Biodiversity and its conservation: Concept of biodiversity; patterns of biodiversity; importance of biodiversity; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, biosphere reserves, national parks and sanctuaries.

Environmental issues: Air pollution and its control; water pollution and its control; agrochemicals and their effects; solid waste management; radioactive waste management; greenhouse effect and global warming; ozone depletion; deforestation; any three case studies as success stories addressing environmental issues, diseases; dengue and chickengunia.

PRACTICALS

Evaluation Scheme	Maximum Marks: 30
One Major Experiment	5 Marks
One Minor Experiment	4 Marks
Slide Preparation	5 Marks
Spotting	7 Marks
Practical Record + Viva Voce	4 Marks
Project Record + Viva Voce	5 Marks
Total	30 Marks

A. List of Experiments 60 Periods

1. Study pollen germination on a slide.
2. Collect and study soil from at least two different sites and study them for texture, moisture content, pH and water holding capacity. Correlate with the kinds of plants found in them.
3. Collect water from two different water bodies around you and study them for pH, clarity and presence of any living organisms.
4. Study the presence of suspended particulate matter in air at two widely different sites.
5. Study of plant population density by quadrat method.
6. Study of plant population frequency by quadrat method.
7. Prepare a temporary mount of onion root tip to study mitosis.
8. Study the effect of different temperatures and three different pH on the activity of salivary amylase on starch.
9. Isolation of DNA from available plant material such as spinach, green pea seeds, papaya, etc.

B. Study/observation of the following (Spotting)

1. Flowers adapted to pollination by different agencies (wind, insect, bird).
2. Pollen germination on stigma through a permanent slide.
3. Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice).
4. Meiosis in onion bud cell or grasshopper testis through permanent slides.
5. T.S. of blastula through permanent slides.
6. Mendelian inheritance using seeds of different colour/sizes of any plant.
7. Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colour blindness.
8. Controlled pollination - emasculation, tagging and bagging.
9. Common disease causing organisms like Ascaris, Entamoeba, Plasmodium, Roundworm through permanent slides or specimens. Comment on symptoms of disease that they cause.

10. Two plants and two animals (models/virtual images) found in xeric conditions. Comment upon their morphological adaptations.
11. Two plants and two animals (models/virtual images) found in aquatic conditions. Comment upon their morphological adaptations.

Prescribed Books:

1. Biology Part I, Class-XII, Published by NCERT
2. Biology Part II, Class-XII, Published by NCERT

BIOLOGY (CODE - 044)
QUESTION PAPER DESIGN
Class - XII (2014-15)

Time 3 Hours

Max. Marks: 70

S. No.	Typology of Questions	Very Short Answer (VSA) (1 mark)	Short Answer-I (SA-I) (2 marks)	Short Answer -II (SA-II) (3 marks)	Value based question (VBQ) (4 marks)	Long Anser (L.A.) (5 marks)	Total Marks	% Weigh-tage
1	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	2	1	1	-	-	7	10%
2	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)	-	2	4	-	1	21	30%
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)	-	2	4	-	1	21	30%
4	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)	2	-	1	-	1	10	14%
5	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)	1	-	2	1	-	11	16%
TOTAL		5x1 = 5	5x2 = 10	12x3 = 36	1x4 = 4	3x5 = 15	70(26)	100%

QUESTION WISE BREAK UP

Types of Question(s)	Mark(s) per Question	Total No. of Questions	Total Marks
VSA	1	5	05
SA-I	2	5	10
SA-II	3	12	36
VBQ	4	1	04
LA	5	3	15
Total		26	70

1. **Internal Choice:** *There is no overall choice in the paper. However, there is an internal choice in one question of 2 marks weightage, one question of 3 marks weightage and all the three questions of 5 marks weightage.*
2. *The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.*

10. BIOTECHNOLOGY (CODE NO. 045)

An unprecedented growth of human knowledge in the field of Biological Sciences coupled with equally significant developments in the field of technology have brought significant changes into existing social and economic systems. The emerging field of Biotechnology is likely to further enhance the applications of Science and Technology in the service of human welfare. Modern Biotechnology processes encompass a wide range of new products such as antibiotics, vaccines, monoclonal antibodies and many more. Furthermore, developments in recombinant DNA technology have yielded numerous new useful products in the fields of healthcare and agriculture. The present syllabus takes care of all these aspects. Due emphasis has been laid on familiarizing the learners with the fundamental concepts, basic techniques and their applications. It is expected that the knowledge gained through the study of different topics and the skills acquired through the prescribed practical work will make the learners competent to meet the challenges of academic as well as professional courses after studying the subject at senior secondary stage.

Objectives

The broad objectives of teaching Biotechnology at senior secondary level are:

- To help the learners know and understand basic facts and concepts of the subject at elementary stage.
- To expose the students to different basic processes and basic techniques used in Biotechnology.
- To familiarize the learners to understand the relationship of the subject to health, nutrition, environment, agriculture and industry, etc.
- To develop conceptual competence in the learners so as to cope up with professional courses in future career.
- To acquaint students with different applications of Biotechnology in everyday life.
- To develop an interest in students to study biotechnology as a discipline.

COURSE STRUCTURE CLASS - XI (2013-14)

One Paper

Time: 3 hrs.
Max. Marks 70 + 30

Units		No. of Periods	Marks
Unit-I	Biotechnology within your reach	20	5
Unit-II	Biomolecules	50	20
Unit - III	Cell Development	50	20
Unit - IV	Genetics and Molecular Biology	60	25
	Practical	60	30
	Total	240	100

CLASS XI (Theory)

One Paper (Three Hours)

70 Marks

180 Periods

Unit I: Biotechnology Within Your Reach

20 Periods

Chapter I: Introduction to Biotechnology: Historical perspectives, Production strategies in

Biotechnology, Quality control, Product safety, Good manufacturing practices, Good laboratory practices, intellectual property, Global market, Public perception, Biotechnology in India and global trends.

Unit II: Biomolecules **20 Marks** **50 Periods**

Chapter I : Building Blocks of Biomolecules - Structure and Dynamics (20 Periods)

Building blocks of Carbohydrates - Sugars and their derivatives, Building blocks of Proteins - Amino Acids, building blocks of Lipids - Simple Fatty Acids, Sphingosine, Glycerol and Cholesterol, Building blocks of Nucleic Acids - Nucleotides, Biochemical Transformations

Chapter II : Structure and Function of Macromolecules 20 Periods

Carbohydrates - The energy givers, Proteins - The performers, Enzymes - The catalysts, Lipids and Biomembranes - The barriers, Nucleic Acids - The managers

Chapter III : Biochemical Techniques 10 Periods

Techniques based on molecular weight or size, Techniques based on polarity or charge, Techniques based on spectroscopy, Techniques based on solubility

Unit III: Cell Development **20 Marks** **50 Periods**

Chapter I : The Basic Unit of Life 20 Periods

Cell structure and components, Tissues and Organs, Stem cells, Biodiversity, Organization of life

Chapter II : Cell Growth and Development 20 Periods

Cell division, Cell cycle, Cell communication, Movement, Nutrition, Gaseous exchanges, Internal transport, Maintaining the internal environment, Reproduction, *In Vitro* fertilization, Animal and plant development, Immune response in animals, Programmed cell death, Defense mechanisms in plants

Chapter III : Cellular Techniques 10 Periods

Microscopy, Cell sorting, Cell fractionation, Cell growth determination

Unit IV: Genetics and Molecular Biology **25 Marks** **60 Periods**

Chapter I : Principles of Genetics 25 Periods

Historical perspective, Multiple alleles, Linkage and crossing over, Genetic mapping, Gene interaction, Sex-linked inheritance, Extranuclear inheritance, Quantitative inheritance, Genes at population level, Discovery of DNA as genetic material, Mutations, DNA repair, Genetic disorders

Chapter II : Genome Function 25 Periods

Genome organization, DNA replication, Fine structure of genes, From gene to protein, Transcription - the basic process, Genetic code, Translation, Regulation of gene expression

Chapter III : Genetical Techniques 10 Periods

Chromosomal techniques, Mutagenic techniques, Recombination in bacteria, Breeding methods in plants, Pedigree analysis in humans

PRACTICALS **60 Periods**

Note : Every student is required to do the following experiments during the academic session.

1. Preparation of buffers and pH determination

2. Sterlization techniques
3. Preparation of bacterial growth medium
4. Isolation of bacteria from curd and staining of bacteria
5. Determination of bacterial growth curve
6. Study of various stages of mitosis and calculation of mitotic index
7. Preparation of karyotyping
8. Cell counting
9. Isolation of genomic DNA
10. Detection of DNA by gel electrophoresis
11. Isolation of milk protein (Casein)
12. Estimation of protein by biuret method
13. Assaying the enzyme acid phosphate

Scheme of Evaluation

Time: 3 Hours

Max. Marks 30

The scheme of evaluation at the end of session will be as under:

Two experiments	:	20 Marks
Viva on experiments	:	5 Marks
Practical record	:	5 Marks

**BIO TECHNOLOGY (CODE - 045)
QUESTION PAPER DESIGN
CLASS - XI (2013-14)**

Time 3 Hours

Max. Marks: 70

S. No.	Typology of Questions	Very Short Answer (VSA) (1 mark)	Short Answer-I (SA-I) (2 marks)	Short Answer -II (SA-II) (3 marks)	Long Answer (L.A.) (5 marks)	Total Marks	% Weightage
01	Knowledge Based	2	2	2	--	12	17%
02	Conceptual Understanding	--	1	3	1	16	23%
03	Application Based and Inferential type	1	2	3	--	14	20%
04	Reasoning Based	2	2	1	1	14	20%
05	Skill Based	1	1	2	1	14	20%
	Total	6	8	11	3	70	100%

Total No. of questions = 28

1. *No chapter wise weightage. Care to be taken to cover all the chapters.*
2. *The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.*

**CLASS XII (2014-15)
(THEORY)
COURSE STRUCTURE**

One Paper

Max. Marks 70+30

Time : 3 hrs.

Units		No. of Periods	Marks
Unit - V	Protein and Gene Manipulation	100	40
Unit - VI	Cell Culture and Genetic Manipulation	80	30
	Practical	60	30
Total		240	100

One paper

Time: 3 hrs.

Total Marks : 70

180 Periods

Unit V: Protein and Gene Manipulation **40 Marks** **100 Periods**

Chapter I: Recombinant DNA Technology **40 Periods**

Introduction, Tool of rDNA technology, Making rDNA, Introduction of recombinant DNA into host cells, Identification of recombinants, Polymerase chain reaction (PCR), Hybridization techniques, DNA library, DNA sequencing, Site-directed mutagenesis

Chapter II: Protein Structure and Engineering **35 Periods**

Introduction to the world of proteins, 3-D shape of proteins, Structure-function relationship in proteins, Purification of proteins, Characterization of proteins, Protein based products, Designing proteins (protein engineering)

Chapter III: Genomics and Bioinformatics **25 Periods**

Introduction, Genome sequencing projects, Gene prediction and counting, Genome similarity, SNPs and comparative genomics, Functional genomics, Proteomics, History of bioinformatics, Sequences and nomenclature, Information sources, Analysis using bioinformatics tools

Unit VI: Cell Culture and Genetic Manipulation **30 Marks** **80 Periods**

Chapter I: Microbial Culture and Applications **26 Periods**

Introduction, Microbial culture techniques, Measurement and kinetics of microbial growth, Scale up of microbial process, Isolation of microbial products, Strain isolation and improvement, Applications of microbial culture technology, Biosafety issues in microbial technology

Chapter II: Plant Cell Culture and Applications **27 Periods**

Introduction, Cell and tissue culture techniques, Applications of cell and tissue culture, Gene transfer methods in plants, Transgenic plants with beneficial traits, Biosafety in plant genetic engineering

Chapter III: Animal Cell Culture and Applications **27 Periods**

Introduction, Animal cell culture techniques, Characterisation of cell lines, Methods of gene delivery into cells, Scale-up of animal culture process, Applications of animal cell culture, Stem cell technology, Tissue engineering

PRACTICALS

30 Marks 60 Periods

Note: Every student will be required to do the following experiments during the academic session.

List of Experiments

1. Isolation of bacterial plasmid DNA and its detection by gel electrophoresis
2. Restriction digestion of plasmid DNA and its analysis by gel electrophoresis
3. Bacterial transformation using any plasmid
4. Data retrieval and data base search using internet site NCBI
5. Download a DNA and protein sequence from internet, analyse it and comment on it
6. Cell viability assay
7. Determination of blood groups
8. Estimation of DNA
9. Ion-exchange chromatography for proteins
10. Reading of DNA sequencing gel to arrive at the sequence
11. Estimation of blood glucose by enzymatic method (GOD/POD)
12. Project work

Scheme of Evaluation:

Time: 3 Hours

Max. Marks 30

The scheme of evaluation at the end of the session will be as under:

A.	Two experiments	:	6+6 (only one computer based practical)
	Practical record	:	04
	Viva on Practicals	:	04
B.	Project work	:	
	Write up	:	05
	Viva on project	:	05
	Total		30

Prescribed Books:

1. A Text Book of Biotechnology - Class XI : Published by CBSE, New Delhi
2. A Laboratory Manual of Biotechnology - Class XI : Published by CBSE, New Delhi
3. A Text Book of Biotechnology - Class XII : Published by CBSE, New Delhi
4. A Laboratory Manual of Biotechnology - Class XII : Published by CBSE, New Delhi

BIOTECHNOLOGY (CODE - 045)
QUESTION PAPER DESIGN
Class - XII (2014–15)

Time 3 Hours

Max. Marks: 70

S. No.	Typology of Questions	Very Short Answer (VSA) (1 mark)	Short Answer-I (SA-I) (2 marks)	Short Answer -II (SA-II) (3 marks)	Long Answer (L.A.) (5 marks)	Total Marks	% Weightage
01	Knowledge Based	2	2	2	--	12	17%
02	Conceptual Understanding	--	1	3	1	16	23%
03	Application Based and Inferential type	1	2	3	--	14	20%
04	Reasoning Based	2	2	1	1	14	20%
05	Skill Based	1	1	2	1	14	20%
	Total	6	8	11	3	70	100%

Total No. of questions = 28

- No chapter wise weightage. Care to be taken to cover all the chapters.*
- The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.*

11. ENGINEERING GRAPHICS (CODE NO. 046)

The subject of 'Engineering Graphics' has become an indispensable tool for Engineers, Technocrats, Architects, Draftsmen, Surveyors, Designers and many other professionals in the recent times. Understanding of its fundamental principles and wider applications of the same in the above fields and many other daily life situations form the basis for the syllabus at Senior Secondary Stage.

Objectives:

The study of the subject of Engineering Graphics at Senior School Level aims at helping the learner to:

- develop clear concept and perception of form, proportion and application.
- develop the skill of expressing three-dimensional and two-dimensional objects into professional language and vice versa.
- acquire the ability to readily draw neat sketches, often needed in "On-job situations".
- develop a clear understanding of plane and solid Geometry and machine drawing so as to apply the same in relevant practical fields such as technology and industry.
- acquire speed and accuracy in use of drawing instruments.
- use technology (CAD) in developing isometric and orthographic projections of simple objects.

COURSE STRUCTURE CLASS–XI (2013-14) (Theory)

One Paper: 3 Hours

70 Marks

Unit		Marks	Periods
I.	PLANE GEOMETRY 1. Lines, angles and rectilinear figures 2. Circles and tangents 3. Special curves : ellipse, parabola, involute, cycloid, helix and sine-curve	16	38
II.	SOLID-GEOMETRY 4. Orthographic-projections of points, lines laminae, (plane) and solids 5. Section of solid-figures	27	86
III.	MACHINE DRAWING 6. Orthographic projections of simple machine-blocks 7. Isometric-projection of laminae (plane) figures 8. Development of surfaces	27	50
IV.	Practical	30	66
Total Marks		100	240

I. PLANE GEOMETRY **38 Periods**

Printing English alphabets (capital and small) numerals in standard proportions.

Unidirectional/aligned system of dimensioning as per SP: 46-2003 (Revised)

Unit 1: Construction of lines, angles and their divisions. Simple questions based on triangles, square, rhombus, trapeziums, regular polygons-pentagon, hexagon and octagon. **08 Periods**

Unit 2: Construction of circles, external and internal tangents of circles, inscribing, circumscribing circles in equilateral triangle, square, rhombus, regular polygons-pentagon, hexagon and octagon.

10 Periods

Unit 3: Construction of Engineering curves :

- (a) Ellipses by concentric circles, intersecting arcs and intersecting lines.
- (b) Parabola by intersecting lines and intersecting arcs.
- (c) Involute of a circle, cycloid, helix and sine curve.

20 Periods

II. SOLID GEOMETRY **86 Periods**

Unit 4: Methods of orthographic projections and dimensioning strictly as per SP: 46-2003 revised conventions. Projection of points, lines, regular plane figure and right regular solids such as cubes, prisms and pyramids (square, triangular, pentagonal and hexagonal), cones, cylinders, spheres, hemi-spheres and frustum of pyramids and cone when they are kept with their axis (a) perpendicular, to HP/VP (b) parallel to one plane and inclined to the other (c) parallel to HP and VP both.

40 Periods

Unit 5: Section of solids under the same conditions mentioned above made by the horizontal, vertical and inclined planes, also showing true-shape of section. **46 Periods**

III. MACHINE DRAWING **50 Periods**

Unit 6: Orthographic projections of simple machine blocks. **20 Periods**

Unit 7: Construction of isometric scale showing main divisions of 10 mm and smaller divisions of 1 mm each. Isometric projection (drawn to isometric scale) of figures such as triangles, squares, pentagons, hexagons, circles and semi-circles with their surface parallel to HP or VP and its one side or diagonal or diameter should be either parallel or perpendicular to HP/VP. **20 Periods**

Unit 8: Development of the surfaces of following solids: **10 Periods**

- 1. Cube, cuboid, prisms-triangular, square, pentagonal and hexagonal.
- 2. Pyramids (triangular, square, pentagonal and hexagonal).
- 3. Right circular cylinder and cone.

IV. PRACTICALS

One paper (Practical): 3 Hours **66 Periods**

- 1. Developing "Prisms" and "Pyramids" with the help of card board (thick paper).
- 2. Developing different types of packing boxes (cartons).
- 3. Making different types of graphic designs/murals for interior/exterior decorations in colour using the

knowledge of geometrical figures with the use of any Computer Software such as Collab-CAD, CORAL DRAW, PHOTOSHOP, etc.

4. Drawing ellipse by Trammel and Thread method on the ground / drawing sheet / plywood / cardboard, etc.
5. Preparing top-view (plan) of a class room, Home : Drawing room / Bedroom / Study room / Kitchen, Engineering Graphics room drawing different objects therein.
6. Drawing through activities: Involutés, cycloid, helix and sine curves listing their uses in daily life.
7. Preparing the following sections of solids (prisms, pyramids, spheres, etc.) with clay, soap, thermocol, plasticine, wax or any other material easily and economically available. When the cutting plane is: parallel to the base, perpendicular to the base and inclined to the base. Also creating different objects with combination of above solids.

Note :

I. In all the practicals drawing/sketching of the views should be incorporated and evaluated accordingly.

II. The scheme of evaluation is as follows:

(a) Practicals (2)	15 Marks
(b) Drawing/Sketch	05 Marks
(c) Viva-voce	05 Marks
(d) Sessional Work	05 Marks
Total	30 Marks

CLASS–XII (2014-15)
(Theory)

One Paper: 3 Hours

70 Marks

S.No.	Unit	Periods	Marks
I.	Isometric Projections of Solids	50	25
II.	Machine Drawing	118	45
	A. Drawing of Machine parts		
	B. Assembly Drawing and Dis-assembly drawings		
	1. Bearings		
	2. Rod joints		
	3. Tie-rod and pipe joints		
	4. Couplings		
	5. Pulleys		
	Practical	72	30
	Total Marks	240	100

Unit I: Isometric Projection of Solids

50 Periods

- (i) Construction of isometric scale showing main divisions of 10mm and smaller divisions of 1mm, also showing the leading angles. Drawing helping view/s such as triangles, pentagon, hexagon, etc., using isometric scale.
- (ii) Isometric projections (drawn to isometric scale) of solids such as cube, regular prism and pyramids (triangular, square, pentagonal and hexagonal), cone, cylinder, sphere, hemi-sphere, frustum of right regular pyramids (triangular, square, pentagonal, hexagonal) and cone, when they are cut by a plane parallel to the base. The axis and the base side of the solid should be either perpendicular to HP / VP or parallel to HP and VP. (Indicate the direction of viewing)
- (iii) Combination of two solids (except "frustum" of Pyramids and Cone) Keeping the base side parallel or perpendicular to HP/VP and placed centrally together, axis of both the solids should not be given parallel to HP.

- Note:**
- (1) Question on frustum will be asked in vertical position only.
 - (2) Hidden lines are not required in isometric projection.

Unit II: Machine Drawing (as per SP46: 2003)

118 Periods

A. Drawing of machine parts

36 Periods

- (i) Drawing to full size scale with instruments.

(Internal choice will be given between any two of the following).

Introduction of threads: Standard profiles of screw threads square, knuckle, B.S.W., Metric (external and internal). Bolts (Square, Hexagonal, Tee and Hook); Nuts: (Square and Hexagonal), Plain washer, combination of nut and bolt with or without washer for assembling two parts together, Single riveted lap joint with standard dimensions.

- (ii) Free-hand sketches

(Internal choice will be given between any two of the following).

Conventional representation of external and internal threads; studs (plain, square-neck and collar), screws (round-head, cheese-head, 90° flat counter sunk-head, hexagonal sockethead and grub-screw). Types of rivets:- snap head, pan head-without tapered neck, flat head and 60° countersunk flat head. Types of sunk-keys (rectangular taper, woodruff and double-head feather key with gib head on both ends).

- B. Assembly drawings and Dis-Assembly drawings (Internal choice will be given between an Assembly drawing and a Dis-Assembly drawing). **82 Periods**

- Note:**
1. In all Assembly drawings, half sectional front view will be asked. Side/End view or Top View/Plan will be drawn without section.
 2. In all the Dis-assembly drawings (asterix * marked only), only two orthographic views (one of the two views may be half in section or full in section) of any two parts.
 3. (a) In all sectional views, hidden lines / edges are not to be shown.
(b) In all full views, hidden /edges are to be shown.

1. Bearings

- * (i) Open-Bearing
- * (ii) Bushed-Bearing
- (iii) Footstep-Bearing (only sectional front-view will be asked)
- (iv) Simple Plummer-Block (only sectional front view will be asked with only round brasses).

2. Rod-Joints

- * (i) Cotter-joints for circular-rods (socket and spigot joint)
- (ii) Cotter-joints for round-rods (sleeve and cotter joint)
- * (iii) Cotter-joints for square rods (Gib and cotter-joint)
- (iv) Knuckle-joints (only sectional front view will be asked)

3. Tie-rod and Pipe-joint

- * (i) Turnbuckle
- * (ii) Flange pipe joint

4. Couplings

- (i) Unprotected Flange Coupling (having socket and spigot arrangement)
- * (ii) Protected Flange Coupling

5. Pulleys

- (i) Solid cast Iron Pulley (upto 200 mm diameter) having solid web
- * (ii) Single groove V-belt pulley (upto 200 mm diameter)

PRACTICALS

One paper (Practical): 3 Hours

30 Marks 72 Periods

(I) To perform the following tasks from the given views of the prescribed Machine

Block (One).

Value-Points

- | | | |
|----|---|---|
| 1. | Copy the given views | 1 |
| 2. | Drawing the missing view without hidden lines | 2 |
| 3. | Sketching the Isometric view without hidden edges | 5 |
| 4. | To make the machine block of the above in three dimensions.
(not to scale but approximately proportionately) drawn with any medium, i.e., thermocol, soap-cake, plasticine, clay, wax, orchsis (available with flowerists), etc. | 7 |

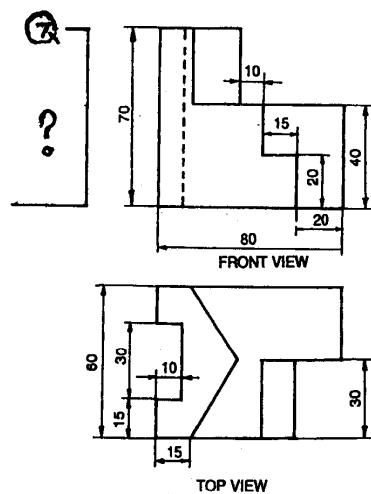
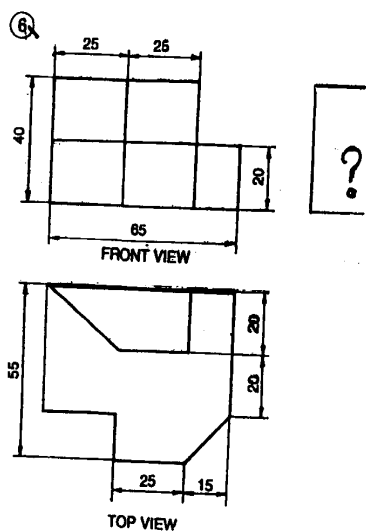
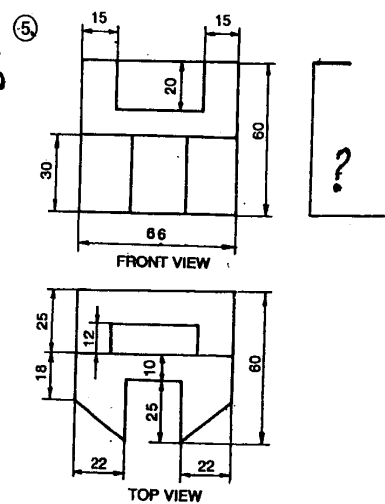
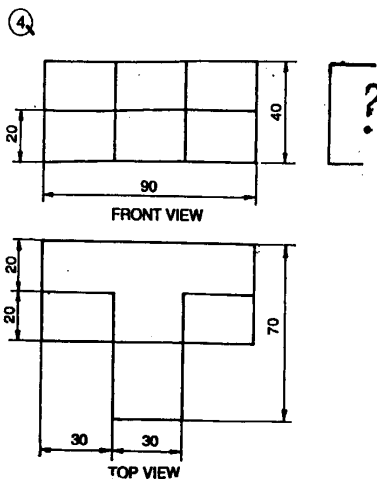
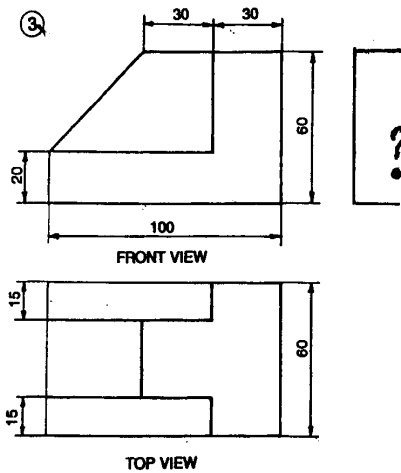
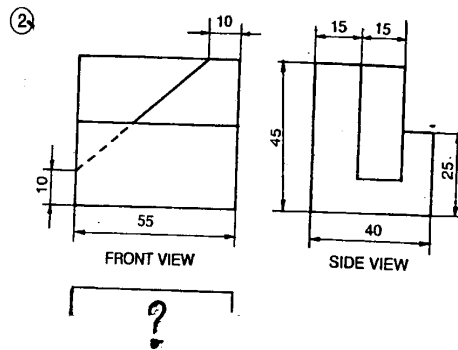
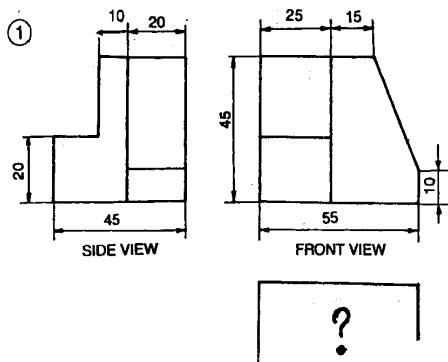
(II) Computer Aided Design(CAD) - Project 10

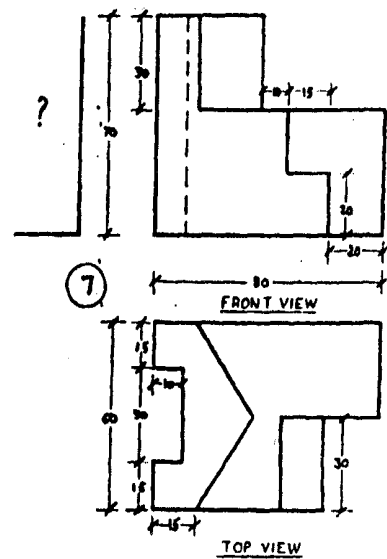
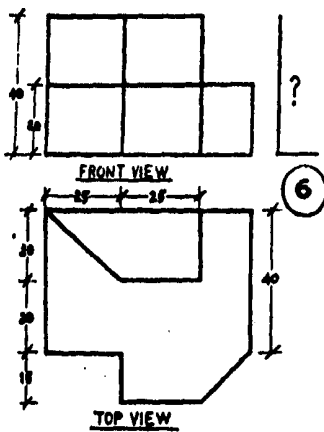
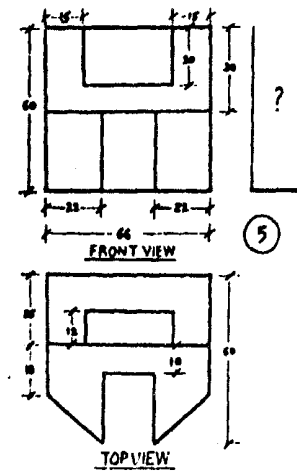
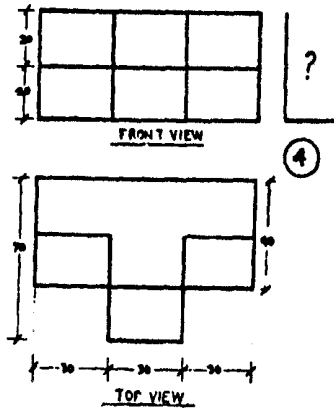
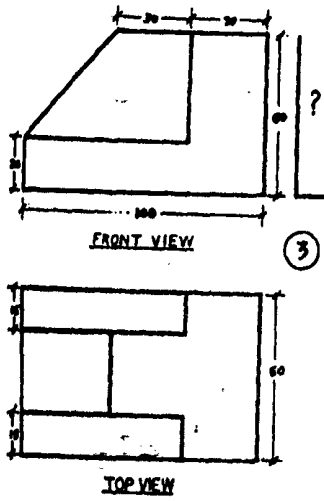
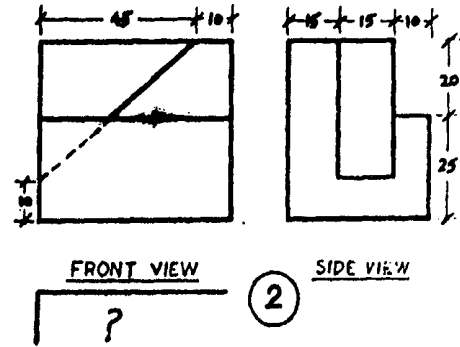
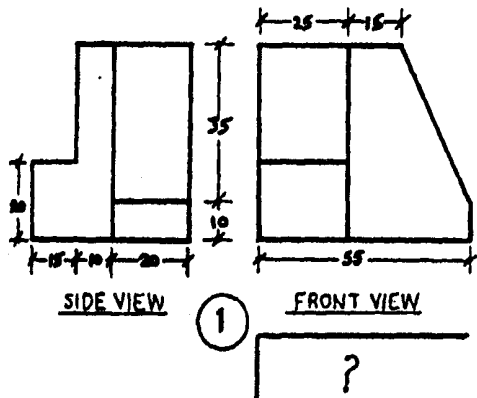
Project file to be submitted on the simple solids (Prism, Pyramids and Frustums of equilateral triangle, square, pentagon and hexagon) or machine blocks as prescribed in part-I by using the CAD software.

(III) (i) Sessional work relating to machine blocks as prescribed. 3

(ii) Viva-voce based on part-I and part-II 2

Total Marks 30





12. HOME SCIENCE (CODE NO. 064) (CLASSES – XI AND XII)

Home Science as a discipline aims to empower learners by developing understanding of five different areas, namely:

- Food and Nutrition
- Human Development, Childhood Studies
- Community Resource Management and Extension
- Fabric and Apparel Science
- Development Communications and Extension

The subject helps students to understand changing needs of Indian society, academic principles as well as develop professional skills.

This would make them competent to meet challenges of becoming a responsible citizen.

Objectives:

The syllabus at Senior Secondary level develops an understanding in the learners that the knowledge and skills acquired through Home Science facilitates development of self, family and community. It endeavours to -

1. Acquaint learners with the basics of human development with specific reference to self and child.
2. Help to develop skills of judicious management of various resources.
3. Enable learners to become alert and aware consumers.
4. Impart knowledge of nutrition and lifestyles to enable prevention and management of diseases.
5. Inculcate healthy food habits.
6. Help to develop understanding of textiles for selection and care of clothes.
7. Develop skills of communication to assist in advocacy and dissemination of knowledge to community.

HOME SCIENCE (Code No. 064) CLASS XI (2013-14) COURSE STRUCTURE (THEORY)

One Paper (Theory)

70 Marks

Time: 3 Hours

Periods-220

	Unit	No of periods	No of marks
I.	Concept of Home Science and its Scope	5	25
II.	Human Development: Life Span Approach (Part I)	40	
III.	Food, Nutrition, Health and Fitness	45	30
IV.	Family and Community and Resources	45	
V.	Fabric and Apparel	45	15
VI.	Community development and extension (Part I)	5	
	Practical	35	30
	TOTAL	220	100

Unit I: Concept of Home Science and its Scope **05 Periods**

- (i) Evolution of the discipline of Home Science
- (ii) Five major areas
- (iii) Relevance in improving the quality of life

Unit II: Human development: life span approach (Part I) **40 Periods**

Introduction to different stages: infancy, early childhood, childhood, adolescence, adulthood and old age

- (i) **Infancy (birth to 2 years)** : Physical - height, weight and body proportions; motor development during 0-3 months, 3-6 months, 6-9 months, 9-12 months and 1-2 years (milestones only); social and emotional development; expression of emotions, socialization; cognitive and language development.
- (ii) **Early childhood (3- 6 years):** characteristics
- (iii) **Childhood (7 - 11 years):** behavioural problems of children and suggestive measures
 - (a) **Protection from preventable diseases:** immunization - concept and types (natural and acquired), breast feeding (one of the ways to develop natural immunity); immunization chart; symptoms, prevention, after care and incubation period of childhood diseases - tuberculosis, diphtheria, pertussis (whooping cough), tetanus, polio, measles, cholera, diarrhoea and chicken pox.
 - (b) **Substitute care at home and outside:**
 - Grandparents, crèche/day care centres
 - Integrated Child Development Scheme (ICDS) - objectives and functions.
 - (c) Special needs and care of disadvantaged and differently abled children: socially disadvantaged, visually impaired (partial and complete), hearing impaired, orthopedically impaired (affected/missing limb)
 - (d) **Managing Emergencies**
First aid to cuts, burns, fractures, bites (snake, dog and insects), poisoning, fainting, asthma.

Unit III: Food, Nutrition, Health and Fitness **45 Periods**

- (i) Definition of food, nutrition, (WHO) health and fitness.
- (ii) **Functions of food:**
 - Physiological (body building, energy giving, protective, regulatory)
 - Psychological
 - Social
- (iii) **Selection of food for optimum nutrition and good health:**
 - (a) Nutrients: sources, functions and deficiency and its prevention; Proteins, Carbohydrates, Fats, Vitamins- Fat soluble (A, D, E, K) and water soluble (B1, B2, Niacin, Folic acid, B12 and Vitamin C), Minerals (Calcium, Iron, Zinc and Iodine).
- (iv) **Maximising nutritive value of food by proper selection, preparation and storage:**
 - (a) **Selection and Storage of foods:** Perishable, semi-perishable, non-perishable,

convenience foods and their storage. Selection of fruits, vegetables, egg, fish, poultry, milk and milk products.

- (b) **Food Processing:**
- Reasons of spoilage of food
 - Food processing methods - Dehydration, Freezing, Use of chemicals (salt, sugar, oil).
- (c) **Preparation of food :**
- Principles
 - **Methods:** boiling, steaming, pressure cooking, deep and shallow frying, baking, sautéing, roasting, grilling, solar cooking and microwave cooking.
 - Loss of nutrients and steps to minimise nutrient loss during preparation.
 - Methods of enhancing nutrient availability germination, fermentation, fortification and food combination.

Unit IV: Family and Community Resources

45 Periods

- (i) **Concept of Family and Community resources**
- (ii) **Types, Management and Conservation of:**
- (a) *Human / Personal Resources:* knowledge, skills, time, energy, aptitude.
- (b) *Non-human / material resources:* money, goods, property.
- (c) *Community facilities / shared resources:* Schools, parks, hospitals, roads, transport, water, electricity, library, fuel and fodder.
- (iii) **Management:**
- (a) Meaning and need for management.
- (b) Steps in management: planning, organizing, controlling, implementing and evaluation.
- (c) Decision making and its role in management.
- (iv) **Time, energy and space management:**
- (a) Need and procedure for managing time and energy.
- (b) Work simplifications: Techniques for time and energy management.
- (c) Need and ways of space management.
- (d) Elements of art and principles of design.
- (e) Use of colours, light and accessories in space management; Prang colour wheel, dimensions of colours, classes and colour schemes.

Unit V: Fabric and Apparel

45 Periods

- (i) **Introduction to Fibre Science:**
- (a) Classifications of fibre
- Natural cotton, silk and wool
 - Manufactured: (rayon, nylon and polyester)
 - Blends - Characteristics (terry cot, terry silk, terry wool)

(b) Characteristics of fibre

(c) Suitability for use

(ii) Fabric Construction:

(a) *Yarn making*: Basic procedure of making yarn.

- Simple : Two Ply, Four Ply, Multiple and Cord
- Novelty: Slub, Knot, Flock, Spiral
- Blended yarns

(b) *Weaving*: Basic mechanism, types of weaves: plain (basket and rib), twill, sateen and satin weave. A brief mention of special weaves: pile and jacquard weaves.

(c) Effect of weaves on appearance, durability and maintenance of garment.

(d) Other methods of fabric constructions: knitting, non-woven fabrics: felting and bonding

(iii) Fabric Finishes:

(a) Meaning and importance.

(b) Classification of finishes

- Basic finishes: (cleaning scouring), singeing, bleaching, stiffening, calendaring and tendering.

(iv) Dyeing and Printing

(a) Importance of dyeing and printing

(b) Types and sources of Dyes-natural, synthetic

(c) Methods of Dyeing and Printing: Plain Dyeing, tie and dye, Batik printing.

Unit VI: Community Development and Extension (Part I)

05 Periods

- Respect for girl child.
- Income generating schemes :

DWCRA (Development of Women and Child in Rural Area)

MNREGA (Mahatma Gandhi National Rural Employment Guarantee Act, 2005)

1. Communication- concepts and methods

HOME SCIENCE
CLASS: XI (2013-14)

PRACTICAL

Maximum Marks: 30

Periods: 35

I. Human Development: Life Span Approach

1. Visit a child care centre (Day Care/ Crèche/ Anganwadi/ Nursery Schools/ any other). Write a report on facilities and activities.
2. Select a child with special needs in the neighbourhood. Write a report about her/his special requirement related to:-
 - a. Care
 - b. Education
 - c. Physical Infrastructure needed
3. Observation of any two children in different stages of age in the neighbourhood and report on their activities and behaviour.
4. Prepare an educational toy by using local material.

II. Food Nutrition Health and Fitness

1. Plan and prepare a dish rich in selected nutrients (Iron, Calcium, Protein, Fibre).
2. Prepare one preserved product; also prepare a suitable label for it.
3. Prepare dishes involving the following :
Germination, Fermentation and Combination.

III. Family and Community Resources

- a. Using elements of art and principles of design, prepare Rangoli, Flower arrangement and one accessory for decoration.
- b. Critically evaluate your residential space and suggest improvements.
- c. Prepare a day's routine, listing activities and time spent in each. Critically evaluate for improvement for time and energy saving.
- d. Cleaning.

IV. Fabric and Apparel

- a. Prepare paper samples of the following weaves:
Plain, Rib, basket, twill (any two), satin and sateen.
- b. Collect samples of various fabrics and identify the following weaves: Plain, rib, basket, twill, satin and sateen.
- c. Identification of various types of fibres using burning test.
- d. Prepare five samples of dye and dye.

V. Community Development and Extension

- a. Plan message for 'respect for girl child', 'women's empowerment', 'income generating scheme' using different modes of communication for different focus groups.
- b. Make a leaflet or a pamphlet for consumer education on any topic.

Reference books for teachers:

1. **Human Ecology and Family Sciences - Part I, Class-XI, NCERT Publication**
2. **Human Ecology and Family Sciences - Part II, Class-XI, NCERT Publication**

HOME SCIENCE		QUESTION PAPER DESIGN 2013-14					Class XI	
Time: 3 hrs		Code No.- 064					Max.Marks-70	
S. No.	Typology of Questions	Learning outcomes & Testing Skills	Very Short Answer -1 Mark	Short Answer -I 2 Marks	Short Answer -4 Marks	Case study and picture based 3 marks	Long Answer - 5 Marks	Marks %
1	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	<ul style="list-style-type: none"> Reasoning Analytical Skills Critical thinking 	2	2	1	1	1	18 %
2	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)		1	1	1		1	17 %
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		1	2	2	1	1	30 %
4	High Order Thinking Skills (Analysis and Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/ or integrate unique pieces of information from a variety of sources)		1	1	1		1	17 %
5	Evaluation and Multi-Disciplinary- (Appraise, judge, and/ or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		1	1	1			10 %
	TOTAL		6×1 = 6	2×7 = 14	4×6 = 24	3×2 = 6	5×4 = 20	70
	ESTIMATED TIME		10 min.	35 min.	50 min.	20 min	50 min.	165min. + 15 min. For revision

Note: No Chapter wise weightage, care should be taken to cover all chapters.

**HOME SCIENCE(Code No. 064)
CLASS XII (2014-15)
COURSE STRUCTURE
(THEORY)**

One Paper (Theory)

70 Marks

Time: 3 Hours

Periods-220

	UNITS	Periods	Marks
I.	Human Development: Life Span Approach (Part II)	40	30
II.	Nutrition for Self, Family and Community	40	
III.	Money Management and Consumer Education	40	35
IV.	Apparel: Designing, Selection and Case	40	
V.	Community Development and Extension (Part II)	20	
VI.	Career Option after Home Science Education	5	5
VII.	Practical	35	30
VIII.	TOTAL	220	100

Unit I: Human Development: Life Span Approach (Part II)
Adolescence (12- 18years)

40 Periods

- i) Growth & Development- Domains and principles.
- ii) Meaning, characteristics and needs.
- iii) Influences on identity formation
 - (a) Biological and Physical changes-early and late matures. (Role of heredity and environment)
 - (b) Social, culture and media.
 - (c) Emotional changes.
 - (d) Cognitive changes.
- iv) Specific issues and concerns
 - (a) Eating disorders-Causes, consequences and management - Anorexia Nervosa, Bulimia.
 - (b) Depression
 - (c) Substance Abuse
 - (d) Related to sex
 - (e) Handling stress and peer pressure

Adulthood: Understanding and management of new responsibilities; carrier, marriage and family.

Old age:

- (i) Health and Wellness: physical, social, emotional, financial, recreational needs
- (ii) Care for elderly (at home and outside-old age home)
- (iii) Anger management

Unit II: Nutrition for Self, Family and Community

40 Periods

- (a) Use of basic food groups (ICMR) and serving size in meal planning.
- (b) Factors influencing selection of food: culture, family food practices, media, peer group, availability of foods, purchasing power, and individual preference.

Meal Planning:

Meaning and importance, principles and factors affecting meal planning; Nutritional needs, food preferences and modifications of diets in different age groups: infants, children, adolescence, adults, elderly and in special conditions: pregnancy and lactation (including traditional foods given in these conditions).

- (a) Therapeutic modification of normal diet with respect to consistency, frequency, foodstuffs, nutrients and methods of cooking.
- (b) Modification of diet according to common ailments: diarrhoea, fever, jaundice, hypertension, diabetes and constipation. Physiological changes, clinical symptoms, requirements and dietary requirements in each condition.

Food safety and quality:

- (a) Safe food handling (personal, storage, kitchen, cooking and serving).
- (b) Safety against food adulteration, definition and meaning of food adulteration as given by FSSAI (Food Safety and Standard Authority of India).
- (c) Common adulterants present in cereals, pulses, milk and milk products, fats and oils, sugar, jaggery, honey, spices and condiments.
- (d) Effects of some of the adulterants present in the foods: kesari dal, metanil yellow, argemone seeds.
- (e) Food standards (FPO, Agmark, ISI).

Unit III: Money Management and Consumer Education

40 Periods

Family Income:

Various sources of family income: (i) money income, (ii) real income, (direct and indirect) (iii) Psychic income, Supplementing family income-need and ways; need and procedure for keeping Post Office schemes, household accounts (daily, weekly and monthly).

Savings and Investment:

- i. **Meaning and importance of savings.**
- ii. **Basis for selection of method of investment: risk, security, profit, tax saving.**
- iii. **Ways/methods of investment -**
 - (a) Bank schemes (saving, fixed, recurring);
 - (b) Post Office schemes (savings, recurring deposit, monthly income scheme, National saving certificate, Senior citizen scheme);
 - (c) Insurance schemes (whole life, mediclaim);
 - (d) Public Provident Fund (PPF), Provident Fund (PF).
- iv. **Consumer Protection and Education:**

Meaning, problems faced by consumer, Consumer Protection Amendment Act (2011);

Consumer aids: labels, standardization marks, (ECO Mark, Hallmark, Wool mark, Silk mark), advertising, leaflets, and Consumer redressal forum.

Unit IV: Apparel: Designing, Selection and Care **40 Periods**

- (i) **Principles of design-** Balance, rhythm, proportion, harmony, emphasis.
- (ii) **Application of elements of art and principles** of design in designing apparel.
- (iii) **Selection and purchase of fabrics-** purpose, cost, season, quality- durability, ease of maintenance and comfort.
- (iv) **Selection of apparel-** factors influencing selection of apparel- age, size, climate, occupation, figure, occasion, fashion, drape and workmanship.
- (v) **Care and maintenance of clothes:** Cleansing agents: soaps and detergents (basic differences and their utility); General principles of stain removal, stain removal of tea, coffee, lipstick, ball pen, Grease, Curry and Blood.
- (vi) **Storage of clothes.**

Unit V: Community Development and Extension (Part II) **20 Periods**

1. **Water safety:** Use of safe drinking water-importance of potable water for good health, and its qualities, simple methods of making water safe for drinking; boiling, filtering, use of alum, chlorine and chlorine tablet.
2. **Salient features of income generating schemes**
 - **DWCRA** (Development of Women and Children in Rural Area)
 - **MGNREGA** (Mahatma Gandhi National Rural Employment Guarantee Act, 2005)

Unit VI: Career Options after Home Science Education **05 Periods**

Career options of self and wage employment of various fields of Home Science.

HOME SCIENCE
CLASS -XII (2014-15)

PRACTICAL

Maximum Marks: 30

35 Periods

1) Human Development: Life Span Approach (Part II)

Activities:

- Identify the problems of adjustment of adolescents with the help of a tool (group activity) and make a report.
- Spend a day with an aged person and observe the needs and problems. Write a report.
- List and discuss 4/5 areas of agreement and disagreement of self with:-
 - a) Mother
 - b) Father
 - c) Siblings
 - d) Friends
 - e) Teacher

2) **Nutrition for Self, Family and Community**

Activities

- Record meal of a day for an individual and evaluate it against principles of balanced diet.
- Modify and prepare a dish for any one physiological condition Fever, Diarrhoea, Constipation, Jaundice, Hypertension, Diabetes, Pregnancy, Lactations, Old age, and Infants.
- Identify food adulteration: visual and using methods; Turmeric, Chana Dal, Bura Sugar, Milk, Tealeaves or Coriander, Black Paper Seeds.
- Prepare ORS Solution.

3) **Money Management and Consumer Education**

- Collect and fill savings account in Post Office and Bank.
- Fill up the forms: Withdrawal, Deposit slips, cheque and paste in the file.
- Collect labels of any three products and compare them with mandatory requirements.
- Prepare one label each of any three household items bearing ISI, FPU, Agmark.

4) **Apparel: Designing, Selection and Care**

- Illustrate principles of design or elements of art on a paper or cloth and evaluate them.
- Removal of different types of stains: tea, coffee, curry, grease, blood, lipstick, ball pen.
- Examine and evaluate readymade garments for their workmanship.
- Make sample of Hemming, Backstitch, Interlocking, and Press buttons hooks and eye.

5) **Community Development and Extension**

- Visit any two places (home/restaurant/school/business centre, etc.) and evaluate its water portability and hygiene.

HOME SCIENCE		QUESTION PAPER DESIGN 2014-15					Class XII		
Time: 3 hrs		Code No.- 064					Max.Marks-70		
S. No.	Typology of Questions	Learning outcomes & Testing Skills	Very Short Answer -1 Mark	Short Answer -I 2 Marks	Short Answer -4 Marks	Case study and picture based 3 marks	Long Answer - 5 Marks	Marks	%
1	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	<ul style="list-style-type: none"> Reasoning Analytical Skills Critical thinking 	2	2	1	1	1	18	26 %
2	Understanding- (Comprehension - to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)		1	1	1		1	12	17 %
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		1	2	2	1	1	21	30 %
4	High Order Thinking Skills (Analysis and Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources)		1	1	1		1	12	17 %
5	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		1	1	1			7	10 %
	TOTAL		6×1=6	2×7=14	4×6=24	3×2=6	5×4=20	70	100
	ESTIMATED TIME		10 min.	35 min.	50 min.	20 min	50 min.	165min. + 15 min. For revision	

Note: No Chapter wise weightage, care should be taken to cover all chapters.

HOME SCIENCE-XI and XII (064)
DESIGN OF THE QUESTION PAPER

Time: 3 hours

Maximum Marks: 100

The weightage of the distribution of marks over different dimensions of the question paper shall be as follows:

A. Weightage of Content Units

Class XI

	Unit	No of marks
1	Concept of Home Science and its Scope	25
2	Human Development: Life Span Approach (Part I)	
3	Food, Nutrition, Health and Fitness	30
4	Family and Community and Resources	
5	Fabric and Apparel	15
6	Community Development and Extension (Part I)	
	Theory	70
	Practical	30
	Total	100

B. Weightage of Content Units

Class XII

	UNITS	Marks
1	Human Development: Life Span Approach (Part II)	30
2	Nutrition for Self, Family and Community	
3	Money Management and Consumer Education	35
4	Apparel: Designing, Selection and Case	
5	Community Development and Extension (Part II)	
6	Career Option after Home Science Education	5
	Theory	70
	Practical	30
	Total	100

C. Weightage to Different forms of Questions

S. No.	Forms of Questions	Marks for each question	No of Questions	Total marks
1.	Very short answer (VSA)	1	6	18
2.	Short answer (SA I)	2	7	12
3.	Short answer (SA II)	3	2	21
4.	Long Answer -I	4	6	12
5.	Long Answer-II	5	4	7
	Total		25	70

Weightage to Typology of Questions

S. No.	Forms of Questions	Marks for each question	No of Questions	Total marks	%
1.	Remembering (Knowledge based Simple recall questions)	1	6	18	26%
2.	Understanding (Comprehension -Familiar with meaning and understands)	2	7	12	17%
3.	Application and Inferential Type	3	2	21	30%
4.	Higher Order Thinking Skills (HOTS) (Critical analysis and evaluation)	4	6	12	17%
5.	Creating and Multi-Disciplinary (Formation and Evaluation of a Judgment or Situation)	5	4	7	10%
	Total		25	70	100%

D. Scheme of options

- There will be no choice in the question paper.

E. Weightage to difficulty level of questions.

S. No.	Estimated difficulty	Percentage
1	Easy	20
2	Average	60
3	Difficult	20

13. AGRICULTURE (CODE NO. 068)

CLASS XI (THEORY) (2013-14)

One Theory Paper

70 Marks

Unit wise Weightage

Time: 3 Hours

SECTION	UNITS	NO. OF PERIODS	MARKS
I Part A	Agriculture and Crop Production		
	<ul style="list-style-type: none"> ● Unit: I Scope and Importance ● Unit: II Physical Environment ● Unit: III Agriculture Economics 	5 40 40	30
Part B	Genetics, Plant Breeding and Microbiology Unit: IV Genetics, Plant Breeding and Microbiology	30	15
II	Livestock Production		
	<ul style="list-style-type: none"> ● Unit V: Scope and Importance ● Unit VI; Care and Management ● Unit VII - Bio-waste Management and Government Schemes 	10 35 10	25
III	Practical	50	30
	TOTAL	220	100

SECTION - I

PART A - AGRICULTURE AND CROP PRODUCTION: Total Periods -85

Unit I: Scope and Importance: 05 Periods

Definition of agriculture, its branches and scope in the national economy and employment

Unit II: Physical Environment: 40 Periods

1. Climate and Weather, elements of Weather: Rainfall, Temperature, Humidity, Wind, Sunshine, Climate Change and Global warming,
2. Soil, Soil texture and structure and its types, distribution and area.
3. Soil erosion and Soil conservation. Reclamation of problematic soils acidic and alkali.
4. Tillage definition and types. Concept of conservation and tillage.

Unit III: Agriculture Economics and Crop Production 40 Periods

1. Agricultural economics, Cooperative system in Agriculture, Crop Insurance. Kissan Credit Cards. Marketing of Agricultural Products (supply chain, retailing, wholesale), haats.
2. Package of practices like important varieties, seed rate, sowing time, inter-cultural operations, yield and marketing and Rice, Wheat, Maize, Mustard, Sunflower, Soybean, Groundnut, Black gram, Red gram, Pea, Jute, Sugarcane, Sorghum, Pearl millet and Finger millet.

3. Introduction, distribution and economic importance of fruit: Mango, Banana, Guava, Lime, Grape, Apple, Pomegranate. Vegetables: Potato, Tomato, Cauliflower, Cabbage, Spinach, Brinjal, Bottle gourd, Pumpkin, Cucumber. Flower- rose, Gladiolus marigold.
4. Types of seed-foundation and certified and methods of plant propagation layering and cutting, and Tissue culture.
5. Important farm implements and their maintenance

PART B - GENETICS, PLANT BREEDING AND MICROBIOLOGY 30 Periods

Unit IV: Genetics, Plant Breeding and Microbiology

1. Cell and its structure, cell division-Mitosis and Meiosis and their significance in plant growth and development,
2. Introduction to -DNA, RNA, and their differences.
3. Role of Genetics in Plant breeding, self and cross-pollinated crops, methods of breeding in field crops-introduction, selection, Hybridization, Mutation.
4. Mendel's laws of Inheritance. Illustrative depiction of the experiments, their importance in plant breeding.
5. Introduction to Algae, Fungi, Bacteria. Decomposition and Fermentation.

Section - II: Livestock Production:

Total Periods: 55

Unit V: Scope and Importance

10 Periods

- (a) Importance of livestock in Agriculture , National Economy and Nutritional security
- (b) Important animal based food products and their role in our diet.
- (c) Important animal breeds of our country (cow and buffalo). Exotic breeds of cows and their milk production and quality.

Unit VI: Care and Management

35 Periods

- (a) Principles of feeding, feeding practices; Important fodder crops; Silage and Hay preparation; Balanced ratio-definition and ingredients.
- (b) Concept of grazing and stall feeding including poultry feeding.
- (c) Systems of milking by hand and by machine. Important considerations in both these methods.
- (d) Concept of clean milk production, processing, value added products from milk, milk pasteurization, packaging and milk marketing in India. Concept of AMUL cooperative system of milk procurement and marketing.
- (e) Production of Meat, Egg , Wool/Fur.
- (f) Management of calves, bullocks, pregnant and milch animals as well as chicks and layers.
- (g) Animal body structure and functions.
- (h) System of animal health and hospital management in India.
- (i) Signs of sick animals, symptoms of common diseases in cattle and poultry, Rinderpest,

Black quarter, Foot and Mouth, Mestitusand Haemorrhagic Septicaemia, Fowl Pox and Ranikhet disease, their prevention and control.

Unit VII: Bio-Waste Management and Government Schemes

10 Periods

- (a) Utilization of animals in Bio-wastes and Biogas plant
- (b) Important government schemes for livestock production in India. Their important features and eligibility criteria.

**AGRICULTURE (CODE NO. 068)
CLASS XI (PRACTICAL) 2013-14**

One Paper

30 marks

Unit wise weightage

Time: 3 hours

SECTION		Marks	Periods
I	Part A-Agriculture and Crop Production	12	30
	Part B- Genetics, Plant Breeding and Microbiology	-	-
II	Livestock practical	08	20
	Reports of the visit	05	
	Viva voce	05	-
	Total	30	50

SECTION -I

Part A - Agriculture and Crop Production

1. Agriculture and Crop Production - Practical

- (a) Visit to a crop field. Identify different crops growing in the field and make a report.
- (b) Visit to an agro-meteorological laboratory and identify, draw and talk different equipment.
- (c) Identification of seeds of different crops.
- (d) Seed germination test.(two cereals , two pulses, two vegetables, two flowers)
- (e) Identification of different plant parts.
- (f) Identification of different farm implements used for different operations, draw and make a report.
- (g) Calculation of cost of production of wheat crop in one hectare of land area, prepare a report.
- (h) Visit to an orchard and identify different fruits and make a report.
- (i) Identification of important vegetable crops, prepare a report.
- (j) Identification of Bacteria, Fungi, and Algae, prepare a report.
- (k) Identification of important insects of different crops grown in various seasons.
- (l) Orchard layout, digging of pits and planting of sapling of any one fruit crop.
- (m) Land preparation and sowing of wheat crop seed in the bed.
- (n) Identification of important flower crops.

SECTION -II

2. Livestock - Practical

- (a) Identification of common breeds of cows, buffaloes and poultry birds.
- (b) Visit to a local dairy and poultry farms. Observe different activities.
- (c) Testing of milk fat and gravity.
- (d) Visit to a local veterinary hospital and observe the condition of a sick animal and prepare a report.
- (e) Compute ration for an animal and poultry and prepare a report.
- (f) Visit to an outlet of milk and milk production centre. Record the variety in milk based products.
- (g) Identification of different fodder crops and grasses.

3. Report on the Visits

1. The student have to prepare a report of their visit to different organizations and submit to the class teacher for the evaluation. The report must contain the student's original work and observations.
2. Prepare Herbarium of different crops and weed species. The leaves of the crops and weeds are pressed dried and mounted on the Herbarium sheet.

4. Viva Voce

Students can be asked questions based on:

- (i) Identification of objects
- (ii) Visit Report analysis.
- (iii) Experiences in their filed visits, etc.

A range of 5 to 10 questions can be asked depending on the response of the student. Evaluation $5 \times 1 = 5$ Or should be based on number of questions answered. Evaluator should stick to the time and $\frac{1}{2} \times 10 = 5$ number of questions.

**AGRICULTURE (Code No. 068)
CLASS XII (THEORY) 2014-15**

One Theory Paper

70 + 30 = 100 Marks

Unit Wise Weightage

Time: 3 hours

SECTION		Marks	Periods
I	Advanced Crop Production and Organic Farming	25	42
	Unit-I Advanced Crop Production: Unit-II Organic Farming		24
II	Food Processing, Value Addition and Post-Harvest Management	25	22
	Unit III: Food Processing Unit IV: Value Addition and Post-Harvest Management		42
III	Subsidiary Enterprises of Agriculture	20	40
	Unit V: Subsidiary Enterprises of Agriculture		
	Practical	30	50
	Total	100	220

SECTION - I

Total periods -66

Unit- I: Advanced Crop Production

42 Periods

- Food production including horticultural crops and its importance in the economy and nutritional security.
- Soil fertility, productivity and concept of essential plant nutrients. Classification of essential plant nutrients.
- Roles and functions of essential plant nutrients, their important deficiency symptoms.
- Soil samplings and its processing. Testing of soil for pH and Organic Carbon.
- Introduction to manure, fertilizers. Bio-fertilizers, their methods of application. Concept of Integrated Nutrient Management (INM).
- Concept of soil moisture availability and irrigation methods, soil moisture regimes. Concept of precision and pressure irrigation. Drip and sprinkler irrigation.
- Methods of insect pest and disease management Chemical, Biological and Mechanical. Concept of Integrated Pest Management (IPM).

Unit - II: Organic Farming

24 Periods

- Concept, history and importance of Organic farming.
- Present status and contribution in the National economy.
- Important food products grown organically. Important Government Schemes for the promotion of organic farming in our country. Kitchen gardening.

SECTION-II

Total periods -64

Unit III: Food Processing

22 Periods

- Concept of post harvesting handling of fruits, vegetables and flowers. Status of food processing in our country.
- Principles and methods of food processing and preservation. Benefits of food processing.
- Setting up of food processing enterprise. Important Government Schemes in support of food sector.

Unit IV: Value Addition and Post-Harvest Management

42 Periods

- Important value added products from fruits and vegetables. Preparation of jam, jelly, ketchup, morabba, pickles, marmalade.
- Packaging, quality benchmarks and their marketing including export.
- Flowers, their harvesting and processing.
- Important processed flower products, packaging, storage and their marketing.
- Production of important value added products from Cereals, Pulses and Oil seeds.
- Concept of safe food and important food regulations.

SECTION-III

Total Periods -40

Unit V: Subsidiary Enterprises of Agriculture

- Important subsidiary enterprises based on Agriculture including Horticulture and their importance in the socio-economic status of an individual.
- Mushroom, their nutritional status and methods of production
- Beekeeping and its important usage and importance of Honey, Wax and Royal jelly.
- Landscaping and development and maintenance of lawns and avenue gardens.
- Preparation of Bio-pesticides (plant based), Organic manures (composts) and Vermicomposting.
- Setting up nurseries and marketing of plant sapling and important Govt. Schemes for the support of these enterprises.

**AGRICULTURE (Code No. 068)
CLASS XII (PRACTICAL) 2014-15**

One Practical Paper

30 Marks
Time: 3 Hours

Unit Wise Weightage

(Periods 60)

SECTION		PERIODS	MARKS
I	Advanced Crop Production and Organic Farming	22	08
II	Food Processing, Value Addition and Post-Harvest Management	14	06
III	Subsidiary Enterprises of Agriculture	14	06
IV	Collection and Visit Report	05	
V	Viva Voce		05
	Total	50	30

SECTION: I

Unit I: Advanced Crop Production and Organic Farming

22 Periods

- (a) Soil sampling and determination of Soil pH.
- (b) Determination of Soil organic carbon content.
- (c) Preparation of nursery and seed beds.
- (d) Seed treatment with fungicides and Bio-fertilizers.
- (e) Identification of different types of chemical fertilizers, composts, bio-fertilizers.
- (f) Calculation of fertilizer requirement of crops (for wheat, rice and maize) based on their nutrient needs.
- (g) Methods of Sowing/planting.
- (h) Intercultural operation hoeing, weeding, earthing up.
- (i) Preparation of FYM and Compost.
- (j) Uses of sprayers and dusters for pest control and nutrient spray.
- (k) Determination of moisture content of crop seeds (wheat, rice, maize and mustard).
- (l) To find out 100-grain weight of crop seeds (wheat, rice, maize and mustard).
- (m) Visit to a crop field and compare healthy plant with a diseased and insect affected plant.
- (n) Identification of different types of Insecticides, Fungicides and Herbicides.

SECTION: II

Unit II: Food Processing, Value Addition and Post-Harvest Management 14 Periods

- (a) Preparation of Jam, Jelly, ketchup and Morabba
- (b) Preparation of pickles.
- (c) Identification of fresh and aged vegetables and fruits.

- (d) Visit to cold storage and record the storage of various fruits and vegetables.
- (e) Harvesting and packaging of flowers.
- (f) Preparation of flower arrangements such as garland and rangoli.
- (g) Visit to a flower mandi and record the activities in the mandi.
- (h) Visit to a local fruit market and record the activities in the market.
- (i) Visit to a local vegetable haat or mandi and record the activities in the mandi.

SECTION: III

Unit III: Subsidiary Enterprises of Agriculture

14 Periods

- (a) Preparation of plant based bio-pesticides (neem)
- (b) Mushroom production (purchase of spawn of available species of mushroom and wheat straw, inoculation and production).
- (c) Visit to nearby apiary and record the process of beekeeping.
- (d) Observe the characteristics of different bee products (honey and wax).
- (e) Visit to a vermicomposting unit.
- (f) Observe the characteristics of compost obtained from pit.

Notes:

1. The students have to prepare a report on the visits recording their observations on the subject.
2. In case of practical of fruit and vegetable preservation and methods of production of value added products from fruits and vegetables, the student will have to write the procedure adopted and the necessary precautions to be taken in the answer sheet provided.

SECTION - IV

Report on the Visits

1. The student have to prepare a report of their visit to different organizations and submit to the class teacher for the evaluation. The report must contain the student's original work and observations.
2. Prepare Herbarium of different crops and weed species. The leaves of the crops and weeds are pressed dried and mounted on the Herbarium sheet.

SECTION - V

Viva Voce

Students can be asked questions based on:

- (i) Identification of objects
- (ii) Visit Report analysis.
- (iii) Experiences in their filed visits, etc.

A range of 5 to 10 questions can be asked depending on the response of the student. Evaluation $5 \times 1 = 5$ Or should be based on number of questions answered. Evaluator should stick to the time and $\frac{1}{2} \times 10 = 5$ number of questions.

**DESIGN OF THE QUESTION PAPER
CLASS – XI 2013-14, CLASS – XII 2014-15**

Time: 3 hrs.

Marks: 70

Subjects: AGRICULTURE (Theory) Code: 068

S. No.	Typology of Questions	Learning Outcomes & Testing Skills	Short Answer -1 Mark	Short Answer - 2 Marks	Long Answer -I 5 Marks	Long Answer-II 10 marks	Marks	%
1	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information); Map skill based questions (Identification, location)	<ul style="list-style-type: none"> • Reasoning • Analytical Skills 	2	1		1	14	20%
2	Understanding- (Comprehension –to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)		1	1	2		13	18%
4.	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		1		2	1	21	30%
5	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources)			1	1	1	17	25%
6	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		1	2			5	7%
TOTAL			5x1 =5	2x5 = 10	5X5 =25	3X10 =30	70	100 %

Note : No Chapter wise weightage, care should be taken to cover all chapters.

14. COMPUTER SCIENCE (CODE: 083)

Note: Schools may choose from option 1 (Python) or option 2 (C++) and teach accordingly

Learning Objectives:

1. To understand basics of computers.
2. To develop logic for Problem Solving.
3. To develop problem solving skills and their implementation through **Python (version: 2.7)** or to implement Object Oriented Programming using C++.
4. To understand and implement the concept of Object Oriented Methodology.
5. To understand the concept of working with Relational Database.
6. To understand the basic concept of Computing Logic.
7. To understand the basic concepts of Communication and Networking technologies.
8. To understand Open Source Software.

CLASS XI (Theory) - Python

Unit No.	Unit Name	MARKS
1	COMPUTER FUNDAMENTALS	10
2	PROGRAMMING METHODOLOGY	12
3	INTRODUCTION TO PYTHON	18
4	PROGRAMMING WITH PYTHON	30
		70

UNIT 1: COMPUTER FUNDAMENTALS (18 Theory + 6 Practical) Periods

Evolution of computers; Basics of computer and its operation; Functional Components and their interconnections, concept of Booting. Classification of Computers.

Software concepts: Types of Software - System Software, Utility Software and Application Software

System Software: Operating System, Compiler, Interpreter and Assembler

Operating System: Need for Operating System, Functions of Operating System (Processor Management, Memory Management, File Management and Device Management), Types of Operating System-interactive (GUI based), Time Sharing, Real Time and Distributed, Commonly used operating system: UNIX, LINUX, Windows, Solaris, BOSS (Bharat Operating System Solutions); Mobile OS - Android, Symbian.

Utility Software: Anti Virus, File Management tools, Compression tools and Disk Management tools (Disk Cleanup, Disk Defragmenter, Backup).

Open Source Concepts: Open Source Software, Freeware, Shareware, Proprietary Software.

Application Software: Office Tools - Word Processor, Presentation Tool, Spreadsheet Package, Database Management System; Domain Specific tools - School Management System, Inventory Management System, Payroll System, Financial Accounting, Hotel Management, Reservation System and Weather Forecasting System.

Number System: Binary, Octal, Decimal, Hexadecimal and conversion between two different number systems.

Internal Storage encoding of Characters: ASCII, ISCII (Indian scripts Standard Code for Information Interchange), and UNICODE (for multilingual computing)

Microprocessor: Basic concepts, Clock speed (MHz, GHz), 16 bit, 32 bit, 64 bit processors; 128 bit processors; Types - CISC Processors (Complex Instruction set computing), RISC Processors (Reduced Instruction set computing), and EPIC (Explicitly parallel Instruction computing).

Memory Concepts: Units: Byte, Kilo Byte, Mega Byte, Giga Byte, Tera Byte, Peta Byte, Exa Byte, Zetta Byte, Yotta Byte.

Primary Memory: Cache, RAM, ROM

Secondary Memory: Fixed and Removable storage - Hard Disk Drive, CD/DVD Drive, Pen Drive, Blue Ray Disk.

Input Output Ports/ Connections: Serial, Parallel and Universal Serial Bus, PS-2 port, Infrared port, Bluetooth, Firewire.

UNIT 2: PROGRAMMING METHODOLOGY (28 Theory + 10 Practical) Periods

General Concepts: Modular Approach, Clarity and Simplicity of Expressions, Use of proper names for Identifiers, Comments, Indentation; Documentation and Program Maintenance; Running and Debugging programs, Syntax Errors, Run-Time Errors, Logical Errors

Problem solving Methodologies: Understanding of the problem, solution for the problem, identifying minimum number of inputs required for output, writing code to optimizing execution time and memory storage, step by step solution for the problem, breaking down solution into simple steps (modular approach), identification of arithmetic and logical operations required for solution; Control Structure- conditional control and looping (finite and infinite).

Problem Solving: Introduction to Algorithms/Flowcharts.

UNIT 3: INTRODUCTION TO PYTHON (44 Theory + 36 Practical) Periods

Getting Started: Introduction to Python- an interpreted high level language, interactive mode and script mode.

Variables, Expressions and Statements: Values, Variables and keywords; Operators and Operands in Python: (Arithmetic, relational and logical operators), operator precedence, Expressions and Statements (Assignment statement); Taking input (using `raw_input()` and `input()`) and displaying output(`print` statement); Putting Comments.

Functions: Importing Modules (entire module or selected objects), invoking built in functions, functions from `math` module (for e.g. `ceil`, `floor`, `fabs`, `exp`, `log`, `log10`, `pow`, `sqrt`, `cos`, `sin`, `tan`, `degrees`, `radians`), using `random()` and `randint()` functions of `random` module to generate random numbers, composition.

Defining functions, invoking functions, passing parameters (*default parameter values, keyword arguments*), scope of variables, void functions and functions returning values, flow of execution

Conditional constructs and looping: `if else` statement

`While`, `For` (range function), `break`, `continue`, `else`, `pass`, Nested loops, use of compound expression in conditional constructs and looping

UNIT 4: PROGRAMMING WITH PYTHON (50 Theory + 48 Practical) Periods

Strings: Creating, initialising and accessing the elements; String operators: `+`, `*`, `in`, `not in`, range slice `[n:m]`; Comparing strings using relational operators;

String functions & methods: `len`, `capitalize`, `find`, `isalnum`, `isalpha`, `isdigit`, `lower`, `islower`, `isupper`, `upper`, `rstrip`, `rstrip`, `isspace`, `istitle`, `partition`, `replace`, `join`, `split`, `count`, `decode`, `encode`, `swapcase`, Pattern Matching

Lists: Concept of mutable lists, creating, initializing and accessing the elements, traversing, appending, updating and deleting elements;

List operations (joining, list slices);

List functions & methods: `len`, `insert`, `append`, `extend`, `sort`, `remove`, `reverse`, `pop`

Dictionaries: Concept of key-value pair, creating, initializing and accessing the elements in a dictionary, traversing, appending, updating and deleting elements

Dictionary functions & Methods: `cmp`, `len`, `clear()`, `get()`, `has_key()`, `items()`, `keys()`, `update()`, `values()`

Tuples: Immutable concept, creating, initialising and accessing the elements in a tuple; Tuple functions: `cmp()`, `len()`, `max()`, `min()`, `tuple()`

Class XI (Practical) -- Python

Duration: 3 hours

Total Marks: 30

1. Programming in Python 12

One programming problem in Python to be developed and tested on Computer during the examination. Marks are allotted on the basis of following:

Logic : 7 Marks

Documentation : 2 Marks

Output presentation : 3 Marks

2. Project Work 08

Problems related to String and List manipulation

General Guidelines: Initial requirement, developing an interface for user (it is advised to use textbased interface

screen), developing logic for playing the game and developing logic for scoring points

- Hollywood/Hangman: A word Guessing game
- Cows 'N Bulls: A word/number Guessing game
- Random Number Guessing Game (High\Low)
- A game to check whether a word does not use any of the forbidden letters

or

Similar projects may be undertaken in other domains

(As mentioned in general guidelines for project, given at the end of the curriculum in a group of 2-4 students)

3. Practical File 05

- (a) Record of the configuration of computer system used by the student in the computer lab (by exploring inside computer system in the first 2 lab classes).
- (b) Must have minimum 20 programs from the topics covered in class XI course.
 - 5 Programs on Control structures
 - 5 Programs on String manipulations
 - 5 Programs on List Manipulations
 - 5 Programs on Dictionaries and Tuples

4. Viva Voce 05

Viva will be asked from the syllabus covered in class XI and the project developed by the student(s).

OR

Class XI (Theory) C++

Duration: 3 hours

Total Marks: 70

Unit No.	Unit Name	MARKS
1.	COMPUTER FUNDAMENTALS	10
2.	INTRODUCTION TO C++	14
3.	PROGRAMMING METHODOLOGY	12
4.	PROGRAMMING IN C++	34
		70

UNIT 1: Common to both the options. Refer to unit 1 mentioned in case of Python for further details

UNIT 2: INTRODUCTION TO C++ (44 Theory + 36 Practical) Periods

Getting Started: C++ character set, C++ Tokens (Identifiers, Keywords, Constants, Operators, Structure of a C++ Program (include files, main function), Header files - iostream.h, iomanip.h, cout, cin; use of I/O operators (<< and >>), Use of endl and setw (), Cascading of I/O operators, Error Messages; Use of editor, basic commands of editor, compilation, linking and execution.

Data Types, Variables and Constants: Concept of Data types; Built-in Data types: char, int, float and double; Constants: Integer Constants, Character constants - \n, \t, \b), Floating Point Constants, String Constants; Access modifier: const; Variables of built-in-data types, Declaration/Initialization of variables, Assignment statement, Type modifier: signed, unsigned, long

Operator and Expressions: Operators: Arithmetic operators (+, -, *, /, %), Unary operator (~), Increment (+ +) and Decrement (-) Operators, Relation operator (>, >=, <, <=, !=), Logical operators (!, &&, ||), Conditional operator: <condition> ? <if false >; Precedence of Operators; Automatic type conversion in expressions, Type casting; C++ shorthands (+ =, - =, * =, / =, % =)

UNIT 3: PROGRAMMING METHODOLOGY -- common to both the options. Refer to unit 2 mentioned in case of Python for further details

UNIT 4: PROGRAMMING IN C++ (50 Theory + 48 Practical) Periods

Flow of control:

Conditional statements: if else, Nested if, switch..case..default, use of conditional operator, Nested switch..case, break statement (to be used in switch..case only); Loops: while, do - while, for and Nested loops

Inbuilt Functions

Header file Categorization	Header File	Function
Standard input/output functions	stdio.h	gets (), puts ()
Character Functions	Ctype.h	isalnum (), isalpha (),
String Function	string.h	isdigit (), islower (), isupper (), tolower (), toupper () strncpy (), strcat (),
Mathematical Functions	math.h	strlen (), strcmp (), strcmpi (), strev (), strlen (), strupur (), strlwr () fabs (), pow (), sgrt (),
Other Functions	stdlib.h	sin (), cos (), abs () randomize (), random ()
User Defined Functions :		

Introduction to user-defined function and its requirements.

Defining a function; function prototype, Invoking/calling a function, passing arguments to function, specifying argument data types, default argument, constant argument, call by value, call by reference, returning values from a function, calling functions with arrays, scope rules of functions and variables local and global variables.

Structured Data Type:

Arrays: Introduction to Array and its advantages.

One Dimensional Array : Declaration/initialization of One-dimensional array, inputting array elements, accessing array elements, manipulation of array elements (sum of elements, product of elements, average of elements, linear search, finding maximum/minimum value)

Declaration / Initialization of a String, string manipulations (counting vowels/ consonants/ digits/ special characters, case conversion, reversing a string, reversing each word of a string)

Two-dimensional Array

Declaration/initialization of a two-dimensional array, inputting array elements accessing array elements, manipulation of array elements (sum of row element, column elements, diagonal elements, finding maximum / minimum values)

User-defined Data Types: Introduction to user defined data types.

Structure

Defining a Structure (Keyword Structure), declaring structure variables, accessing structure elements, passing structure to functions as value and reference argument/parameter, function returning structure array of structure, passing an array of structure as an argument/ a parameter to a function.

Defining a symbol name using **typedef** keyword and defining a macro using **#define** preprocessor directive.

Class XI (Practical) - C++

Duration: 3 hours

Total Marks : 30

1 Programming in C++

12

One programming problem in C++ to be developed and tested in Computer during the examination. Marks are allotted on the basis of following:

Logic	:	7 Marks
Documentation/Indentation	:	2 Marks
Output presentation	:	3 Marks

2 Project Work

08

Problems related to String, Number and Array manipulation

General Guidelines; Initial Requirement, developing an interface for user (it is advised to use text based interface screen), developing logic for playing the game and developing logic for scoring points

1. **Memory Game :** A number guessing game with application of 2 dimensional arrays containing randomly generated numbers in pairs hidden inside boxes.

2. Cross 'N Knots Game: A regular tic-tac-toe game
3. Hollywood/Hangman: A word Guessing game
4. Cows 'N Bulls: A word / number Guessing game

or

Similar projects may be undertaken in other domains

(As mentioned in general guidelines for project, given at the end of the curriculum in a group of 2-4 students)

3. Presentation based on research

It will be a group presentation based on a detailed study of at least two technology inventions in the field of information technology, which may include Inventor's name with country, out of box contributions year of invention, characteristics, social impact and uses. A partial list of inventors is in the Annexure.

(The project can be done in a group of 2-3 students)

4. Practical File

05

(a) Record of the configuration of computer system used by the student in the computer lab (by exploring inside computer system in the first 2 lab classes).

(b) Must have minimum 15 programs from the topics covered in class XI course.

- 5 Programs on Control structures
- 4 Programs on Array manipulations
- 4 Programs on String manipulations
- 2 Programs on Structure manipulations

5. Viva Voce

05

Viva will be asked from the syllabus covered in class XI and the project developed by the student(s).

COMPUTER SCIENCE (THEORY)

Class XII (Theory) - Python

Duration: 3 Hours

Total Marks:70

Unit No.	Unit Name	MARKS
1	PROGRAMMING WITH PYTHON	28
2	OBJECT ORIENTED PROGRAMMING WITH PYTHON	16
3	DATABASES AND SQL	8
4	BOOLEAN ALGEBRA	8
5	COMMUNICATION TECHNOLOGIES	10
		70

UNIT 1: PROGRAMMING WITH PYTHON

(50 Theory + 40 Practical) Periods

REVIEW: Python covered In Class-XI

Stacks and Queues with lists

Data File: Opening and closing files, file object, access modes, reading and writing a file Read(), readline(), readlines(), write(), file positions (seek(), tell()), renaming and deleting a file.

UNIT 2: OBJECT ORIENTED PROGRAMMING WITH PYTHON (42 Theory + 36 Practical) Periods

Concept of Object Oriented Programming: Data hiding, Data encapsulation, Class and Object, Polymorphism, Inheritance, Advantages of Object Oriented Programming over earlier programming methodologies,

Classes: Defining classes (attributes, methods), creating instance objects, accessing attributes & methods, using Built in class attributes (dict, doc, name, module, bases), using `__init__()`, `__del__()` method and `__str__()` in a class, private attributes (limited support), importance of "self" (acts as a pointer to current calling object)

Inheritance: Single and multiple inheritance- Overriding methods, using super() in derived class to invoke _init_() or overridden methods of parent class

UNIT 3: DATABASES AND SQL (20 Theory + 20 Practical) Periods

Data base Concepts: Introduction to data base concepts and its need.

Relational data model: Concept of domain, tuple, relation, key, primary key, alternate key, candidate key;

Relational algebra: Selection, Projection, Union and Cartesian product;

Structured Query Language:

General Concepts: Advantages of using SQL, Data Definition Language and Data Manipulation Language;

Data Types: NUMBER/DECIMAL, CHARACTER/VARCHAR/VARCHAR2, DATE;

SQL COMMANDS: CREATE TABLE, DROP TABLE, ALTER TABLE, UPDATESET....., INSERT, DELETE; SELECT, DISTINCT, FROM, WHERE, IN, BETWEEN, GROUPBY, HAVING, ORDERBY;

SQL functions: SUM, AVG, COUNT, MAX AND MIN;

Obtaining results (SELECT query) from 2 tables using equi-join, Cartesian product and Union

Note: Implementation of the above mentioned commands could be done on any SQL supported software on one or two tables.

UNIT 4: BOOLEAN ALGEBRA (16 Theory + 0 Practical) Periods

Role of Logical Operations in Computing.

Binary-valued Quantities, Boolean Variable, Boolean Constant and Boolean Operators: AND, OR, NOT; Truth Tables; Closure Property, Commutative Law, Associative Law, Identity law, Inverse Law, Principle of Duality, Idem potent Law, Distributive Law, Absorption Law, Involution Law, DeMorgan's Law and their applications;

Obtaining Sum of Product (SOP) and Product of Sum (POS) form from the Truth Table, Reducing Boolean Expression (SOP and POS) to its minimal form, Use of Karnaugh Map for minimization of Boolean expressions (up to 4 variables);

Application of Boolean Logic: Digital electronic circuit design using basic Logic Gates (NOT, AND, OR, NAND, NOR)

Use of Boolean operators (NOT, AND, OR) in SQL SELECT statements

Use of Boolean operators (AND, OR) in search engine queries.

UNIT 5: COMMUNICATION TECHNOLOGIES (16 Theory + 0 Practical) Periods

Evolution of Networking: ARPANET, Internet, Interspace

Different ways of sending data across the network with reference to switching techniques (Circuit and Packet switching);

Data Communication terminologies: Concept of Channel, Bandwidth (Hz, KHz, MHz) and Data transfer rate (bps, kbps, Mbps, Gbps, Tbps);

Transmission media: Twisted pair cable, coaxial cable, optical fiber, infrared, radio link, microwave link and satellite link;

Network devices: Modem, RJ45 connector, Ethernet Card, Router, Switch, Gateway, wifi card;

Network Topologies and types: Bus, Star, Tree, LAN, WAN, MAN;

Network Protocol: TCP/IP, File Transfer Protocol (FTP), PPP, Remote Login (Telnet), Internet Wireless/Mobile Communication protocol such as GSM, CDMA, GPRS, WLL,

Mobile Telecommunication Technologies: 1G, 2G, 3G and 4G

Electronic mail protocols such as SMTP, POP3

Protocols for Chat and Video Conferencing VOIP

Wireless protocols such as Wi-Fi and WiMax

Network Security Concepts: Threats and prevention from Viruses, Worms, Trojan horse, Spams

Use of Cookies, Protection using Firewall;

India IT Act, Cyber Law, Cyber Crimes, IPR issues, Hacking;

Introduction To Web services: WWW, Hyper Text Markup Language (HTML), eXtensible Markup Language (XML); Hyper Text Transfer Protocol (HTTP); Domain Names; URL; Website, Web browser, Web Servers; Web Hosting, Web Scripting - Client side (VB Script, Java Script, PHP) and Server side (ASP, JSP, PHP), Web 2.0 (for social networking)

Class XII (Practicals) -- Pythan

Duration: 3 hours

Total Marks: 30

1. **Programming in Python** 10
One programming problem in Python to be developed and tested in Computer during the examination. Marks are allotted on the basis of following:
Logic : 5 Marks
Documentation/Indentation : 2 Marks
Output presentation : 3 Marks
Notes: The types of problems to be given will be of application type from the following topics
 - String
 - Lists/Tuples
 - Dictionary
 - File Operations
2. **SQL Commands** 05
Five Query questions based on a particular Table/Reaction to be tested practically on Computer during the examination. The command along with the result must be written in the answer sheet.
3. **Project Work** 05
The project has to be developed in Python language with Object Oriented Technology.
(The project is required to be developed in a group of 2-4 students)
 - Presentation on the computer
 - Project report (Listing, Sample, Outputs, Documentation)
 - Viva
4. **Practical File** 05
Must have minimum 20 programs from the following topics
 - Lists (general, stack, queue)
 - Dictionary
 - Tuple
 - File Handling
 - Programs based on Object Oriented Concepts
 - 15 SQL commands along with the output based on any table/relation
5. **Viva Voce** 05
Viva will be asked from syllabus covered in class XII and the project developed by student.

GUIDELINES FOR PROJECTS (Class XI and XII)

1. **Preamble**
 - 1.1 The academic course in Computer Science includes one Project in each year. The Purpose behind this is to consolidate the concepts and practices imparted during the course and to serve as a record of competence.
 - 1.2 A group of 2-4 students as team may be allowed to work on one project.
2. **Project content**
 - 2.1 Project for class XI can be selected from the topics mentioned in the syllabus or domains on the similar lines
 - 2.2 Project for class XII should ensure the coverage of following areas of curriculum:
 - a. Problem Solving
 - b. Object Oriented Programming in Python
 - c. File HandlingTheme of the project can be
 - Any Scientific or a fairly complex algorithmic situation
 - Quizzes/Games

- Tutor/Computer Aided Learning Systems
- 2.3 The aim of the project is to highlight the abilities of algorithmic formulation, modular programming, systematic documentation and other associated aspects of software development.
- 2.4 The assessment would be through the project demonstration and the Project Report, which should portray Programming Style, Structured Design, Minimum Coupling, High Cohesion, Good documentation of the code to ensure readability and ease of maintenance.

OR

Class XII (Theory) - C + +

Duration : 3 hours

Total Marks: 70

Unit No.	Unit Name	MARKS
1.	OBJECT ORIENTED PROGRAMMING IN C + +	30
2.	DATA STRUCTURE	14
3.	DATABASE MANAGEMENT SYSTEM AND SQL	8
4.	BOOLEAN ALGEBRA	8
5.	NETWORKING AND OPEN SOURCE SOFTWARE	10
		70

UNIT 1: OBJECT ORIENTED PROGRAMMING IN C + + (50 Theory + 40 Practical) Periods

REVIEW: C + + covered in Class - XI,

Object Oriented Programming: Concept of Object Oriented Programming - Data hiding, Data encapsulation, Class and Object, Abstract class and Concrete class, Polymorphism (Implementation of polymorphism using Function overloading as an example in C + +); **Inheritance, Advantages of Object Oriented Programming over earlier programming methodologies,**

Implementation of Object Oriented Programming concepts in C + +: Definition of a class, Member of a class - Data Members and Member Functions (methods), Using Private and Public visibility modes, default visibility mode (private); Member function definition: inside class definition and outside class definition using scope resolution operator (::); Declaration of objects as instances of a class; accessing members from object (s), Objects as function arguments - pass by value and pass by reference;

Constructor and Destructor: Constructor: special characteristics, declaration and definition of a constructor, default constructor, overloaded constructors, copy constructor, constructor with default arguments;

Destructor: Special Characteristics, declaration and definition of destructor;

Inheritance (Extending Classes) : Concept of Inheritances, Base Class, Derived classes, protected visibility mode; Single level inheritance, Multilevel inheritance and Multiple inheritance, Privately derived, publicly derived and Protectedly derived class, accessibility of members from objects and within derived class (es);

Data File Handling: Need for a data file, Types of data files - Text file and Binary file;

Text File: Basic file operations on text file: Creating/Writing text into file, Reading and Manipulation of text from an already existing text file (accessing sequentially);

Binary File: Creation of file, Writing data into file, Searching for required data from file, Appending data to a file, Insertion of data in sorted file, Deletion of data from file, Modification of data in a file;

Implementation of above mentioned data file handling in C + +;

Components of C + + to be used with file handling:

Header file: fstream.h; ifstream, ofstream, fstream classes;

Opening a text file in in, out, and app modes;

Using cascading operators (> > < <) for writing text to the file and reading text from the file; open(), get(), put(), getline() and close() functions; Detecting end-of-file (with or without using eof() function);

Opening a binary file using in, out, and app modes;

open(), read(), write() and close() functions; Detecting end-of-file (with or without using eof() function); tellg(), tellp(), seekg(), seekp() functions.

Pointers:

Introduction to Pointer, Declaration and Initialization of Pointer; Dynamic memory allocation/de-allocation operators: **new, delete**; Pointers and Arrays: Array of Pointers, Pointer to an array (1 dimensional array), Function returning a pointer, Reference variables and use of alias; Function call by reference. Pointer to structure: De-reference/Deference operator: *, ->; self referencial structure;

UNIT 2: DATA STRUCTURES (42 Theory + 36 Practical) Periods

Introduction to data structure, primitive and non-primitive data structure, linear and non-linear structure, static and dynamic data structure.

Arrays: One and two Dimensional arrays: Sequential allocation and address calculation;

One dimensional array: Traversal, Searching (Linear, Binary Search), Insertion of an element in an array, deletion of an element from an array, Sorting (Insertion, Selection)

Two-dimensional arrays: Traversal Finding sum/difference of two NxM arrays containing numeric values, Interchanging Row and Column elements in a two dimensional array;

Stack (Array and Linked implementation of Stack): Introduction to stack (LIFO_Last in First Out Operations) Operations on Stack (PUSH and POP) and its Implementation in C++, Converting expressions from INFIX to POSTFIX notation and evaluation of Postfix expression;

Queue: (Circular Array and Linked Implementation): Introduction to Queue (FIFO - First in First out operations) Operations on Queue (Insert and Delete and its Implementation in C++.

UNIT 3: DATABASE MANAGEMENT SYSTEM AND SQL common to both the options. Refer to unit 3 DATABASE AND SQL mentioned in case of Python for further details

UNIT 4: BOOLEAN ALGEBRA common to both the options. Refer to unit 4 mentioned in case of Python for further details

UNIT 5: NETWORKING AND OPEN SOURCE SOFTWARE common to both the options. Refer to unit 5 COMMUNICATION TECHNOLOGIES mentioned in case of Python for further details

Class XII (Practical) -- C++

Duration : 3 hours

Total Marks : 30

Programming in C++

10

One programming problem in C++ to be developed and tested in Computer during the examination. Marks are allotted on the basis of following:

Logic : 5 Marks

Documentation/Indentation : 2 Marks

Output presentation : 3 Marks

Notes: The types of problem to be given will be of application type from the following topics

- Arrays (One dimensional and two dimensional)
- Class(es) and objects
- Stack using arrays and or linked implementation
- Queue using arrays (circular) and or linked implementation
- Binary File operations (Creation, Displaying, Searching and modification)
- Text File operations (Creation, Displaying and modification)

2. SQL Commands

Five Query questions based on a particular Table / Reaction to be tested practically on Computer during the examination. The command along with the result must be written in the answer sheet.

3. Project Work

The project has to be developed in C++ language with Object Oriented Technology and also should have use of Data files. (The project is required to be developed in a group of 2-4 students)

- Presentation on the computer
- Project report (Listing, Sample, Outputs, Documentations)
- Viva

4. Practical File

Must have minimum 20 programs from the following topics

- Arrays (One dimensional and two dimensional, sorting, searching, merging, deletion' & insertion of elements)
- Class(es) and objects
- Stacks using arrays (linear and circular) and linked implementation
- File (Binary and Text) operations (Creation, Updation, Query)
- Any computational Based problems

15 SQL commands along with the output based on any table/relation:

5. Viva Voce

Viva will be asked from syllabus covered in class XII and the project developed by student.

GUIDELINES FOR PROJECTS (Class XI and XII)

1. Preamble

1.1 The academic course in Computer Science includes on Project in each year. The Purpose behind this is to consolidate the concepts and practices imparted during the course and to serve as a record of competence.

1.2 A group of 2-3 students as team may be allowed to work on one project.

2. Project content

2.1 Project for class XI can be selected from the topics mentioned in the syllabus or domains on the similar lines

2.2 Project for class XII should ensure the coverage of following areas of curriculum:

- a. Flow of control
- b. Data Structure
- c. Object Oriented Programming C++
- d. Data File Handling

Theme of the project can be

- Any subsystem of a System Software or Tool
- Any Scientific or a fairly complex algorithmic situation
- School Management, Banking, Library information system, Hotel or Hospital management system, Transport query system
- Quizzes / Games;
- Tutor, Computer Aided Learning Systems

2.3 It is suggested to prepare a bilingual (English and other Indian language) user manual part of project file

2.4 The aim of the project is to highlight the abilities of algorithmic formulation, modular programming, optimized code preparation, systematic documentation and other associated aspects of Software Development.

15. INFORMATICS PRACTICES (CODE: 065)

Learning Objectives:

- To gain working knowledge of a computer system including peripherals
- To understand the application development process.
- To gain programming skills in front-end development
- To gain skills in back-end development: Relational Database Creation and Management.

Competencies Developed:

- Sound knowledge of computer system
- Familiarity with application development process using simple IDEs
- Ability to use, develop and debug programs independently.
- Ability to store and retrieve data using an RDBMS.

COURSE DESIGN CLASS-XI (2013-14)

Unit	Topic	Periods			Marks
		Theory	Practical	Total	
1.	Introduction to Computer Systems	20	08	28	10
2.	Introduction to Programming	45	42	87	25
3.	Relational Database Management System	50	45	95	30
4.	IT Applications	10	20	30	05
		125	115	240	70

Unit 1: Introduction to Computer Systems

10 Marks (20 Theory + 8 Practical) Periods

Hardware Concepts:

- Computer organization (basic concepts): CPU, Memory (RAM and ROM), I/O devices, communication bus, ports (serial, parallel), device specific ports;
- Input devices: Keyboard, Mouse, Light pen, Touch screen, Graphics Tablet, Joystick, Microphone, OCR, Scanner, Smart Card reader, Barcode reader, Biometric sensor, Web camera;
- Output Devices: Monitor/Visual Display Unit (VDU), LCD screen, Television, Printer (Dot Matrix Printer, Deskjet/ Inkjet/ Bubble jet Printer, Laser Printer), Plotter, Speaker;
- Secondary Storage Devices: Floppy disk, Hard disk, Compact disk, Magnetic tape, Digital Versatile disk (DVD), Flash drive, Memory cards. Comparative properties of storage media;
- Memory Units: bit, byte (Kilobyte, Megabyte, Gigabyte, Terabyte, Petabyte)
- E-waste disposal.

Security of computer system

Sources of attack and possible damages, malware - virus, worms, trojan, spyware- and their propagation,

cookies as security threat, malware detection using a tool. Computer security, Digital certificate, Digital signature, firewall, password, file access permissions

Types of Software:

- a) System Software:
 - (i) Operating systems: Need for operating system, major functions of Operating System; Examples of OS for mainframe, PC/Server, and mobile devices.
 - (ii) Language Processors: Assembler, Interpreter, and Compiler
- b) Utility Software: Compression tools, disk defragmenter, anti-virus.
- c) Application Software:
 - (i) General Purpose Application Software: Word Processor, Presentation Tool, Spreadsheet Package, Database Management System, Integrated Development Environment (IDE)
 - (ii) Specific Purpose Application software: Inventory Management System, Purchasing System, Human Resource Management System, Payroll System, Financial Accounting, Hotel Management and Reservation System, etc.

Unit 2: Introduction to Programming 25 Marks (45 Theory + 42 Practical) Periods

Getting started with Programming using IDE

- Introduction, Rapid Application Development using IDE (Integrated Development Environment); Familiarization of IDE using basic Interface components- Label, Text Field, Text Area, Button, Checkbox, Radio Button. (As per appendix A)
- Developing General Application (As per the guidelines at appendix B) - Getting Familiar with Java Swing User Interface components-Frame, Dialog, Option Pane, Panel, Scroll Pane, Label, Text Field, Password Field, Text area, Button, Check Box, Radio Button, Combo Box, List.
- Basic component handling methods and properties: setText(), getText(), isSelected(), setSelected().

Programming Fundamentals

- Data Types: Concept of data types; Built-in data types - byte, short, int, long, float, double, char, String, boolean
- Variables: Need to use variable, declaring variables, variable naming convention, assigning value to variables;
- Integer object method: parseInt
- Double object method: parseDouble, parseFloat
- Control structures:
 - Decision structure - if, if-else, switch;
 - Looping structure- while, do . . while, for;

Programming Guidelines:

- General concepts; modular approach;
- Stylistic guidelines: clarity and simplicity of expressions and names; comments, indentation;
- Running and debugging programs, syntax errors, run-time errors, logical errors;
- Problem solving methodology: Understanding of the problem, Identifying minimum number of inputs required for output, breaking down problem into simple logical steps.

Unit 3: Relational Database Management System

30 Marks (50 Theory + 45 Practical) Periods

Database Management System

- Introduction to database concepts: database, relational database, relation/table, attribute/field, tuple / row;
- Data types: Text (CHAR, VARCHAR), Number (DECIMAL, INT/INTEGER), Date and Time
- Keys: candidate key, primary key, alternate key, foreign key;
- Examples of common Database Management System: MySQL, Ingres, Postgres, Oracle, DB2, MS SQL, Sybase, etc.; Common Database management tools for mobile devices.

Introduction to MySQL

(ANSI SQL 99 standard commands)

- Classification of SQL Commands:
DML - SELECT, INSERT, UPDATE, DELETE
DDL - CREATE, DROP, ALTER
- Creating and using a database: SQL CREATE command to create a database, USE command to select a database.
- Creating a table: CREATE command to create a table, DESC command to display a table structure, INSERT command for inserting new rows, inserting new rows with null values and values of all the studied data types.
- Displaying table data: SELECT command for selecting all the columns, selecting specific column(s) using arithmetic operators, operator precedence.
- Defining and using column alias.
- Eliminating duplicate values from display using DISTINCT keyword
- Limiting rows during selection (using WHERE clause)
 - Using comparison operators - =, <, >, <=, >=, <>, BETWEEN, IN, LIKE(%,_);
 - Logical operators -AND, OR, NOT and corresponding operator precedence;
- Working with NULL values.
- ORDER BY clause: Sorting in ascending/descending order, sorting by column alias name, sorting on multiple columns;
- Manipulating data of a table/relation: update command to change existing data of a table, delete command for removing row(s) from a table.
- Restructuring a table: ALTER TABLE for adding new column(s) and deleting column (s);

Functions in My SQL:

- String Functions: ASCII(), CHAR(), CONCAT(), INSTR(), LCASE(), UCASE(), LEFT(), LOWER(), LENGTH(), LTRIM(), MID(), RIGHT(), RTRIM(), SUBSTR(), TRIM(), UPPER(), ASCII()
- Mathematical Functions: - POWER(), ROUND(), TRUNCATE().
- Date and Time Functions: CURDATE(), DATE(), MONTH(), YEAR(), DAYNAME(), DAYOFMONTH(), DAYOFWEEK(), DAYOFYEAR(), NOW(), SYSDATE().

Unit 4: IT Applications

5 Marks (10 Theory + 20 Practical) Periods

- e-Governance: Definition, benefits to citizens, e-Governance websites and their salient features and societal impacts; e-Governance challenges.
- e-Business: Definition, benefits to customers and business, e-Business websites and their salient features and societal impacts; e-Business challenges.
- e-Learning: - Definition; benefits to students (learners), teachers (trainers) and school (institution) management; e-Learning websites and their salient features and societal impacts; e-Learning challenges.

In each of the above domains, identify at least two real-life problems, list the input(s) required for the expected output(s), and describe the problem solving approach.

Impact of ICT on society - social and economic benefits, infomania.

CLASS XI (PRACTICAL) (2013-14)

S.No	Description	Marks
1	Problem Solving using Java	12
2	SQL Queries	4
3	Practical Records: <ul style="list-style-type: none"> ● Productivity Tools ● Simple Problems using Java ● SQL Queries ● IT Applications 	10
4	Viva Voce	4
	Total	30

Evaluation of Practical Examination

1. Problem Solving using Java

Student is required to solve programming problems based on all concepts covered in theory throughout the year and maintain a record of these in the practical file. Student will be given a problem to be solved using Java during final practical examination to be conducted at the end of the academic session.

2. SQL Queries

Students will be trying out SQL queries in MySQL throughout the year along with course coverage in theory. Student will be asked to write 4 queries based on one or two tables during final practical examination to be conducted at the end of the academic session.

3. Practical Record File

A practical record file is required to be created during the entire academic session. It should be duly signed by the concerned teacher on regular basis and is to be produced at the time of Final Practical Examination for evaluation. It should include the following:

- At least 10 solutions of simple problems using IDE based Java (refer to Appendices 'A' & 'B').
- At least 3 IT applications - problem-solving framework.
- At least 20 SQL queries on any database.

4. **Viva Voce**

Students will be asked oral questions during practical examination to be conducted at the end of the course. The questions will be from the entire course covered in the academic session. Out of 6 marks, 2 marks are allotted to test student's understanding of basic computer hardware and their functions.

Question Paper Design
Class - XI (2013-14) and XII (2014-15)

Time: 3 Hours

Marks: 70

S.No.	Typology of Questions	Very Short Answer (VSA) (1 Mark)	Short Answer-I (SA-I) (2 Marks)	Short Answer-II (SA-II) (4 Marks)	Long Answer (LA) (6 Marks)	Total Marks	% Weightage
01.	Knowledge Based	4	3	2		18	26
02.	Conceptual Understanding	4	5	1		18	26
03.	Reasoning Based	4		2	1	18	26
05.	Skill Based		1	2	1	16	22
	Total Marks	12	9	7	2	70	100%

1. No chapter wise weightage. Care to be taken to cover all the chapters.
2. The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.

COURSE DESIGN
CLASS XII (2014-15) (THEORY)

Unit	Topic	Period		Total Periods
		Theory	Practical	
1.	Networking and Open Standards	20	4	24
2.	Programming	46	44	90
3.	Relational Database Management System	50	40	90
4.	IT Applications	10	26	36
		126	114	240

Unit 1: Networking and Open Standards

10 Marks (20 Theory + 4 Practical) Periods

Computer Networking:

- Networking: a brief overview;
- Communication Media: Wired Technologies - Co-Axial, Ethernet Cable, Optical Fiber; Wireless Technologies - Blue Tooth, Infrared, Microwave, Radio Link, Satellite Link;
- Network Devices: Hub, Switch, Repeater, Gateway - and their functions;
- Types of network: LAN, MAN, WAN, PAN;
- Network Topologies: Star, Bus, Tree;
- Network Protocols: HTTP, TCP/IP, PPP;
- Identifying computers and users over a network: Basic concept of domain name, MAC (Media Access Control), and IP Address, domain name resolution;
- Network security: denial of service, intrusion problems, snooping;
- Internet Applications: SMS, Voice Mail, Electronic Mail, Chat, Video Conferencing;
- Wireless/Mobile Communication: GSM, CDMA, WLL, 3G, 4G;
- Network Security Concepts: Cyber Law, Firewall, Cookies, Hackers and Crackers.

Open Source Concepts:

- Open Source Software (OSS), common FOSS/FLOSS examples (e.g., GNU/Linux, Firefox, OpenOffice, Java, Netbeans, MySQL), common open standards (WWW, HTML, XML, ODF, TCP, IP).
- Indian Language Computing: character encoding, UNICODE, different types of fonts (open type vs true type, static vs dynamic), Entering Indian Language Text - phonetic and key map based.

Unit 2: Programming

25 Marks (46 Theory + 44 Practical) Periods

Review of Class XI;

Programming Fundamentals

(Refer to Appendix A for Swing Control Methods & Properties, and Appendix B for sample guidelines of GUI Programming)

- Basic concept of Access specifier for class members (data members and methods).
- Basic concept of Inheritance.
- Commonly used libraries:
 - String class and methods: toString(), concat(), length(), toLowerCase(), toUpperCase(), trim(), substring()
 - Math class methods: pow(), round()
- Accessing MySQL database using ODBC/JDBC to connect with database.
- Web application development: URL, Web Server, Communicating with the web server, concept of Client and Server Side.
- HTML based web pages covering basic tags - HTML, TITLE, BODY, H1..H6, Paragraph (P), Line Break (BR), Section Separator (HR), FONT, TABLE, LIST (UL, OL), FORM.
- Creating and accessing static pages using HTML and introduction to XML.

Unit 3: Relational Database Management System

30 Marks (50 Theory+ 40 Practical) Periods

Review of RDBMS from Class XI

Database Fundamentals

- Concept of Database Transaction, Committing and revoking a Transaction using COMMIT and ROLLBACK.
- Grouping Records: GROUP BY, Group functions - MAX(), MIN(), AVG(), SUM(), COUNT(); using COUNT(*), DISTINCT clause with COUNT; Group Functions and Null Values.
- Displaying Data From Multiple Tables: Cartesian product, Union, concept of Foreign Key, Equi-Join
- Creating a Table with PRIMARY KEY and NOT NULL constraints, Viewing Constraints, Viewing the Columns Associated with Constraints using DESC command.
- ALTER TABLE for
 - deleting column(s), modifying data type(s) of column(s),
 - adding a constraint, enabling constraints, dropping constraints.
- DROP Table for deleting a table

Unit 4: IT Applications

05 Marks (10 Theory+ 26 Practical) Periods

- Front-end Interface: Introduction; content and features; identifying and using appropriate component (Text Box, Radio Button, CheckBox, List, etc., as learnt in Unit 2 (Programming)) for data entry, validation and display.
- Back-end Database: Introduction and its purpose, exploring the requirement of tables and its essential attributes.
- Front-End and Database Connectivity: Introduction, requirement and benefits.
- Demonstration and development of appropriate Front-end interface and Back-end Database for e-Governance, e-Business and e-Learning applications.
- Impact of ICT on society: Social and Economic benefits.

In each of the above domains, identify at least two real-life problems, list the expected outputs and the input(s) required for the output, and describe the problem solving approach and develop relevant front-end interface and back-end database.

COURSE DESIGN
CLASS–XII: (PRACTICAL) (2014 – 15)

S.No	Description	Marks
1	Problem solving using Java	10
2	SQL queries	4
3	Practical Records: <ul style="list-style-type: none"> ● Simple problems using IDE Java ● SQL Queries ● IT Applications 	5
4	Project Work	5
5	Viva Voce	6
Total:		30

Evaluation of Practical Examination

1. Problem Solving using Java

Student is required to solve programming problems based on all concepts covered in theory throughout the year and maintain a record of these in the practical file.

Student will be given a problem to be solved using Java during final practical examination to be conducted at the end of the academic session.

2. SQL Queries

Students will be practicing SQL queries in MySQL throughout the year alongwith course coverage in theory.

Student will be asked to write 4 queries based on one or two tables during final practical examination to be conducted at the end of the academic session.

3. Practical Record File

A practical record file is required to be created during the entire academic session. It should be duly signed by the concerned teacher on regular basis and is to be produced at the time of Final Practical Examination for evaluation. It should include the following:

- At least 12 solutions of simple problems using IDE based Java (refer to Appendices 'A' & 'B').
- Solution of at least 2 simple problems incorporating Java Application & Database connectivity.
- At least 24 SQL queries based on one and/or two tables .
- At least two web pages using HTML.

4. Project File

Students in group of 2-3 are required to work collaboratively to develop a project using Programming and Database skills learnt during the course. The project should be an application in any one of the domains - e-Governance, e-Business and e-Learning - with GUI front-end and corresponding database at the back-end.

5. Viva Voce

Students will be asked oral questions during practical examination to be conducted at the end of the course. The questions will be from the entire course covered in the academic session.

APPENDIX 'A'

Swing Control Methods & Properties

Class:	Jbutton
Swing Control:	jButton
Methods:	getText(), setText()
Properties:	Background, Enabled, Font, Foreground, Text, Label
Class:	Jlabel
Swing Control:	jLabel
Methods:	getText(), setText()
Properties:	Background, Enabled, Font, Foreground, Text
Class:	JtextField
Swing Control:	jTextField
Methods:	getText(), isEditable(), isEnabled(), setText()
Properties:	Background, Editable, Enabled, Font, Foreground, Text
Class:	Jradio Button
Swing Control:	jRadio Button
Methods:	getText(), setText(), isSelected(), setSelected()
Properties:	Background, Button Group, Enabled, Font, Foreground, Label, Selected, Text
Class:	JcheckBox
Swing Control:	jCheckBox
Methods:	getText(), setText(), isSelected(), setSelected()
Properties:	Button Group, Font, Foreground, Label, Selected, Text
Class:	Button Group
Swing Control:	jButtonGroup
Methods:	
Properties:	Add
Class:	JcomboBox
Swing Control:	jComboBox
Methods:	getSelectedItem(), getSelectedIndex(), setModel()
Properties:	Background, ButtonGroup, Editable, Enabled, Font, Foreground, Model, SelectedIndex, SelectedItem, Text
Class:	Jlist
Swing Control:	jList
Methods:	getSelectedValue()
Properties:	Background, Button Group, Editable, Enabled, Font, Foreground, Model, Selected Index, Selected Item, Text
Class:	Jtable
Swing Control:	jTable
Methods:	addRow(), getModel()

Properties:	model
Class: Swing Control: Methods: Properties:	JOptionPane showMessageDialog()
Class: Swing Control: Methods: Properties:	DefaultTableModel getRowCount(), removeRow(), addRow()

Commonly used Methods

Class	Methods
Integer	parseInt(), toDouble(), toString()
String	concat(), length(), substring(), toDouble(), toLowerCase(), toUpperCase(), trim()
Double	parseDouble(), toString(), toInt()
Math	pow(), round()

Database Connectivity Methods

Class	Methods
Connection	createStatement(), close()
DriverManager	getConnection()
Statement	executeQuery()
ResultSet	next(), first(), last(), getString()
Exception	getMessage()
System	exit()

Note: The visual properties of any of the elements and Data connectivity methods (the properties/methods, which are not highlighted in the above tables) will not be tested in the Theory examination but may be used by the student in the Practicals and Projects.

APPENDIX 'B'

Sample Guidelines for GUI Programming

1. To display a message using Label, TextBox, MessageDialog using simple GUI applications.
2. To concatenate two text entries and display using simple GUI application.
3. To perform a simple arithmetic operation (+, -, *, /) and display the result in MessageDialog or TextBox using simple GUI application.
4. To perform simple arithmetic operation (+, -, *, /) and display the result in TextBox using simple GUI application.
5. To make simple decision making (if statement) solution and display relevant message using GUI application (Example - Problems related to Eligibility for a given value of Age, "Profit" or "Loss" messages for given values of Cost Price and Sale Price, Grade Display for given values of Marks of students, etc.).
6. To create a simple GUI application to perform both arithmetic and logical operation together (Example - Total, Average and Grade calculation for given marks, Salary Calculation on different criteria).
7. To create a simple GUI application to perform an operation based on the criteria input by the user in a CheckBox or a Radio Button.

(Example 1: Find the Discount of an item on the basis of Category of item [Electrical Appliance/Electronic Gadget/Stationary specified using a Radio button] and its Cost [Below 1000/Above 1000/Equal to 1000 specified using a Radio button]).

(Example 2: Calculate the incentive of a Sales Person on the basis of his Sales Amount, Customer Feedback, Count of Customer specified using CheckBox)

8. To create a simple GUI application to change the property of a swing element based on the selection made by the user.

(Example 1: To change the background or Foreground color of any of the Swing elements of the form based on the color selected from a list.)

(Example 2: To change the foreground and background color of a label based on the values input/stored in a combo box.)

9. To create a simple GUI application for repeatedly doing a task based on the user input.

(Example: To display the multiplication table of a number input by the user.)

10. To store the data (Admission No., Name, Date of Birth, Class and Section) of 10 students in a table [Table] and find total number of students in each class and section.

Sample Guidelines for Connectivity Problems

11. To create a simple GUI application that counts and displays the number of records present in a database table.
12. To create a simple GUI application that displays the records of a database table in a tabular format (using jTable) on the GUI form.
13. To create a simple GUI application that displays the records of a database table in a tabular format (using jTable) on the GUI form based on a criteria input by the user.
14. To create a simple GUI application to perform a calculation based on a value retrieved from database table and a value

entered by the user in a GUI application.

Know More (beyond syllabus):

Teachers may also motivate students to search for topics of emerging ICT technologies such as Web Services, Cloud Computing, SDK on Android, etc., for group discussions and presentations.

REFERENCE

Suggested Reference Books

Introduction to Computer System

1. Rajaraman, FUNDAMENTALS OF COMPUTERS 4th Edition, Prentice Hall of India.
2. Peter Norton, INTRODUCTION TO COMPUTER 4th Edition, Tata McGraw Hill

Introduction to Programming

1. Heiko Böck The Definitive Guide to the NetBeans Platform 6.5, Apress

Relational Database Management System and SQL

1. Lerry Ulman, MYSQL Database, Pearson Education, 2008

Computer Network

1. A.S. Tanenbaum, Computer Network 4th Edition, Prentice Hall of India P. Ltd.
2. Williams Stalling, Data Communication and Networks 5th Edition, Prentice Hall of India P. Ltd.

Suggested online tutorials

1. MySQL - http://dev.mysql.com/usingmysql/get_started.html
2. Netbeans - <http://netbeans.org/kb/docs/java/quickstart.html>

Suggested Websites on e-Governance

- www.mit.gov.in
- www.esevaonline.com
- bhoomi.kar.nic.in
- aponline.gov.in
- www.chips.nic.in

Suggested Websites on e-Business

- www.salesforce.com
- www.zoho.com
- www.itcportal.com

Suggested Websites on e-Learning

- www.moodle.org
- www.atutor.ca
- www.w3schools.com
- portal.unesco.org

16. MULTIMEDIA AND WEB TECHNOLOGY (CODE: 067)

Learning Objectives:

1. To develop proficiency in Webpage Development
2. To develop proficiency in creating dynamic Web Interface
3. To be able to write server and client sides scripts and manage websites
4. To design a web page using Image, Audio and Video editing tools
5. To understand the concept of Open Source software

Competencies:

The student will develop proficiency in the following:

1. Managing a web-site with server/client side script
2. Handling web based Multimedia content in Webpage

CLASS XI (THEORY) (2013-14)

Duration: 3 Hours

Total Marks: 70

Unit No.	Unit Name	Periods		
		Th	Pr	Tot
1.	INTRODUCTION TO COMPUTER SYSTEMS	22	08	30
2.	WEB DEVELOPMENT	50	40	90
3.	WEB SCRIPTING	40	35	75
4.	MULTIMEDIA AND AUTHORIZING TOOLS	30	15	45
		142	98	240

Unit 1: Introduction to Computer System:

15 Marks (22 Periods)

Hardware Concepts:

Computer Organization(basic concepts): CPU, Memory (Primary and Secondary), I/O devices;

Input devices: Keyboard, Mouse, Light pen, Touch Screen, Graphics Tablet, Joystick, Microphone, OCR, Scanner, Smart Card reader, Barcode reader, Biometric sensor, Web Camera;

Output Devices: Monitor/Visual Display Unit (VDU), LCD screen, Television, Printer (Dot Matrix Printer, Desk jet/ Inkjet/ Bubble jet Printer, Laser Printer), Plotter, Speaker;

Secondary Storage Devices: Fixed and Removable Storage - Hard Disk Drive, CD/DVD Drive, Pen Drive, Blue Ray Disk, Flash Drive, Memory cards;

Memory Concepts:

Units: Bit, Byte, Kilo Byte (2¹⁰= 1024 Byte), Mega Byte, Giga Byte, Tera Byte, Peta Byte;

Primary Memory: Cache, RAM, ROM;

Note: During the lab sessions, it is advised to explore various hardware components available in the Computer Lab.

Software Concepts:

Types of Software: System Software, Utility Software and Application Software;

System Software:

Operating System, Language Processors - Compiler, Interpreter and Assembler;

Operating System:

Need for operating system, functions of operating system (processor management, memory management, file management and device management);

Commonly used operating systems: UNIX, LINUX, Windows, Solaris, BOSS (Bharat Operating System Solutions), Mobile OS - Android, Symbian;

Utility Software:

Anti virus, file management tools, compression tools and disk management tools (disk cleanup, disk defragmenter, backup);

Application software:

General Purpose Application software: Office Tools - word processor, presentation tool, spreadsheet package, database management system;

Specific Purpose Application software: Domain specific tools - school management system, inventory management system, purchasing system, human resource management system, payroll system, financial accounting, hotel management, reservation system and weather forecasting system;

GUI Operating System

Note: Students/Teachers can also perform similar operation on any operating system like Linux, BOSS, Windows. It is advised that the teacher while using any one operating system, give a demonstration of equivalent features for the other operating system.

GUI Components:

General features, Elements of desktop - taskbar, icon, start button, shortcuts, folder, recycle bin, my computer;

Start Menu:

Program, documents, settings, find/search, help, run, shutdown/logoff;

Program Menu:

Accessories - calculator, text editor, image editor, entertainment (such as sound recorder, media player);

Control Panel: Add new hardware; add new software, printer installation, date/time settings, mouse and regional settings, customization of taskbar, start menu, display properties (wallpaper, font settings, color settings, screen savers);

Unit 2: Web Development

25 Marks (50 Periods)

www, Hyper Text Transfer Protocol(HTTP), File Transfer Protocol(FTP), TCP/IP, PPP, Domain names, URL, IP Address, Website, Web browser, Web Server, Web Hosting;

HTML

Introduction:

Content creation: creating HTML document using a text editor, saving HTML document, editing a HTML document, viewing HTML documents in a web browser, switching between text editor and web browser windows to view changes;

Browsers:

Mozilla firefox, google chrome, internet explorer, netscape navigator, safari, opera;

Web Page Authoring Using HTML:

Basic Concepts:

Concept of tags and attributes, difference between container tag and empty tag;

Structural Tags of HTML:

<HTML>, <HEAD>, <TITLE>, <BODY>;

Attributes of <BODY> (BGCOLOR, BACKGROUND, LINK, ALINK, VLINK, TEXT);

Inserting Breaks:

Line break
, section break <HR>, Attributes of <HR> (WIDTH, ALIGN, SIZE, NOSHADE, COLOR);

Creating Paragraphs:

<P>, Attributes of <P> (ALIGN);

Formatting Tags of HTML:

<SMALL>, <BIG>, , <I>, <U>, , <BLOCKQUOTE>, <PRE>, <SUB>, <SUP>, <STRIKE>, <ADDRESS>, Adding Comments in HTML (<!-- -->), Heading tag (<H1> to <H6>), Attributes of Heading tag (ALIGN), tag, <BASEFONT>, Attributes of and <BASEFONT> (SIZE, COLOR, FACE);

Creating Lists:

Ordered Lists: , , Attributes of (TYPE, START, VALUE); **Unordered Lists:** , , Attributes of (TYPE- disc, circle, square);

Definition List: <DL>, <DT>, <DD>;

Creating Links:

Internal linking using <A NAME> and <A HREF>, external linking using <A HREF>, e-Mail linking using <A HREF>;

Concept of URL: Absolute URL and Relative URL;

Inserting Images:

Inserting inline images using , Attributes of (SRC, ALIGN, WIDTH, HEIGHT, ALT, BORDER);

Adding Music:

Adding music using <A HREF> and <EMBED>, Attributes of <EMBED> (SRC, ALIGN, WIDTH, HEIGHT, LOOP, AUTOSTART, HIDDEN);

Creating Tables:

Creating Table using <TABLE>, Attributes of <TABLE> (BORDER, BGCOLOR, BACKGROUND, ALIGN, CELSPACING, CELLPADDING, WIDTH, HEIGHT, BORDERCOLOR);

Creating rows and columns in a table using <TH>, <TR>, <TD>, Attributes of <TH>, <TR>, <TD> (ALIGN, VALIGN, COLSPAN, ROWSPAN);

Adding headings for a table using <CAPTION> , Attribute of <CAPTION> (ALIGN);

Creating Frames:

Dividing the window into two or more frames using <FRAME> and <FRAMESET>, Use of percentage dimensions and relative dimensions while dividing the window, use of <NOFRAMES> </NOFRAMES>;

Attributes of <FRAMESET> (ROWS, COLS, BORDER, FRAMEBORDER);

Attributes of <FRAME> (SRC, NAME, FRAMEBORDER, HEIGHT, WIDTH, MARGINHEIGHT, MARGINWIDTH, SCROLLING, NORESIZE) ;

Creating Forms:

Forms for data collection which can be written to a file, submitted to a database or emailed to someone;

Creating Forms using <FORM> , Attributes of <FORM> (NAME, ACTION, METHOD);

Creating Form Interface elements - text box, password box, file selection box, hidden box, checkbox, radio button, button, submit button, reset button using the <INPUT> , Attributes of <INPUT> applicable with different interface elements (NAME, SIZE, VALUE, ALIGN, MAXLENGTH, CHECKED, TYPE);

Multiline text area using <TEXTAREA> , Attributes of <TEXTAREA> (NAME, ROWS, COLS, WRAP);

Dropdown list or scrolling list using <SELECT> and <OPTION> , Attributes of <SELECT> (NAME, SIZE, MULTIPLE /SINGLE);

Document Object Model:

Concept and Importance of Document Object Model, Static Vs Dynamic HTML documents;

Cascading Style Sheets:

Introduction to Cascading Style Sheet (CSS): Creating inline, embedded and external cascading style sheets using <STYLE> , <DIV> , and <LINK>; Attribute of <DIV> and (STYLE);

Attributes of <LINK> (REL, TYPE, HREF);

Font Properties:

FONT-FAMILY, FONT-STYLE, FONT-SIZE, FONT-VARIANT, FONT-WEIGHT and COLOR;

Text Properties:

COLOR, WORD-SPACING, LETTER-SPACING, TEXT-DECORATION, VERTICAL-ALIGN, TEXT-TURNFORM; TEXT-ALIGN, TEXT-INDENT, LINE-HEIGHT;

Background Properties:

BACKGROUND-COLOR, BACKGROUND-IMAGE, BACKGROUND-REPEAT

Margin Properties:

MARGINS (all values);

Padding Properties:

PADDING (all values);

Border Properties:

BORDER (all values);

Positioning: Absolute and Relative;

Additional Features: Assigning classes;

XML-eXtensible Markup Language:

Introduction, features, advantages;

Structure of XML:

Logical structure, Physical structure;

XML Markup:

Element Markup (example: <foot>Hello</foot>), Attribute Markup

(example: <! element.name property = "value" >);

Naming Rules:

Naming rules for elements, attributes and descriptors;

Components in XML:

Tags, Elements, Root element, Attributes, Entities;

Comments in XML;

Developing DTD:

Element Declaration in a DTD: <!ELEMENT elementname (content-type) >;

Entity Declarations, Declaring Empty Elements, Container Elements, Unrestricted Elements, Attribute Declarations;

Element Content Model;

Element Occurrence Indicators: ?, *, +

Character Content: PCDATA (Parseable Character data) <!ELEMENT text(#PCDATA) >;

Well Formed XML Documents, Valid XML Documents;

Document Type Declaration (DTD) - Internal and External DTD;

Validating an XML document using a DTD;

Developing a DTD, Developing a DTD from XML Code, either automatically or manually;

Viewing XML in Internet Explorer, Viewing XML using the XML Data Source Object;

Unit 3: Web Scripting

20 Marks (40 Periods)

VBScript:

Introduction to client side scripting using <SCRIPT > tag,

VBScript Variables:

Declaring variable, implicit and explicit declaration, naming restrictions, assigning values to variables, scalar variables and 1-D array, variant data type;

VBScript Constants;

VBScript Operators:

VBScript Operators and Operator precedence;

Arithmetic Operators: +, - (Unary and Binary), *, /, \ (integer division), MOD, ^;

Comparison Operators: <, >, <=, >=, <>, =;

Logical Operators: AND, OR, NOT;

String Operators: & and + (for concatenation);

Control Structures in VBScript:

Conditional statements:

If..Then..End if, If..Then..Else..End If, If..Then, Else If..Then..Else..End If Select..Case..End Select;

Loops:

For..Next, For Each.. Next, Do While..Loop, While.. Wend ,Do.. Loop While, Do Until.. Loop, Do..Loop Until;

Entry controlled and Exit controlled loops;

Inbuilt Functions of VBScript:

General Functions:

MsgBox function, Arguments of MsgBox function (Prompt, Buttons, Title), Return values of MsgBox function; InputBox function, Arguments of InputBox function (Prompt, Title, Default), Return values of InputBox function;

Conversion Functions:

Abs(), CBool(), CByte(), CInt(), CStr(), CSng(), CLng(), CDate()

String Manipulation Functions:

Ucase(), Lcase(), Len(), Left(), Right(), Mid(), LTrim(), RTrim(), Trim(), InStr(), strreverse());

Time & Date Functions:

Date(), Day(), Month(), Hour(), Minute(), Monthname(), Now();

VBScript Procedures and Functions(User Defined):

Sub procedures, Functions, passing parameters/arguments;

Creating Dynamic Interface using VBScript

Using VBScript with HTML form controls;

Unit 4: Multimedia and Authoring Tools

10 Marks (30 Periods)

Concept of Multimedia:

Picture/Graphics, Audio, Video;

Digital Images and Digital Image representation, animation, morphing;

Image Formats:

TIFF, BMP, JPG/JPEG, GIF, PDF, PSD, PIC;

Applications:

Poster design, still pictures, colored layout, designing of books, magazines brochures(children's literature, narrative text handling, scripts in Indian Languages, picture books, comics, illustrations with photographs, scientific illustrations, conceptual illustrations, handling of assignment for the market);

Image Scanning with the help of scanner:

Setting up resolution, size, file formats of images, bitonal, grey scale and color options, preview the image;

Graphic Tools:

Image Editing Software (Photoshop / Coreldraw/GIMP);

Basic Concepts of Image Creation:

Introduction;

Interface elements of the tool: menus, toolbox, color control icons, mode control icons, window controls icons;

Creating new images, saving images and opening existing images;

Image Handling:

Cropping, adjusting image size, adjusting the size of the work canvas, rotating selections, scaling an object;

Operations on Layers:

Adding new layers, dragging and pasting selected objects on to layers, dragging layers between files, viewing, hiding, editing, moving, copying, duplicating, deleting, merging layers, preserving layers, using adjustment layers;

Channels and Masks:

Channel palette: showing and hiding channels, splitting channels in to separate images, merging channels, creating a quick mask, editing masks using quick mask mode;

Painting and Editing:

Brushes palette: brush shape, creating and deleting brushes, creating custom brushes, setting brush options, saving, loading and appending brushes;

Options palette: opacity, pressure, exposure, paint fade-out rate, making, adjusting, moving, copying, extending, reducing, pasting and deleting selections using selection tools, softening the edges of a selection, hiding a selection border;

Sound:

Recording sound using Sound Recorder (Capture), sound capture through sound editing software (ex: Sound Forge), sound editing (noise correction, effect enhancement);

Importing audio files from external devices and saving them;

Sound Quality: CD Quality, Radio Quality, Telephone Quality;

Voice Recording Software:

e.g. Audacity, Speech recorder, orex (Mono & Stereo);

Sound File Format:

AIFF (Audio Input File Format from Apple Mac), MIDI, WAV, MP3, ASF (Streaming format from Microsoft);

Importing audio files from external devices and saving them;

CLASS XI (PRACTICAL)

Duration: 3 Hours

Total Marks: 30

1. Hands on Experience

15

- A topic based website is to be developed by each student using various commands covered in HTML and VBScript.
- Web pages should be designed with the following features:
 - HTML Basic Tag (<HTML>/<HEAD>/<TITLE>/<BODY>//<I>/<U>/
/<HR>)
 - Anchor/Image insertion/Linking
 - Tables/Frame/Form
 - CSS
 - Buttons/Combo Box/Check Box/Text Box using VBScript
 - XML Markup / Declarations / Element Content Model

2. Practical File

05

The practical file should be made on some domain specific area (with supported documents and printouts) such as:

- Make a web page for 'Crime against Poor Community' or 'How can I serve my country' and view it in the browser.
- Link a few more pages to the developed page, containing information about Crime and steps taken by the Government. (Use HTML tags to make a Static web page).
- Use inline styling to change appearance of contents on the web page.
- Use Style sheets (embedding or linking) to change the appearance of all the pages developed in the above case.
- Enhance the above web site by providing data in table format and add images edited using the Image Editing Tool learnt.
- At this step of web page development add dynamic features such as adding time and current date to the web page using VBScript.
- Collect user information through form (for feedback, etc.). Display selected user details using message box (e.g., saying "Thank you for visiting the website").

3. Project

05

Knowledge domain: HTML, DHTML, CSS, VB Script, and Image editing software

Suggested topics:

1. Website of a student containing personal information about student such as email address, photograph, likes, dislikes, hobbies, class, school name, achievements, favorite restaurant, favorite tourist places, ultimate aim of life, message to mankind, role model.
2. Website of a School providing information of the school containing Moto of school, photograph of school, brief description of school, name of the principal, facilities and infrastructure, sports, faculty and departments information, results and achievements of students.

3. Website of a Restaurant providing information about types of food items, brief description about each item with pictures, price list, and availability timings.
4. Website of a Travel Agency to provide the information about various tourist places, various modes of journey available, types of hotels available.
5. Your blog in Native language/English/an Indian language.

Note:

- For developing the website collect real information from various sources.
- It is advised to break up the above-mentioned case studies into smaller modules as per coverage of the course.
- Teachers can provide alternative case studies of similar kind.

4. Viva Voce

05

During the final practical examination, oral questions will be asked from the syllabus covered in class XI and the project developed by the student(s).

QUESTION PAPER DESIGN 2013-14
MULTIMEDIA AND WEB TECHNOLOGY (Code - 067) **Class - XI**

Time 3 Hours **Max. Marks: 70**

S. No.	Typology of Questions	Very Short Answer (VSA) (1 mark)	Short Answer-I (SA I) (1 mark)	Short Answer -II (SA II) (2 marks)	Long Answer I (LA I) (3 marks)	Long Answer II (LA II) (4 marks)	Long Answer III (LA III) (8 marks)	Total Marks	% Weightage
01	Knowledge Based	2	2	3	---	---	---	10	14%
02	Conceptual Understanding	2	2	2	---	---	---	08	12%
03	Application Based and Inferential type	2	2	2	1	1	---	15	22%
04	Reasoning Based	---	---	2	2	2	---	18	25%
05	Skill Based	2	3	1	---	1	1	19	27%
	Total	8	9	10	3	4	1	70	100%

Note:

The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.

MULTIMEDIA AND WEB TECHNOLOGY CLASS XII (THEORY) (2014-2015)

Duration: 3 Hours

Total Marks: 70

Unit No.	Unit Name	Periods			Marks		
		Th.	Pr.	Tot.	Th.	Pr.	Tot.
1.	Database Management	20	15	35	5	5	10
2.	Networking and Open Standards	30	0	30	10	0	10
3.	Web Page Development	60	45	105	40	15	55
4.	Multimedia and Authoring Tools	40	30	70	15	10	25
Total				240			100

Unit 1: Introduction to Database Management

05 Marks (20 Theory + 15 Practical) Periods

Introduction to database concepts and its need;

Database Terminology:

Data, Record/Tuple, Table, Database;

Concept of Keys:

Candidate key, Primary key, Alternate key, and Foreign key ;

Database Tool:

Using any tool creating and saving table, defining primary key, inserting and deleting column, renaming column, inserting records, deleting records, modifying records, table relationships;

Unit 2: Networking and Open Standards

10 Marks (30 Theory) Periods

Computer Networking:

Evolution of Networking: ARPANET, WWW, Internet;

Network Topologies:

Bus, Star, Tree;

Types of Network:

PAN, LAN, WAN, MAN;

Wired Technologies:

Twisted pair cable, coaxial cable, optical fiber;

Wireless Technologies:

Bluetooth, infrared, radio link, microwave link, radio link and satellite link;

Network devices:

Hub, switch, repeater, gateway - and their functions;

Identifying computers and users over a network: Basic concept of domain name, MAC (Media Access Control) and IP Address, domain name resolution;

Wireless/Mobile Communication:

GSM, CDMA, GPRS, WLL, 3G, 4G;

Internet Applications:

sms, voice mail, email, chat and video conferencing;

Network Security Concepts:

Cyber law, firewall, cookies, hackers and crackers;

Open Source Concepts:

Proprietary and open source software (OSS), common FOSS/FLOSS examples (e.g. Gnu/Linux, Firefox, OpenOffice, Linux, Mozilla web browser, Apache server, MySQL, Postgres, Pango, Tomcat, PHP, Python);

Indian Language Computing: character encoding, UNICODE, different types of fonts (open type vs true type, static vs dynamic), Entering Indian Language Text - phonetic and key map based;

[Note: Teacher can introduce the students to these websites www.sourceforge.net, www.openrdf.org, www.opensource.org, www.linux.com, www.linuxindia.net, www.gnu.org.]

Unit 3: Web Page Development **40 Marks (60 Theory + 45 Practical) Periods**

Review of HTML/DHTML, VBScript covered in Class XI;

Installation and Managing WEB-Server:

Internet Information Server (IIS) / Personal Web Server (PWS);

Active Server Pages (ASP):

Concept of ASP, features of ASP, other equivalent tools - JSP, PHP;

Constants:

String and Numeric;

Data types:

Variant data type and its subtypes(integer, single, double, string, date, boolean, currency, variant, object);

Variables:

Explicit and Implicit Declaration of variables;

Operators:

Arithmetic: +, - (Unary and Binary), *, /, \ (integer division) mod, ^;

Comparison: <, >, <=, >=, <>, =;

Logical: AND, OR, NOT;

String Operator: & or + (for Concatenation);

Operator precedence;

Functions:

Conversion functions: Abs(), CBool(), CByte(), CInt(), CStr(), CSng(), CLng(), CDate();

String Manipulation Functions: UCase(), LCase(), Len(), Left(), Right(), Mid(), LTrim(), InStr(), RTrim(), Trim(), strreverse();

Time & Date Functions: Date(), Day(), Hour(), Minute(), Month(), Monthname(), Now();

Arrays:

Declaration and use of 1 dimensional arrays;

Controls:

If ..Then ..End if, If ..Then ..Else ..End If, If ..Then, Else If ..Then ..Else ..End If Select ..Case ..End Select;

For ..Next, For Each .. Next, Do While ..Loop, Do.. Loop While, Do Until.. Loop, Do..Loop Until;

Procedures and Functions:

Passing parameters/arguments;

Concept of object model structure:

(client to server and server to client);

ASP Objects:

Response, Request, Application, Session, Server, ASPError;

Properties, methods, events, setting object properties, retrieving object properties, calling objects/ methods;

Response Object:

Write, Add Header, Append To Log, Binary Write;

Using shortcuts < %=value/expr% >;

Controlling information: using Buffer, Flush Clear, End;

Request Object:

Request object collection: Query String, Form, Server Variables, Cookies, Client Certificate;

Server Variables:

HTTP_USER_AGENT, REMOTE_ADDR, REMOTE_HOST, SERVER_NAME;

Server Object:

Execute, transfer, createobject;

Application Object:

Contents, lock, unlock, remove, remove all;

Session Object:

Contents, remove, remove All, abandon;

ASP Components:

AD Rotator, Content Rotator, Counters, Page Counter, Permission Checker;

Text Files:

Open, Read and display content from a text file;

Working on Database:

Connecting with Databases: Creation of DSN, using OLE DB;

Inserting, retrieving, modifying/updation of records from tables in databases using server objects (ADODB.Connection, ADODB.Recordset);

Unit 4: Multimedia and Authoring Tools 15 Marks (40 Theory + 30 Practical) Periods

Movie File Formats:

AVI, MPEG, SWF, MOV, DAT;

Embedding:

Audio/Video on the web page;

Multimedia Authoring Using Macromedia Flash:

Making of simple movie, setting properties, frame rate, dimensions, and background color;

Movie Frames:

Concept of frame, frame buffer, and frame rate, creating a key frame; Inserting text into the frame, inserting graphical elements into the frame, converting text/graphics to symbol, inserting symbol into the frame, setting symbol property (graphics/button/movie), inserting blank key frame, selecting all/specific frames of a layer, copying/pasting selected frames;

Scene:

Concept of scene, duplicate scene, add scene, delete scene, and navigating between scenes;

Layers:

Concept of layer, layer properties, layer name, show/hide/lock layers, viewing layer as outline, adding/deleting a layer;

Types of Layer - normal/guide/mask;

Special Effects:

Motion Tweening, Shape Tweening, Inserting Sound Layer;

Testing a Scene and Movie;

Import/Export (Movie/Sound and other multimedia objects);

Publishing:

Publishing a movie, changing publish settings, producing swf(flash movie), html page, gif image, jpeg image (*.jpg), png image, windows projector (*.exe), macintosh projector (*.hqx), quick time (*.mov), real player (*.smil);

Testing with Publish Preview;

Multimedia Application:

Education (use of CAL tool), entertainment, edutainment, virtual reality, digital libraries, information kiosks, video on demand, video phone, video conferencing and health care.

CLASS XII (PRACTICAL)

Duration: 3 Hours

Total Marks: 30

1. Hands on Experience

15

A website based on a particular topic has to be developed by each student using various commands covered in HTML, VBScript and ASP with at least 4 web pages.

Web page should be designed with following features.

- HTML basic tags (html/head/title/body/B/I/U/BR/HR)
- Functions
- Conditional and control statements
- Objects: Response/Request / Application/Session /Server /ASP error
- Image editing using Photo Shop /Corel draw/GIMP
- Merging layers /Moving and copying layers
- Use of multimedia authoring (like Macromedia Flash)
- (Note: Output as web page/Flash movie/Windows Projector/Quick Time)

2. Practical File

05

The practical file should be made on a domain specific area (with supported documents and printouts):

- Make a simple web page containing almost all the tags of HTML and view that web page on the browser.
 - Develop a home page for income tax department (simple and textual) and store it in the directory used for web services on the web-server.
 - Enhance the home page by providing links to other sample pages (e.g., Income Tax Zone).
 - Income Tax Detail form for an individual, Income Tax Notification, Income Tax News, etc.).
 - Embed Time and Date on the home page.
 - Further enhance the website by providing User Registration Page. Collect the user details and Display a new web page showing "Thanks For Registration". Also write appropriate functions to validate form inputs.
 - Give a login facility to the user with anonymous name and maintain the session till the user logs out.
 - For user log in attempts, maintain a visitor count.
 - Change the login module of the web page and now connect it to the Income Tax User database on the server. This is to be done to store the registration detail and facilitate login to the user.
 - The login page is to be made in a way that it should also provide facility to change password, if user forgets password.
 - Store some of the created or edited sound files on the web-server and provide links to play it.
 - Change the appearance of the web page using pictures at appropriate places (e.g., logo of income tax department, photograph of income tax building, etc.)
 - Visit websites (State Govt./ Local language newspaper) and get 5 different printouts in local language.
- (Note: Student can also improve the case study from class XI and enhance it further with database and multimedia support. Also they can create a website on a new topic).

3. Project Based on Case Study

05

Case Studies are to be divided into following parts:

Case study Part 1(collection, editing and creation of website resources):

Create an electronic movie with various pictures, audio clipping, movie clippings, and factual text related to school / organization ;

- Introduction to 3D Animation (Using 3D Studio)
- Embedding video and audio in web pages.
- An introduction to interactive walk-through.
- Embedding walk-through into web pages.

Case Study Part 2(development of web content with resources):

Case studies covered in class XI with database support with Login, Online Registration, Booking and/or ordering facility.

Sample Case Study

(Note: Other similar type of case studies can also be used for the project work)

Mr. Verma is the CEO of copsi soft drinks (I) Ltd. His company is having a wide network of distributors for copsi branded soft drinks. With the increase in sales and distribution network, it is required to adopt a new technological intervention in the existing system. He wants that the company should have a global presence over the widely popular medium, called world wide web. Assume that you are appointed as the senior person of the development team. You are required to collect the company information and its current requirement. For your easiness we had collected the details of the company which are as follows:

The company Information:

Name of the Company: copsi soft drinks (I) Ltd.

Zone: East, West, North and South

Distributors: All over the world.

Mr. Verma said that the web site should be able to reflect company in terms of :

- Home Page
- Product & Promotion Page
- Distributor Login Page / Password Recovery Page
- Distributor Specific Details Page
- Registration Page for Distributor-ship
- Company News and Flashes
- Company Profile

Technical Details:

- Web site Introduction is to be made in movie making software.
- Proper database is to be maintained for the distributor information.

Note:

- For developing the above sites/movies collect the actual information from various sources.

- It is advised to break up the above-mentioned case studies into smaller modules as per coverage of the course.
- Teachers can provide alternative case studies also of similar kind.

4. Viva Voce

05

During the final practical examination, oral questions will be asked from the syllabus covered and the project developed by the student(s).

Know More Beyond Syllabus...

Teacher may also motivate students to search and give group presentations for topics of emerging ICT such as web services, cloud computing, SDK Android.

QUESTION PAPER DESIGN 2014-15
MULTIMEDIA AND WEB TECHNOLOGY (Code: 067) **Class - XII**

Max. Marks: 70

Time 3 Hours									Total Marks	% Weightage
S. No.	Typology of Questions	Very Short Answer (VSA) (1 mark)	Short Answer-I (SA I) (1 mark)	Short Answer -II (SA II) (2 marks)	Long Answer I (LA I) (3 marks)	Long Answer II (LA II) (4 marks)	Long Answer III (LA III) (8 marks)	Total Marks	% Weightage	
01	Knowledge Based	2	2	3	---	---	---	10	14%	
02	Conceptual Understanding	2	2	2	---	---	---	08	12%	
03	Application Based and Inferential type	2	2	2	1	1	---	15	22%	
04	Reasoning Based	---	---	2	2	2	---	18	25%	
05	Skill Based	2	3	1	---	1	1	19	27%	
	Total	8	9	10	3	4	1	70	100%	

Note:

The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.

References:

Books

Computer Fundamentals

1. Rajaraman, FUNDAMENTALS OF COMPUTERS, Prentice Hall of India.
2. Peter Norton, INTRODUCTION TO COMPUTER, Tata McGraw Hill

Web Development

1. HTML COMPLETE, Sybex BPB
2. Maccoby, MASTERING WEB DESIGNING, BPB
3. Ray, Mastering HTML 4 Premium Edition, BPB
4. Farrar, HTML Example Book, BPB
5. Ramalho, Learn Advanced HTML with DHTML, BPB
6. Navarro, Effective Web Designing, BPB

Web Scripting

1. ASP ADO AND XML COMPLETE, Sybex BPB
2. Simon, VBSCRIPT Interactive Course, Waite Group, BPB
3. Russell, MASTERING ACTIVE SERVER PAGES, BPB
4. Bayross, Practical ASP, BPB

Multimedia and Authoring Tools

1. Bouton, INSIDE ADOBE PHOTOSHOP 6, BPB
2. Sinclair, MULTIMEDIA ON THE PC, BPB
3. Gokul S, MULTIMEDIA MAGIC, BPB
4. Altman, MASTERING CORELDRAW 9, BPB
5. Kea thing, INSIDE FLASH 5, BPB

Relational Database Management System and SQL

1. Lerry Ulman, MYSQL Database, Pearson Education, 2008

Networking and Open Standards

1. A.S. Tanenbaum, COMPUTER NETWORK 4TH EDITION, Prentice Hall of India P. Ltd.
2. Williams Stalling, DATA COMMUNICATION AND NETWORKS 5TH EDITION, Prentice Hall of India P. Ltd.
3. Hancock, NETWORK CONCEPT AND ARCHITECTURES, BPB Publications.

Web References:

1. Open Source Concepts: www.opensource.org
2. Web Designing and Development: www.w3schools.com

17. ECONOMICS (CODE NO. 030)

Rationale

Economics is one of the social sciences, which has great influence on every human being. As economic life and the economy go through changes, the need to ground education in children's own experience becomes essential. While doing so, it is imperative to provide them opportunities to acquire analytical skills to observe and understand the economic realities.

At senior secondary stage, the learners are in a position to understand abstract ideas, exercise the power of thinking and to develop their own perception. It is at this stage, the learners are exposed to the rigour of the discipline of economics in a systematic way.

The economics courses are introduced in such a way that in the initial stage, the learners are introduced to the economic realities that the nation is facing today along with some basic statistical tools to understand these broader economic realities. In the later stage, the learners are introduced to economics as a theory of abstraction.

The economics courses also contain many projects and activities. These will provide opportunities for the learners to explore various economic issues both from their day-to-day life and also from issues, which are broader and invisible in nature. The academic skills that they learn in these courses would help to develop the projects and activities. The syllabus is also expected to provide opportunities to use information and communication technologies to facilitate their learning process.

Objectives:

1. Understanding of some basic economic concepts and development of economic reasoning which the learners can apply in their day-to-day life as citizens, workers and consumers.
2. Realisation of learners' role in nation building and sensitivity to the economic issues that the nation is facing today.
3. Equipment with basic tools of economics and statistics to analyse economic issues. This is pertinent for even those who may not pursue this course beyond senior secondary stage.
4. Development of understanding that there can be more than one view on any economic issue and necessary skills to argue logically with reasoning.

CLASS - XI (2013-14)

Paper 1

3 Hours

90 Marks

Units	Periods	Marks
Part A: Statistics for Economics		
1. Introduction	7	15
2. Collection, Organisation and Presentation of Data	27	
3. Statistical Tools and Interpretation	66	30
	<u>100</u>	<u>45</u>
Part B: Indian Economic Development		
4. Development Experience (1947-90) and Economic Reforms since 1991	18	8
	16	10
5. Current Challenges facing Indian Economy	60	20
6. Development experience of India-A comparison with neighbours	14	7
	<u>108</u>	<u>45</u>
Part C: Project Work	<u>12</u>	<u>10</u>

Note: The question paper will include a Section on Open Case studies based-questions on two case studies, each from Part A and Part B of 8 marks, a total of 16 marks. The case studies will be supplied to students in advance. These case studies are designed to test the analytical and higher order thinking skills of students.

Part A: Statistics for Economics

In this course, the learners are expected to acquire skills in collection, organisation and presentation of quantitative and qualitative information pertaining to various simple economic aspects systematically. It also intends to provide some basic statistical tools to analyse, and interpret any economic information and draw appropriate inferences. In this process, the learners are also expected to understand the behaviour of various economic data.

Unit 1: Introduction**07 Periods**

What is Economics?

Meaning, scope and importance of statistics in Economics

Unit 2: Collection, Organisation and Presentation of data**27 Periods**

Collection of data - sources of data - primary and secondary; how basic data is collected; methods of collecting data; some important sources of secondary data: Census of India and National Sample Survey Organisation.

Organisation of Data: Meaning and types of variables; Frequency Distribution.

Presentation of Data: Tabular Presentation and Diagrammatic Presentation of Data: (i) Geometric forms (bar diagrams and pie diagrams), (ii) Frequency diagrams (histogram, polygon and ogive) and (iii) Arithmetic line graphs (time series graph).

Unit 3: Statistical Tools and Interpretation

66 Periods

(For all the numerical problems and solutions, the appropriate economic interpretation may be attempted. This means, the students need to solve the problems and provide interpretation for the results derived.)

Measures of Central Tendency- mean (simple and weighted), median and mode

Measures of Dispersion - absolute dispersion (range, quartile deviation, mean deviation and standard deviation); relative dispersion (co-efficient of quartile-deviation, co-efficient of mean deviation, co-efficient of variation); Lorenz Curve: Meaning and its application.

Correlation - meaning, scatter diagram; Measures of correlation - Karl Pearson's method (two variables ungrouped data) Spearman's rank correlation.

Introduction to Index Numbers - meaning, types - wholesale price index, consumer price index and index of industrial production, uses of index numbers; Inflation and index numbers.

Some Mathematical tools used in Economics: Equation of a line, slope of a line, slope of a curve.

Part B: Indian Economic Development

Unit 4: Development Experience (1947-90) and Economic Reforms since 1991:

18 Periods

A brief introduction of the state of Indian economy on the eve of independence.

Common goals of Five Year Plans.

Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy, etc.), industry (industrial licensing, etc.) and foreign trade.

Economic Reforms since 1991:

16 Periods

Need and main features - liberalisation, globalisation and privatisation;

An appraisal of LPG policies

Unit 5: Current challenges facing Indian Economy:

60 Periods

Poverty- absolute and relative; Main programmes for poverty alleviation: A critical assessment;

Rural development: Key issues - credit and marketing - role of cooperatives; agricultural diversification; alternative farming - organic farming

Human Capital Formation: How people become resource; Role of human capital in economic development; Growth of Education Sector in India

Employment: Formal and informal, growth and other issues: Problems and policies.

Inflation: Problems and Policies

Infrastructure: Meaning and Types: Case Studies: Energy and Health: Problems and Policies- A critical assessment;

Sustainable Economic Development: Meaning, Effects of Economic Development on Resources and Environment, including global warming.

Unit 6: Development Experience of India:

14 Periods

A comparison with neighbours

India and Pakistan

India and China

Issues: growth, population, sectoral development and other developmental indicators.

Part C: Developing Projects in Economics

12 Periods

The students may be encouraged to develop projects, which have primary data, secondary data or both. Case studies of a few organisations / outlets may also be encouraged. Under this the students will do one project each from Part A and Part B.

Some of the examples of the projects are as follows (they are not mandatory but suggestive):

- (i) A report on demographic structure of your neighborhood.
- (ii) Changing consumer awareness amongst households.
- (iii) Dissemination of price information for growers and its impact on consumers.
- (iv) Study of a cooperative institution: milk cooperatives, marketing cooperatives, etc.
- (v) Case studies on public private partnership, outsourcing and outward Foreign Direct Investment.
- (vi) Global warming.
- (vii) Designing eco-friendly projects applicable in school such as paper and water recycle.

The idea behind introducing this unit is to enable the students to develop the ways and means by which a project can be developed using the skills learned in the course. This includes all the steps involved in designing a project starting from choosing a title, exploring the information relating to the title, collection of primary and secondary data, analysing the data, presentation of the project and using various statistical tools and their interpretation and conclusion.

Suggested Question Paper Design
Economics (Code 030)
Class XI (2013-14)
March 2014 Examination

Marks 90

Duration: 3 hrs.

S. No.	Typology of Questions	Very Short Answer MCQ 1 Mark	Short Answer II 3 Marks	Short Answer I 4 Marks	Long Answer 6 Marks	Marks	%
1.	Remembering- (Knowledge based) Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	-	2	1	2	22	25
2.	Understanding- (Comprehension) -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)	1	2	1	2	23	25
3.	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)	2	2	1	1	18	20
4.	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)	2	2	1	1	18	20
5.	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)	0	1	-	1	9	10
TOTAL		5x1=5	9x3=27	4x4=16	7x6=42	90 (25)+10 Projects= 100 Marks	100

Note: The question paper will include a section on **Open Case Studies** based-questions on two case studies, each from Part A and Part B of 8 marks, a total of 16 marks. The case studies will be supplied to students in advance. These case studies are designed to test the analytical and higher order thinking skills of students.

ECONOMICS
CLASS - XII (2014-15)

Paper 1

100 Marks

3 Hours

Units	Periods	Marks
Part A: Introductory Microeconomics		
1. Introduction	11	6
2. Consumer's Equilibrium and Demand	34	16
3. Producer Behaviour and Supply	34	16
4. Forms of Market and Price Determination under perfect competition with simple applications	31	12
	110	50
Part B: Introductory Macroeconomics		
5. National Income and Related Aggregates	32	15
6. Money and Banking	18	8
7. Determination of Income and Employment	27	12
8. Government Budget and the Economy	17	8
9. Balance of Payments	16	7
	110	50

Part A: Introductory Microeconomics

Unit 1: Introduction

11 Periods

Meaning of microeconomics and macroeconomics

What is an economy? Central problems of an economy : what, how and for whom to produce; concepts of production possibility frontier and opportunity cost.

Unit 2: Consumer's Equilibrium and Demand

34 Periods

Consumer's equilibrium - meaning of utility, marginal utility, law of diminishing marginal utility, conditions of consumer's equilibrium using marginal utility analysis.

Indifference curve analysis of consumer's equilibrium-the consumer's budget (budget set and budget line), preferences of the consumer (indifference curve, indifference map) and conditions of consumer's equilibrium.

Demand, market demand, determinants of demand, demand schedule, demand curve, movement along and shifts in the demand curve; price elasticity of demand - factors affecting price elasticity of demand; measurement of price elasticity of demand - (a) percentage-change method and (b) geometric method (linear demand curve); relationship between price elasticity of demand and total expenditure.

Unit 3: Producer Behaviour and Supply

34 Periods

Production function: Total Product, Average Product and Marginal Product.

Returns to a Factor.

Cost and Revenue: Short run costs - total cost, total fixed cost, total variable cost; Average fixed cost, average variable cost and marginal cost-meaning and their relationship.

Revenue - total, average and marginal revenue.

Producer's equilibrium-meaning and its conditions in terms of marginal revenue-marginal cost.

Supply, market supply, determinants of supply, supply schedule, supply curve, movements along and shifts in supply curve, price elasticity of supply; measurement of price elasticity of supply - (a) percentage-change method and (b) geometric method.

Unit 4: Forms of Market and Price Determination under Perfect Competition with simple applications.

31 Periods

Perfect competition - Features; Determination of market equilibrium and effects of shifts in demand and supply.

Other Market Forms - monopoly, monopolistic competition, oligopoly - their meaning and features.

Simple Applications of tools of Demand and Supply: Price ceiling, price floor.

Part B: Introductory Macroeconomics

Unit 5: National Income and Related Aggregates

32 Periods

Some basic concepts: consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation.

Circular flow of income; Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method.

Aggregates related to National Income:

Gross National Product (GNP), Net National Product (NNP), Gross and Net Domestic Product (GDP and NDP) - at market price, at factor cost; National Disposable Income (gross and net), Private Income, Personal Income and Personal Disposable Income; Real and Nominal GDP.

GDP and Welfare

Unit 6: Money and Banking

18 Periods

Money - its meaning and functions.

Supply of money - Currency held by the public and net demand deposits held by commercial banks.

Money creation by the commercial banking system.

Central bank and its functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker's Bank, Controller of Credit through CRR, SLR, Reverse Repo, Open Market Operations, Margin requirement.

Unit 7: Determination of Income and Employment

27 Periods

Aggregate demand and its components.

Propensity to consume and propensity to save (average and marginal).

Short-run equilibrium output; investment multiplier and its mechanism.

Meaning of full employment and involuntary unemployment.

Problems of excess demand and deficient demand; measures to correct them - change in government spending, availability of credit.

Unit 8: Government Budget and the Economy

17 Periods

Government budget - meaning, objectives and components.

Classification of receipts - revenue receipts and capital receipts; classification of expenditure - revenue expenditure and capital expenditure.

Measures of government deficit - revenue deficit, fiscal deficit, primary deficit their meaning.

Unit 9: Balance of Payments

16 Periods

Balance of payments account - meaning and components; balance of payments deficit-meaning.

Foreign exchange rate - meaning of fixed and flexible rates and managed floating.

Determination of exchange rate in a free market.

Prescribed Books:

1. Indian Economic Development, Class XI, NCERT
2. Introductory Micro Economics, Class XII, NCERT
3. Macro Economics, Class XII, NCERT
4. Supplementary Reading Material in Economics, Class XII, CBSE

Note: The above publications are also available in Hindi Medium.

Suggested Question Paper Design

Economics (Code 030)

Class XII (2014-15)

March 2015 Examination

Marks 100

Duration: 3 hrs.

S. No.	Typology of Questions	Very Short Answer MCQ 1 Mark	Short Answer II 3 Marks	Short Answer I 4 Marks	Long Answer 6 Marks	Marks	%
1.	Remembering- (Knowledge based) Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	2	1	2	2	25	25
2.	Understanding- (Comprehension) -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)	3	2	1	2	25	25
3.	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)	-	2	2	1	20	20
4.	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources)	2	2	-	2	20	20
5.	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)	1	1	-	1	10	10
TOTAL		8x1=8	8x3=24	5x4=20	8x6=48	100 (29)	100

18. BUSINESS STUDIES (CODE NO. 054)

Rationale

The courses in Business Studies and Accountancy are introduced at + 2 stage of Senior Secondary Education as formal commerce education is provided after first ten years of schooling. Therefore, it becomes necessary that instructions in these subjects are given in such a manner that students have a good understanding of the principles and practices bearing in business (trade and industry) as well as their relationship with the society.

Business is a dynamic process that brings together technology, natural resources and human initiative in a constantly changing global environment. To understand the framework in which a business operates, a detailed study of the organisation and management of business processes and its interaction with the environment is required. Globalisation has changed the way organizations transact their business.

Information Technology is becoming a part of business operations in more and more organisations. Computerised systems are fast replacing other systems. E-business and other related concepts are picking up fast which need to be emphasized in the curriculum.

The course in Business Studies will prepare students to analyse, manage, evaluate and respond to changes which affect business. It provides a way of looking at and interacting with the business environment. It recognizes the fact that business influences and is influenced by social, political, legal and economic forces. It allows students to appreciate that business is an integral component of society and develops an understanding of many social and ethical issues.

Therefore, to acquire basic knowledge of the business world, a course in Business Studies would be useful. It also informs students of a range of study and work options and bridges the gap between school and work.

Objectives:

- To develop students with an understanding of the processes of business and its environment;
- To acquaint students with the dynamic nature and inter-dependent aspects of business;
- To develop an interest in the theory and practice of business, trade and industry;
- To familiarize students with theoretical foundations of the process of organizing and managing the operations of a business firm;
- To help students appreciate the economic and social significance of business activity and the social cost and benefits arising there from;
- To acquaint students with the practice of managing the operations and resources of business;
- To enable students to act more effectively and responsibly as consumers, employers, employees and citizens;
- To develop a business attitude and skills in students.
- To inculcate appropriate attitude and develop skills among students to pursue higher education, world of work including self employment.

**BUSINESS STUDIES (CODE - 054)
CLASS-XI (2013-14)**

One Paper 100 Marks
3 Hours

Units	Periods	Marks
Part A: Foundations of Business		
1. Nature and Purpose of Business	22	20
2. Forms of Business Organisations	26	
3. Public, Private and Global Enterprises	22	18
4. Business Services	22	
5. Emerging Modes of Business	12	12
6. Social Responsibility of Business and Business Ethics	16	
	<u>120</u>	<u>50</u>
Part B: Finance and Trade		
7. Sources of Business Finance	30	20
8. Small Business	16	
9. Internal Trade	30	20
10. International Business	14	
11. Project Work	30	10
	<u>120</u>	<u>50</u>

PART A: FOUNDATION OF BUSINESS **120 Periods**

Unit 1: Nature and Purpose of Business: **22 Periods**

- Concept and characteristics of business.
- Business, profession and employment -Meaning and their distinctive features.
- Objectives of business - Economic and social, role of profit in business
- Classification of business activities: Industry and Commerce.
- Industry - types: primary, secondary, tertiary - Meaning and sub types
- Commerce - trade: types (internal, external, wholesale and retail; and auxiliaries to trade: banking, insurance, transportation, warehousing, communication, and advertising.
- Business risks - Meaning, nature and causes.

Meaning of business with special reference to economic and non-economic activities. Two or three definitions of business with one conclusive definition.

Fundamental features of business which differentiate it with other activities of society.

Meaning of profession and employment with one definition of each including all their features.

Differentiating features of business, profession and employment.

Meaning and classification of objectives of business as : Economic Social

Economic Objectives - Profit earning, survival, growth

Social Objectives - Production and supply of quality goods and services

Role of Profit - As a source of income for business persons for meeting expansion requirements.

Indication of efficient working of business and building its reputation of business.

Meaning of industry and commerce with examples.

Industry: Meaning of primary, secondary and tertiary industries with 2-3 examples.

Commerce : Meaning of Trade and Auxiliaries to trade. Meaning of commerce : Meaning of different types of trade -Internal, External, Wholesale, and Retail Traders: Meaning of different auxiliaries to trade- Banking, Insurance, Transportation Warehousing, Communication, and Advertising.

Meaning of risks as a special characteristic of business including all possible causes.

Unit 2: Forms of Business organizations

26 Periods

- Sole Proprietorship- meaning, features, merits and limitations.
- Partnership- Features, types, merits and limitations of partnership and partners, registration of a partnership firm, partnership deed. Type of partners.
- Hindu Undivided Family Business: features.
- Cooperative Societies- features, types, merits and limitations.
- Company: private and public company -features, merits and limitations.
- Formation of a company- four stages, important document (MOA, AOA, relevances of certificate of incorporation and certificate of commencement.
- Starting a business - Basic factors.

Meaning of forms of business organisations

Meaning and definition of sole proprietorship, its features merits and limitations.

Definition of partnership as per partnership act 1932

Types of partnership : On the basis of duration or on the basis of liability.

Limited liability partnership- Meaning and examples

Types of partners: Active, sleeping, secret and nominal partner, partner by estoppel.

Meaning of partnership firms with 5-6 major aspects

Need for registration

Self explanatory

Types : Consumers, producers, marketing, farmers, credit and housing co-operatives.

Meaning and definition of private and public company.

Difference between private and public company.

Features, merits and limitations of private and public company.

Stages in the formation of a company in brief.

Knowledge about selection of a business and its size and form of business organization.

Understanding factor to decide location of business, financing and physical facilities.

Unit 3: Public, Private and Global Enterprises

22 Periods

- Private sector and public sector enterprises.
- Forms of public sector enterprises: features, merits and limitations of departmental undertakings, statutory corporation and Government Company.
- Changing role of public sector enterprises.
- Global enterprises, Joint ventures, Public Private Partnership - Features

Develop an understanding of public, private and global enterprises.

Activity to identify various types of public enterprises.

Develop an understanding for the changing patterns by studying global enterprises joint ventures and public private partnership.

Private Sector and Public Sector: Meaning

Forms of Public Sector Enterprises: Departmental Undertakings, Statutory Corporation, Government Company (Features, Meaning, Merits and Limitation of each.)

Global enterprises, Joint ventures, Public private partnership- Meaning and Features.

Unit 4: Business Services

22 Periods

- Banking: Types of bank accounts- savings, current, recurring, fixed deposit and multiple option deposit account.
- Banking services with particular reference to issue of bank draft, banker's cheque (pay order), RTGS (Real Time Gross Settlement) NEFT (National Electronic Funds Transfer), bank overdraft, cash credits and e- banking.
- Insurance: principles, concept of life, health, fire and marine insurance.
- Postal and telecom services: mail (UPC, registered post, parcel, speed post and courier) and other services.

Banking: Types of Bank Accounts- Saving, current, recurring and fixed deposit Accounts along with specific features of each.

Banking Services Meaning and special features of each bank draft, banker's cheque (Pay order), RTGS (Real Time Gross Settlement) NEFT (National Electronic Funds Transfer). Bank overdraft, cash credits, e-banking.

E Banking : Meaning of e- banking and ways of e-banking: ATM, Debit Card, Credit Card, internet banking and mobile banking.

Meaning and principle of insurance utmost good faith, insurance interest, indemnity, contribution, doctrine of subrogation and cause proxima.

Meaning and distinction between life, health, fire and marine insurance.

Meaning and uses of mail (UPC, Registered Post, Parcel, Speed Post, Courier) and Saving schemes (Recurring Deposit, NSCs, KVP, PPF, MIS)

Unit 5: Emerging Modes of Business

12 Periods

- E-business - scope and benefits, resources required for successful e-business implementation, online transactions, payment mechanism, security and safety of business transactions.
- Outsourcing-concept, need and scope of BPO (business process outsourcing) and KPO (knowledge process outsourcing).
- Smart cards and ATM's meaning and utility

E-Business - Scope and Benefits, Resources required for successful e-business implementation, Online transactions, Payment mechanism, Security and Safety of business transactions.

Meaning benefits and limitations of e-banking

Meaning and process of online transaction

Ways of payment through online

Methods of secure and safe business transactions

Outsourcing-Concept, Need and Scope of BPO (Business Process Outsourcing) and KPO (Knowledge Process Outsourcing).

Meaning and features of outsourcing and its need

Meaning of Business Process and Knowledge Process Outsourcing.

Unit 6: Social Responsibility of Business and Business Ethics

16 Periods

- Concept of social responsibility
- Case for social responsibility
- Responsibility towards owners, investors, consumers, employees, government and community
- Environment protection and business

PART B: FINANCE AND TRADE

120 Periods

Meaning definition and need of social response sibling of business.

Responsibility towards investors, consumers, employees, government and community.

Meaning, need and role of environmental protection.

Meaning and basic elements of business ethics

Unit 7: Sources of Business Finance

30 Periods

- Concept of business finance
- Owner's funds - equity shares, preference share, GDR, ADR, IDR and retained earnings.
- Borrowed funds: debentures and bonds, loan from financial institution, loans from commercial banks, public deposits, trade credit, ICD (inter corporate deposits).

Meaning and need of business finance

Sources- Owners funds; Borrowed funds

Meaning, merits and limitations of owners' funds, equity shares, preference shares and retained earnings.

Borrowed Funds- Debentures and bonds, loans from financial institutions, loans from Commercial banks, public deposits, Trade Credit, ICD (Inter Corporate Deposits).

Meaning, merits and limitations of borrowed funds, debentures, bonds, loans from financial institutions, trade credit and inter corporate deposits

Unit 8: Small Business

16 Periods

- Small scale enterprise as defined by MSMED Act 2006 (Micro, Small and Medium Enterprise Development Act).
- Role of small business in India with special reference to rural areas.
- Government schemes and agencies for small scale industries: (National Small Industries Corporation) and DIC (District Industrial Center) with special reference to rural, backward and hilly areas.

Meaning and definition of small scale enterprise as per MSMED Act 2006

Distinction between Micro, Small and Medium enterprises.

Self explanatory

Different government schemes and functions of agencies.

Unit 9: Internal Trade

30 Periods

- Services rendered by a wholesaler and a retailer
- Types of retail -trade - Itinerant and small scale fixed shops
- Large scale retailers - Departmental stores, chain stores, mail order business
- Concept of automatic vending machine
- Chambers of Commerce and Industry: Basic functions
- Main documents used in internal trade: Performa invoice, invoice, debit note, credit note. LR (Lorry receipt) and RR (Railway Receipt)
- Terms of Trade: COD (Cash on Delivery) , FOB (Free on Board), CIF (Cost, Insurance and Freight), E&OE (Errors and Omissions Excepted)

Types of Retail Trade - Itinerants and small scale fixed shops:- Meaning and features.

Large Scale Retailers- Department stores, Chain Stores, Mail Order Business,

Automatic Vending Machine.

Chambers of Commerce and Industry: Basic Functions

Main Documents Used in Internal trade: Performa Invoice, Invoice, Debit Note, Credit Note, LR (Lorry Receipt), RR (Railway Receipt) Meaning , uses and formats

Terms used in Trade : COD, (Cash on Delivery), FOB (Free on Board) ,CIF (Cost Insurance and Freight), E&OE (Errors and Omissions Excepted): Meaning.

Unit 10: International Trade

14 Periods

- Meaning, difference between internal trade and external trade: Meaning and characteristics of international trade.
- Problems of international trade: Advantages and disadvantages of international trade
- Export Trade - Meaning, objective and procedure of Export Trade
- Import Trade - Meaning, objective and procedure: Meaning and functions of import trade; purpose and procedure
- Documents involved in International Trade; documents involved in export trade, indent, letter of credit, shipping order, shipping bills, mate's receipt, bill of lading, certificate of origin, consular invoice, documentary bill of exchange (DA/DP), specimen, importance
- World Trade Organization (WTO) meaning and objectives

Need of International Trade and Complexities faced by Business enterprises in International Trade.

Uses of different documents used in International Trade.

Procedure followed in Export and Import Business.

Historical perspective of WTO

Different types of agreement (Four agreement)

Unit 11: Project Work

30 Periods

- As per CBSE guidelines

QUESTION PAPER DESIGN YEAR 2013-14									
BUSINESS STUDIES			Code No-054				CLASS XI		
Time: 3 hrs			Max.Marks-90						
S. No.	Typology of Questions	Learning Outcomes & Testing Skills	Very Short Answer (VSA) (1 Mark)	Short Answer-I (SA-I) (3 Marks)	Short Answer-II (SA-II) (4 Marks)	Long Answer (LA) (5 Marks)	Essay Type (6 Marks)	Total Marks	% Weightage
1	Remembering- (Knowledge based) Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	<ul style="list-style-type: none"> Reasoning Analytical Skills Critical thinking 	2	1	1	1	-	14	16%
2	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)		2	2	1	-	1	18	20%
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		2	1	1	1	2	26	29%
4	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources)		2	1	1	1	1	20	22%
5	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)			1	1(Values based)	1	-	12	13%
	TOTAL-1 project (10 Marks) 10		8×1=8	6×3=18	5×4=20	4×5=20	4×6=24	90(27) project (10)	100%
	Estimated Time (in minutes)		8 min	27 min	30 min	40 min	60 min	165 min + 15 min for revision	

**BUSINESS STUDIES (054)
CLASS-XII (2014-15)
COURSE STRUCTURE**

One Paper

3 Hours
100 Marks

Units	Periods	Marks
Part A: Principles and Functions of Management		
1. Nature and Significance of Management	14	
2. Principles of Management	14	16
3. Business Environment	12	
4. Planning	14	
5. Organising	18	14
6. Staffing	16	
7. Directing	18	20
8. Controlling	14	
	120	50
Part B: Business Finance and Marketing		
9. Financial Management	22	
10. Financial Markets	20	15
11. Marketing Management	32	
12. Consumer Protection	16	15
	30	20
Part C: Project Work	120	50

Part A: Principles and Functions of Management

Unit 1: Nature and Significance of Management

14 Periods

- Management- concept, objectives and importance.
- Management as Science, Art and Profession.
- Levels of Management
- Management functions- planning, organising, staffing, directing and controlling.
- Coordination- concept and importance.

Concept includes meaning and characteristics/features.

Objectives - organizational, social and personal.

Management as art- Features of art and the existence of these features in management.

Management as science- Features of science and the existence of these features in management. Management as profession- features of profession and the existence of these features in management.

Levels of management- Functions of management at top, middle and supervisory levels with names of job positions.

Unit 2: Principles of Management **14 Periods**

- Principles of Management- concept and significance.
- Fayol's principles of management.
- Taylor's Scientific management- principles and techniques.

Meaning of principles of management. Nature of principles of management by stating their basic characteristics.

Significance or need of principles of management. Principles of Scientific. Management given by Taylor- Science, not rule of thumb; Harmony, not discord; Cooperation, not individualism;

Development of each and every person to his or her greatest efficiency and prosperity. Taylor's techniques of Scientific management: Functional Foremanship; Standardisation and Simplification;

Work study: Method study, Motion study, Time study, Fatigue study. Differential piece wage system.

Basis of his thought Mental Revolution.

Unit 3: Management and Business Environment **12 Periods**

- Business Environment- concept and importance.
- Dimensions of Business Environment- Economic, Social, Technological, Political and Legal.
- Impact of Government policy changes on business with special reference to liberalization, privatization and globalization in India.

Dimensions of Business Environment- meaning and components only.

Unit 4: Planning **14 Periods**

- Concept, importance and limitations.
- Planning process
- Single use and standing plans. Objectives, Strategy, Policy, Procedure, Method, Rule, Budget and Programme.

Limitations- internal and external. Meaning of single use and standing plans.

Unit 5: Organising **18 Periods**

- Concept and importance.

Organising Process.

- Structure of organisation- functional and divisional- concept. Formal and informal organisation- concept.
- Delegation: concept, elements and importance.
- Decentralization: concept and importance.

Structure of organisation- functional and divisional- merits and limitations.

Formal and informal- merits and limitations.

Unit 6: Staffing **16 Periods**

- Concept and importance of staffing.
- Staffing as a part of Human Resource Management- concept.
- Staffing process

- Recruitment- sources
- Selection -process
- Training and Development- Concept and importance. Methods of training- on the job and off the job- Induction training, vestibule training, apprenticeship training and internship training.

Recruitment Sources- Internal-promotion, transfer; External -Direct recruitment, Casual callers, Advertisements-(newspapers, journals, television), Employment Exchange, Placement Agencies and Management Consultants, Campus Recruitment, Web Publishing, Labour Contractors, Recommendations of employees .

Methods of on-the-job training and off-the job training-meaning.

Unit 7: Directing

18 Periods

- Concept and importance
- Elements of Directing
 - Supervision- concept, functions of a supervisor.
 - Motivation- concept, Maslow's hierarchy of needs, Financial and non-financial incentives.
 - Leadership- concept, styles- authoritative, democratic and laissez faire.
 - Communication-concept, formal and informal communication; barriers to effective communication, how to overcome the barriers.

Motivation- Financial incentives-meaning, types- Pay and Allowances, Productivity linked wage incentive, bonus, Profit sharing, co-partnership/stock option, Retirement benefits, Perquisites; Non-financial incentives- meaning, types-Status, Career advancement opportunity, Job enrichment, Job security, Employee recognition programmes, Job enrichment, Employee participation, Employee empowerment.

Formal and informal communication- concept; barriers to effective communication- semantic barriers (badly expressed message, symbols with different meanings, faulty translations, unclarified assumptions, technical jargon), psychological barriers (premature evaluation, lack of attention, distrust), organisational barriers (organisational policy, rules and regulations, complexity in organisational structure, organisational facilities), personal barriers (fear of challenge to authority, lack of confidence of superior on his subordinates, unwillingness to communicate, lack of proper incentives). How to overcome barriers: Communicate according to the needs of the receiver, clarify the ideas before communication, be aware of the language, tone and content of the message, communicate for present as well for the future, ensure proper feedback and be a good listener.

Unit 8: Controlling

14 Periods

- Concept and importance.
- Relationship between planning and controlling
- Steps in the process of control

Self explanatory.

PART B: BUSINESS FINANCE AND MARKETING

Unit 9: Financial Management

22 Periods

- Concept and objective of Financial Management.
- Financial Decisions: investment, financing and dividend- Meaning and factors affecting.
- Financial Planning- concept and importance.

- Capital Structure - Concept.
- Fixed and Working Capital - Concept and factors affecting their requirements.

Factors affecting capital budgeting decisions- cash flows of the project, the rate of return, investment criteria involved. Factors affecting financing decision-cash flow position of the company, cost, risk, floatation costs, fixed operating costs, control considerations, state of the capital market, Return on investment, tax rate, flexibility, regulatory framework . Factors affecting dividend decision- amount of earnings, stability of earnings, stability of dividends, growth opportunities, cash flow position, shareholder's preference, taxation policy, stock market reaction, access to capital market, legal constraints, contractual constraints.

Factors affecting fixed capital requirement- Nature of business, scale of operations, choice of technique, technology upgradation, growth prospects, diversification, financing alternatives, level of collaboration. Working capital- concept of operating cycle, factors affecting working capital requirement- Nature of business, scale of operations, business cycle, seasonal factors, production cycle, credit allowed, credit availed, availability of raw material.

Unit 10: Financial Markets

20 Periods

- Financial Markets: Concept and types.
- Money market and its instruments.
- Capital market and its types (primary and secondary)
- Stock Exchange- Functions and trading procedure.
- Securities and Exchange Board of India (SEBI)- objectives and functions.

Types of financial market- money market and capital market- meaning.

Money market instruments- Treasury bill, commercial paper, call money, certificate of deposit, commercial bill.

Capital market -Types- primary and secondary market- concept.

Unit 11: Marketing Management

32 Periods

- Selling, Marketing and Societal Marketing management- Concept.
- Marketing management- Concept.
- Marketing Functions.
- Marketing management philosophies.
- Marketing Mix - Concept & elements
 - Product-Concept, branding, labelling and packaging.
 - Price- Factors determining price.
 - Physical Distribution- concept, channels of distribution: types, choice of channels.
 - Promotion- Concept and elements; advertising-concept, role, objections against advertising, personal selling-concept and qualities of a good salesman, sales promotion- concept and techniques, public relations- concept and role.

Marketing mix elements- Product, price, place, promotion

Branding, labelling, packaging- concept and functions .Choice of channels of distribution- factors affecting choice of channel- product related factors, company characteristics, competitive factors, market factors, environmental factors.

Unit 12: Consumer Protection

16 Periods

- Concept and importance of consumer protection.
- Consumer Protection Act 1986
 - Meaning of consumer and consumer protection
 - Rights and responsibilities of consumers
 - Who can file a complaint and against whom?
 - Redressal machinery.
 - Remedies available.
- Consumer awareness-Role of consumer organizations and NGOs

Self explanatory

Unit 13: Project Work

30 Periods

Please refer to guidelines issued by CBSE.

QUESTION PAPER DESIGN 2014-15									
Business Studies			CODE NO. 054				CLASS-XII		
TIME: 3 Hours							Max. Marks: 80		
S. NO.	Typology of Questions	Learning outcomes & testing skills	Very Short Answer (VSA) (1 Mark)	Short Answer-I (SA-I) (3 Marks)	Short Answer-II (SA-II) (4 Marks)	Long Answer (LA) (5 Marks)	Essay Type (6 Marks)	Total Marks	% Weightage
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	reasoning analytical skills critical skills	2	1	1	1	-	14	17%
02	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		2	2	1	-	1	18	23%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)		2	1	1	1	1	20	25%
04	High Order Thinking Skills (Analysis& Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		2	1	2	-	1	19	24%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)			-	1(value based)	1	-	09	11%
	TOTAL- 2 project (10 marks each) 20		8 × 1 = 8	5 × 3 = 15	6 × 4 = 24	3 × 5 = 15	3 × 6 = 18	80(25) (project)(20)	100%
	Estimated Time (in minutes)		8 min	20 min	50 min	37 min	50 min	165 min + 15 min. for revision	

19. ACCOUNTANCY (CODE NO. 055)

Rationale

The course in Accountancy is introduced at +2 stage of Senior Secondary education, as formal commerce education is provided after first ten years of schooling. With the fast changing economic scenario and business environment in a state of continuous flux, elementary business education along with accountancy as the language of business and as a source of financial information has carved out a place for itself at the Senior Secondary stage. Its syllabus content should give students a firm foundation in basic accounting principles and methodology and also acquaint them with the changes taking place in the presentation and analysis of accounting information, keeping in view the development of accounting standards and use of computers.

Against this background, the course puts emphasis on developing basic understanding about the nature and purpose of the accounting information and its use in the conduct of business operations. This would help to develop among students logical reasoning, careful analysis and considered judgement. Accounting as an information system aids in providing financial information. The emphasis at Class XI is placed on basic concepts and process of accounting leading to the preparation of accounts for a sole proprietorship firm. Computerised accounting is becoming more and more popular with increasing awareness about use of computers in business. Keeping this in view, the students are exposed compulsorily to the basic knowledge about computers and its use in accounting in the same year.

In class XII, Accounting for Partnership Firms and Companies are to be taught as a compulsory part. Students will also be given an opportunity to understand further about Computerized Accounting System, as an optional course to Analysis of Financial Statements.

Objectives:

- To familiarize the students with accounting as an information system;
- To acquaint the students with basic concepts of accounting and accounting standards;
- To develop the skills of using accounting equation in processing business transactions;
- To develop an understanding about recording of business transactions and preparation of financial statements;
- To enable the students with accounting for reconstitution and dissolution of partnership firms;
- To enable the students to understand and analyse the financial statements; and
- To familiarize students with the fundamentals of computerized system of accounting.

Accountancy (Code 055)
Course Structure
Class–XI (2013-14)

One Paper 90 Marks
3 Hours

Units	Periods	Marks
Part A: Financial Accounting-I		
Unit 1. Theoretical Framework	25	15
Unit 2. Accounting Process and Special Accounting Treatment	95	35
	120	50
Part B: Financial Accounting-II		
Unit 3. Financial Statements of Sole Proprietorship: from Complete and Incomplete Records	40	15
Unit 4. Financial Statements of Not-for-Profit Organisations	30	15
Unit 5. Computers in Accounting	20	10
	90	40
Part C: Project Work	30	10

Part A: Financial Accounting - I **50 Marks**

Unit 1: Theoretical Framework **25 Periods**

Introduction to Accounting 11 Periods

- Accounting- objectives, advantages and limitations, types of accounting information; users of accounting information and their needs.
- Basic accounting terms: business transaction, account, capital, drawings, liability (Non - current and current); asset (Non - current; tangible and intangible assets and current assets), receipts (capital and revenue), expenditure (capital, revenue and deferred), expense, income, profits, gains and losses, purchases, purchases returns, sales, sales returns, stock, trade receivables (debtors and bills receivable), trade payables (creditors and bills payable), goods, cost, vouchers, discount - trade and cash.

Theory Base of Accounting **14 Periods**

- Fundamental accounting assumptions: going concern, consistency, and accrual.
- Accounting principles: accounting entity, money measurement, accounting period, full disclosure, materiality, prudence, cost concept, matching concept and dual aspect.
- Bases of accounting - cash basis and accrual basis.
- Accounting Standards and IFRS (International Financial Reporting Standards): Concept and Objectives

Unit 2: Accounting Process and Special Accounting Treatment **95 Periods**

Recording of Transactions **23 Periods**

- Accounting equation: analysis of transactions using accounting equation.
- Rules of debit and credit: for assets, liabilities, capital, revenue and expenses.

- Origin of transactions- source documents (invoice, cash memo, pay in slip, cheque), preparation of vouchers - cash (debit and credit) and non cash (transfer).
- Books of original entry: format and recording - Journal.
- Cash Book: Simple Cash Book, Cash Book with Discount Column and Cash Book with Bank and Discount Columns, Petty Cash Book.
- Other books: purchases book, sales book, purchases returns book, sales returns book and journal proper.

Preparation of Bank Reconciliation Statement, Ledger and Trial Balance.

23 Periods

- Bank reconciliation statement- calculating bank balance at accounting date: need and preparation. Corrected cash book balance.
- Ledger - format, posting from journal, cash book and other special purpose books, balancing of accounts.
- Trial balance: objectives and preparation
(Scope: Trial Balance with balance method only)

Depreciation, Provisions and Reserves

16 Periods

- Depreciation: concept need and factors affecting depreciation; methods of computation of depreciation: straight line method, written down value method (excluding change in method)
- Accounting treatment of depreciation: by charging to asset account, by creating provision for depreciation/ accumulated depreciation account, treatment of disposal of asset.
- Provisions and reserves: concept, objectives and difference between provisions and reserves; types of reserves- revenue reserve, capital reserve, general reserve and specific reserves.

Accounting for Bills of Exchange

16 Periods

- Bills of exchange and promissory note: definition, features, parties, specimen and distinction.
- Important terms : term of bill, due date, days of grace, date of maturity, discounting of bill, endorsement of bill, bill sent for collection, dishonour of bill, noting of bill , retirement and renewal of a bill.
- Accounting treatment of bill transactions.

Rectification of Errors

17 Periods

- Errors: types-errors of omission, commission, principles, and compensating; their effect on Trial Balance.
- Detection and rectification of errors; preparation of suspense account.

Part B: Financial Accounting - II

40 Marks

Unit 3: Financial Statements of Sole Proprietorship: From Complete and Incomplete Records

40 Periods

- Financial Statements: objective and importance.
- Profit and loss account: gross profit, operating profit and net profit.
- Balance Sheet: need, grouping, marshalling of assets and liabilities.
- Adjustments in preparation of financial statements : with respect to closing stock, outstanding expenses, prepaid expenses, accrued income, income received in advance, depreciation, bad

debts, provision for doubtful debts, provision for discount on debtors, manager's commission, abnormal loss, goods taken for personal use and goods distributed as free samples.

- Preparation of Trading and Profit and Loss Account and Balance Sheet of sole proprietorship.
- Incomplete records: use and limitations. Ascertainment of profit/loss by statement of affairs method.

Unit 4: Financial Statements of Not-for-Profit Organizations **30 Periods**

- Not-for-profit organizations: concept.
- Receipts and Payment account: features.
- Income and Expenditure account: features. Preparation of Income and Expenditure account and Balance Sheet from the given Receipts and Payments account with additional information.

Scope:

- (i) Adjustments in a question should not exceed 3 or 4 in number and restricted to subscriptions, consumption of consumables, and sale of assets/ old material.
- (ii) Entrance/ admission fees and general donations are to be treated as revenue receipts.
- (iii) Trading Account of incidental activities is not to be prepared.

Unit 5: Computers in Accounting **20 Periods**

- Introduction to Computer and Accounting Information System {AIS}: Introduction to computers (Elements, Capabilities, Limitations of Computer system),
- Introduction to operating software, utility software and application software. Introduction to Accounting Information System (AIS), as a part of MIS
- Automation of Accounting Process. Meaning
- Stages in automation (a) Accounting process in a computerised environment (Comparison between manual accounting process and Computerised accounting process.) (b) Sourcing of accounting Software (Kinds of software: readymade software; customised software and tailor-made software; Generic Considerations before sourcing accounting software)(c) Creation of Account groups and hierarchy (d) Generation of reports -Trial balance, Profit and Loss account and Balance Sheet.

Scope:

- The scope of the unit is to understand accounting as an information system for the generation of accounting information and preparation of accounting reports.
- It is presumed that the working knowledge of Tally software will be given to the students for the generation of accounting software. For this, the teachers may refer Chapter 4 of Class XII NCERT textbook on Computerized Accounting System.

Part C: Project Work (Any One) **10 Marks** **30 Periods**

1. Collection of Source Documents, Preparation of Vouchers, Recording of Transactions with the help of vouchers.
2. Preparation of Bank Reconciliation Statement with the given cash book and the pass book with twenty to twenty-five transactions.
3. Comprehensive project starting with journal entries regarding any sole proprietorship business, posting them to the ledger and preparation of Trial balance. The students will then prepare Trading and Profit and Loss Account on the basis of the prepared trial balance. Expenses, incomes and profit (loss) are to be depicted using pie chart / bar diagram.

Suggested Question Paper Design
Accountancy (Code 055)
Class XI (2013-14)
March 2014 Examination

Marks 90

Duration: 3 hrs.

S. No.	Typology of Questions	Very Short Answer MCQ 1 Mark	Short Answer I 3 Marks	Short Answer II 4 Marks	Long Answer I 6 Marks	Long Answer II 8 Marks	Marks	%
1.	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	2	2	2	1	-	22	25
2.	Understanding- (Comprehension - to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)	-	1	-	2	1	23	25
3.	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)	-	-	1	1	1	18	20
4.	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources)	2	2	1	1	-	18	20
5.	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)	2	1	1	-	-	9	10
	TOTAL	6x1=6	6x3=18	5x4=20	5x6=30	2x8=16	90(24) 100%	100

**Accountancy (Code 055)
Class–XII (2014-15)**

One Paper

**3 Hours
80 Marks**

Units	Periods	Marks
Part A: Accounting for Partnership Firms and Companies		
Unit 1. Accounting for Partnership Firms	90	35
Unit 2. Accounting for Companies	60	25
	150	60
Part B: Financial Statement Analysis		
Unit 3. Analysis of Financial Statements	30	12
Unit 4. Cash Flow Statement	20	8
	50	20
Part C: Project Work	40	20
Project work will include:		
Project File: 4 Marks		
Written Test: 12 Marks (One Hour)		
Viva Voce: 4 Marks		
OR		
Part B: Computerized Accounting	60	20
Unit 3. Computerized Accounting		
Part C: Practical Work	26	20
Practical work will include:		
File	4 Marks	
Practical Examination	12 Marks (One Hour)	
Viva Voce	4 Marks	

Part A: Accounting for Partnership Firms and Companies 60 Marks 150 Periods

Unit 1: Accounting for Partnership Firms

- Partnership: features, Partnership deed.
- Provisions of the Indian Partnership Act 1932 in the absence of partnership deed.
- Fixed v/s fluctuating capital accounts. Preparation of Profit & Loss Appropriation account- division of profit among partners, guarantee of profits.
- Past adjustments (relating to interest on capital, interest on drawing, salary and profit sharing ratio).
- Goodwill: nature, factors affecting and methods of valuation - average profit, super profit and capitalization.

Accounting for Partnership firms - Reconstitution and Dissolution.

- **Change in the Profit Sharing Ratio** among the existing partners - sacrificing ratio, gaining ratio. Accounting for revaluation of assets and re-assessment of liabilities and distribution of reserves and accumulated profits.
- **Admission of a partner** - effect of admission of a partner on change in the profit sharing ratio, treatment of goodwill (as per AS 26), treatment for revaluation of assets and re - assessment of liabilities, treatment of reserves and accumulated profits, adjustment of capital accounts and preparation of balance sheet.
- **Retirement and death of a partner:** effect of retirement / death of a partner on change in profit sharing ratio, treatment of goodwill (as per AS 26), treatment for revaluation of assets and re - assessment of liabilities, adjustment of accumulated profits and reserves, adjustment of capital accounts and preparation of balance sheet. Preparation of loan account of the retiring partner.
 - Calculation of deceased partner's share of profit till the date of death. Preparation of deceased partner's capital account, executor's account and preparation of balance sheet.
- Dissolution of partnership firms: types of dissolution of firm. Settlement of accounts - preparation of realization account, and other related accounts (excluding piecemeal distribution, sale to a company and insolvency of partner(s)).

Note: (i) If value of asset is not given, its realised value should be taken as nil.

(ii) In case, the realisation expenses are borne by a partner, clear indication should be given regarding the payment thereof.

Unit -2 Accounting for Companies Accounting for Share Capital

- **Share and share capital:** nature and types.
- **Accounting for share capital:** issue and allotment of equity shares, private placement of shares, Public subscription of shares - over subscription and under subscription of shares; Issue at par and at premium and at discount, calls in advance and arrears (excluding interest), issue of shares for consideration other than cash.
- Accounting treatment of forfeiture and re-issue of shares.
- Disclosure of share capital in company's Balance Sheet.

Accounting for Debentures

- **Debentures:** Issue of debentures at par, at premium and at discount. Issue of debentures for consideration other than cash; Issue of debentures with terms of redemption; debentures as collateral security-concept, interest on debentures.
- **Redemption of debentures:** Lump sum, draw of lots and purchase in the open market (excluding ex-interest and cum-interest).

Part B: (i) Financial Statement Analysis

20 Marks 50 Periods

Unit 3: Analysis of Financial Statements

- **Financial statements of a company:** Statement of Profit and Loss and Balance Sheet in the prescribed form with major headings and sub headings (as per Schedule VI to the Companies Act, 1956).

Scope: Exceptional Items, Extraordinary Items and Profit (loss) from Discontinued Operations are excluded.

- **Financial Statement Analysis:** Objectives and limitations.
- **Tools for Financial Statement Analysis:** Comparative statements, common size statements, cash flow analysis, ratio analysis.
- **Accounting Ratios:** Objectives, classification and computation.

Liquidity Ratios: Current ratio and Quick ratio.

Solvency Ratios: Debt to Equity Ratio, Total Asset to Debt Ratio, Proprietary Ratio and Interest Coverage Ratio.

Activity Ratios: Stock Turnover Ratio, Debtors Turnover Ratio, Creditors Turnover Ratio and Working Capital Turnover Ratio.

Profitability Ratios: Gross Profit Ratio, Operating Ratio, Operating Profit Ratio, Net Profit Ratio and Return on Investment.

Note: As ratio analysis is a managerial tool, for the computation of profitability ratios, relevant information should be specified whether it is a part of Statement of Profit and Loss as per Schedule VI or not.

Unit 4: Cash Flow Statement

- Meaning, objectives and preparation (as per AS 3 (Revised) (Indirect Method only)

Scope: Adjustments relating to depreciation and amortisation, profit or loss on sale of assets including investments, dividend (both final and interim) and tax.

Note: Bank overdraft and cash credit to be treated as a component of cash and cash equivalent.

(ii) PROJECT WORK **20 Marks 40 Periods**

Kindly refer to the Guidelines published by the CBSE.

OR

Part B: Computerised Accounting **20 Marks 60 Periods**

Unit 3: Computerised Accounting

Overview of Computerised Accounting System.

- Introduction: Application in Accounting.
- Features of Computerised Accounting System.
- Structure of CAS.
- Software Packages: Generic; Specific; Tailored.

Accounting Application of Electronic Spreadsheet.

- Concept of Electronic Spreadsheet.
- Features offered by Electronic Spreadsheet.
- Application in Generating Accounting Information - Bank Reconciliation Statement; Asset Accounting; Loan Repayment of loan schedule, Ratio Analysis
- Data Representation- Graphs, Charts and Diagrams.

Using Computerized Accounting System.

- Steps in installation of CAS, codification and Hierarchy of account heads, creation of accounts.
- Data: Entry, Validation and Verification.
- Adjusting entries, preparation of balance sheet, profit and loss account with closing entries and opening entries.
- Need and security features of the system.

Database Management System (DBMS)

- Concept and Features of DBMS.
- DBMS in Business Application.
- Generating Accounting Information - Payroll.

Part C: Practical Work

20 Marks 26 Periods

Please refer to the guidelines published by CBSE.

Prescribed Books:

Financial Accounting I	Class XI	NCERT Publication
Accountancy II	Class XI	NCERT Publication
Accountancy I	Class XII	NCERT Publication
Accountancy II	Class XII	NCERT Publication

Suggested Question Paper Design
Accountancy (Code 055)
Class XII (2014-15)
March 2015 Examination

Marks 80

Duration: 3 hrs.

S. No.	Typology of Questions	Very Short Answer MCQ 1 Mark	Short Answer I 3 Marks	Short Answer II 4 Marks	Long Answer I 6 Marks	Long Answer II 8 Marks	Marks	%
1.	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	3	1	2	1	-	20	25
2.	Understanding- (Comprehension - to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)	2	-	1	1	1	20	25
3.	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)	-	2	1	1	-	16	20
4.	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources)	2	-	-	1	1	16	20
5.	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)	1	1	1	-	-	08	10
	TOTAL	8x1=8	4x3=12	5x4=20	4x6=24	2x8=16	80(23) +20 Project	100

20. ENTREPRENEURSHIP (CODE NO. 066)

Rationale

Development of school curriculum is a dynamic process responsive to the society and reflecting the needs and aspiration of its learners. Fast changing society deserves changes in educational curriculum particularly to establish relevance to emerging socio-economic environment; to ensure equity of opportunity and participation and finally promoting concern for excellence. In this context the course on entrepreneurship aims at instilling and stimulating human urge for excellence by realizing individual potential for generating and putting to use the inputs, relevant to social prosperity and thereby ensure decent means of living for every individual.

Objectives:

- Acquiring Entrepreneurial spirit and resourcefulness
- Familiarization with various uses of human resource for earning dignified means of living
- Understanding the concept and process of entrepreneurship - its contribution in and role in the growth and development of individual and the nation
- Acquiring entrepreneurial quality, competency and motivation
- Learning the process and skills of creation and management of entrepreneurial venture

CLASS–XI (2013-14)

S. No.	Unit	Marks	Periods
1.	Entrepreneurship, What, Why and How	15	15
2.	An Entrepreneur		25
3.	Entrepreneurial Journey	20	30
4.	Entrepreneurship as Innovation and Problem Solving		30
5.	Understanding the Market	15	40
6.	Business Arithmetic	20	30
7.	Resource Mobilization		30
	PROJECT WORK	30	40
Total		100	240

THEORY

Total Marks :70

Unit 1: Entrepreneurship: What, Why and How

15 Periods

- Entrepreneurship- Concept, Functions, Need and Importance.
- Myths about Entrepreneurship
- Pros and Cons of Entrepreneurship
- Process of Entrepreneurship.

Unit 2: An Entrepreneur

25 Periods

- Types of Entrepreneurs

- Competencies and Characteristics; Ethical Entrepreneurship.
- Entrepreneurial Value: Values, Attitudes and Motivation.
- Mindset of an Employee and an Entrepreneur- Difference
- Intrapreneur: Importance in Any Organization.

Unit 3: Entrepreneurship Journey

30 Periods

- Self Assessment of Qualities, Skills, Resources and Dreams.
- Generation of Ideas.
- Feasibility Study
- Opportunity Assessment
- Business Plan Preparation
- Execution of Business Plan
- Role of Society and Family in the growth of an entrepreneur.
- Challenges faced by women in Entrepreneurship.

Unit 4: Entrepreneurship as Innovation and Problem Solving

30 Periods

- Entrepreneurs- as problem solvers.
- Innovations and Entrepreneurial Ventures .
- Social Entrepreneurship-Concept and Importance
- Risk taking -Concept ; types of business risks.
- The role of technology/ social media in creating new forms of firms, organizations, networks and cooperative clusters.
- Barriers to Entrepreneurship
- Support structure for promoting entrepreneurship(various goverment schemes).

Unit 5: Understanding the Market

40 Periods

- Market- Traditional and E-commerce- Concept and Role
- Types of Business: Manufacturing, Trading and Services.
- Market Forces: Sellers, consumers and competitors.
- Expanding Markets : Local to global, Strategies needed.
- Marketing Mix : Concept and Elements.
- Pricing and Factors affecting pricing.
- Market Survey: Concept, Importance and Process.

Unit 6: Business Arithmetic

30 Periods

- Simplified Cash Register and Record Keeping
- Unit of Sale, Unit Price and Unit Cost - for single product or service
- Types of Costs - Start up, Variable and Fixed
- Income Statement
- Cashflow Projections

- Break Even Analysis - for single product or service
- Taxes

Unit 7: Resource Mobilization

30 Periods

- Types of Resources - Human, Capital and other Resources
- Selection and utilization of human resources and professionals like Accountants, Lawyers, Auditors, Board Members, etc.
- Role and Importance of a Mentor
- Estimating Financial Resources required.
- Methods of meeting the financial requirements.
- Size and capital based classification of business enterprises.
- Various sources of Information

Project Work (Any Three)

40 Periods

- 1) Visit and report of DIC
- 2) Case Study
- 3) Field Visit
- 4) Learn to earn

Refer to the guidelines issued by CBSE.

QUESTION PAPER DESIGN 2013-14									
ENTREPRENEURSHIP			CODE NO.066				CLASS-XI		
TIME: 3 Hours			Max. Marks: 70						
S. NO	Typology of Questions	Learning outcomes & testing skills	Very Short Answer (VSA) (1 Mark)	Short Answer-I (SA-I) (2 Marks)	Long Answer 1 (LA-1) (3 Marks)	Long Answer 2 (LA-2) (4 Marks)	Essay Type (6 Marks)	Total Marks	% Weightage
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	<ul style="list-style-type: none"> • Reasoning • Analytical skills • Critical skills 	2	1	2	1	-	14	20%
02	Understanding- (Comprehension –to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		1	1	1	1	-	10	14%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		1	2	1	-	2	20	29%
04	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources)		1	1	2	-	1	15	21%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		-	-	1	1+1 (Values-based)	-	11	16%
	TOTAL- 3 project (10 marks each) 30			5X1=5	5×2=10	7x3=21	4X4=16	3x6=18	70 (24) (project) (30)
	Estimated Time (in minutes)		5 min	15 min	42 min	48 min	55 min	165 min + 15 min. for revision	

ENTREPRENEURSHIP (CODE NO. 066)
CLASS–XII (2014-15)

S. No.	Unit	Marks	Periods
1.	Entrepreneurial Opportunities	30	40
2.	Enterprise Planning		40
3.	Enterprise Marketing	20	40
4.	Enterprise Growth Strategies		20
5.	Business Arithmetic	20	40
6.	Resource Mobilization		20
	Project Work	30	40
Total		100	240

THEORY

Total Marks: 70

Unit 1: Entrepreneurial Opportunities

40 Periods

- Sensing Entrepreneurial Opportunities
- Environment Scanning
- Problem Identification
- Spotting Trends
- Creativity and Innovation
- Selecting the Right Opportunity

Unit 2: Enterprise Planning

40 Periods

- Forms of Business Entities – Sole proprietorship, Joint Stock Company, etc.
- Business Plan
- Organisational
- Operational and production
- Financial
- Marketing Plan
- Human Resource Planning
- Creating the Plan
- Formalities for starting a business

Unit 3: Enterprise Marketing

40 Periods

- Goals of Business; Goal Setting. SMART Goals
- Marketing and Sales strategy
- Branding - Business name, logo, tag line
- Promotion strategy
- Negotiations - Importance and methods
- Customer Relations

- Employee and Vendor Management
- Quality, Timeliness and Customer Satisfaction
- Business Failure - Reasons

Unit 4: Enterprise Growth Strategies

20 Periods

- Franchising
- Merger and Acquisition
- Moving up the Value Chain and Value Addition

Unit 5: Business Arithmetic

40 Periods

- Unit of Sale, Unit Cost, Unit Price for multiple products or services
- Break Even Analysis for multiple products or services
- Importance and use of cash flow projections
- Budgeting and managing the finances
- Computation of working capital
- Inventory control and EOQ
- Return on Investment (ROI) and Return on Equity (ROE)

Unit 6: Resource Mobilization

20 Periods

- Angel Investor
- Venture Capital Funds
- Stock Market - raising funds
- Institutions
- Specialized Financial

Project Work

40 Periods

- 1) Business Plan
- 2) Survey

Refer to the Guidelines issued by CBSE

Prescribed Books:

01. Entrepreneurship - Class XI - C.B.S.E, Delhi
02. Entrepreneurship - Class XII - C.B.S.E., Delhi
03. Udyamita (in Hindi) by Dr. MMP. Akhoury and
S.P Mishra, pub. By National Institute for Entrepreneurship and Small Business Development (NIESBUD),
NSIC-PATC Campus, Okhla
04. Entrepreneurial Development by C.B Gupta and N.P Srinivasan, Publisher Sultan Chand & Sons, 1992
05. Everyday Entrepreneurs - The harbingers of Prosperity and creators of Jobs - Dr. Aruna Bhargava.

Magazines

01. Udyamita Samachar Patra (Monthly, Hindi), Pub. By centre for Entrepreneurship Development, M.P. (CEDMAP), 60 Jail Road, Jhangerbad, Bhopal-462008.
02. Science Tec. Entrepreneur (A Bi Monthly Publication), centre for Enterprenurship Development, M.P (CEDMAP), 60 Jail Road, Jhangerbad, Bhopal - 462008
03. Laghu Udhog Samachar
04. Project Profile by DCSSI

QUESTION PAPER DESIGN 2014-15									
ENTREPRENEURSHIP			CODE NO.066				CLASS-XII		
TIME: 3 Hours			Max. Marks: 70						
S. NO	Typology of Questions	Learning outcomes & testing skills	Very Short Answer (VSA) (1 Mark)	Short Answer-I (SA-I) (2 Marks)	Long Answer 1 (LA-1) (3 Marks)	Long Answer 2 (LA-2) (4 Marks)	Essay Type (6 Marks)	Total Marks	% Weightage
01	Remembering- (Knowledge based) Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	<ul style="list-style-type: none"> • Reasoning • Analytical skills • Critical skills 	2	1	2	1	-	14	20%
02	Understanding- (Comprehension - to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		1	1	1	1	-	10	14%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		1	2	1	-	2	20	29%
04	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources)		1	1	2	-	1	15	21%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		-	-	1	1+1 (Values-based)	-	11	16%
	TOTAL- 2 project (15 marks each) 30		5X1=5	5x2=10	7x3=21	4X4=16	3x6=18	70 (24) (project) (30)	100%
	Estimated Time (in minutes)		5 min	15 min	42 min	48 min	55 min	165 min + 15 min. for revision	

21. HISTORY (CODE NO. 027)

Rationale

Through a focus on a series of critical historical issues and debates (class XI) or on a range of important historical sources (class XII), the students would be introduced to a set of important historical events and processes. A discussion of these themes, it is hoped, would allow students not only to know about these events and processes, but also to discover the excitement of reading history.

Objectives:

- Effort in these senior secondary classes would be to emphasize to students that history is a critical discipline, a process of enquiry, a way of knowing about the past, rather than just a collection of facts. The syllabus would help them to understand the process through which historians write history, by choosing and assembling different types of evidence, and by reading their sources critically. They will appreciate how historians follow the trails that lead to the past, and how historical knowledge develops.
- The syllabus would also enable students store late/compare developments in different situations, analyze connections between similar processes located in different time periods, and discover the relationship between different methods of enquiry within history and the allied disciplines.
- The syllabus in class XI is organized around some major themes in the world history. The themes have been selected so as to (i) focus on some important developments in different spheres-political, social, cultural and economic,(ii) study not only the grand narratives of development-urbanization, industrialization and modernization-but also to know about the processes of displacements and marginalization. Through the study of these themes students will acquire a sense of the wider historical processes as well as an idea of the specific debates around them.
- The treatment of each theme in class XI would include (a) an overview of the theme under discussion, (b) a more detailed focus on one region of study, (c)an introduction to a critical debate associated with the issue.
- In class XII the focus will shift to a detailed study of some themes in ancient, medieval and modern Indian history although the attempt is to soften the distinction between what is conventionally termed as ancient, medieval and modern. The object would be to study a set of these themes in some detail and depth rather than survey the entire chronological span of Indian history. In this sense the course will be built on the knowledge that the students have acquired in the earlier classes.
- Each theme in class XII will also introduce the students to one type of source for the study of history. Through such a study students would begin to see what different types of sources can reveal and what they cannot tell. They would come to know how historians analyze these sources, the problems and difficulties of interpreting each type of source, and the way a larger picture of an event, a historical process, or a historical figure, is built by looking at different types of sources.
- Each theme for class XII will be organized around four sub heads: (a) a detailed overview of the events, issues and processes under discussion, (b) a summary of the present state of research on the theme, (c) an account of how knowledge about the theme has been acquired, (d) an excerpt from a primary source related to the theme, explaining how it has been used by historians.
- While the themes in both these classes (XI and XII) are arranged in a broad chronological sequence, there are overlaps between them. This is intended to convey a sense that chronological divides and periodization do not always operate in a neat fashion.
- In the text books each theme would be located in a specific time and place. But these discussions would be situated within a wider context by (a) plotting the specific event within time-lines, (b) discussing the particular event or process in relation to developments in other places and other times.

CLASS-XI (2013 - 14)

Paper One

100 Marks
Time: 3 hours

S. No.	Units	Periods	Marks
1.	Introduction to World History	8	
Section A: Early Societies		40	15
2.	Introduction	7	
3.	From the beginning of time	18	
4.	Early cities	15	
Section B: Empires		50	20
5.	Introduction	7	
6.	An empire across three continents	15	
7.	Central Islamic lands	15	
8.	Nomadic Empires	13	
Section C: Changing Traditions		50	20
9.	Introduction	7	
10.	Three orders	14	
11.	Changing cultural traditions	15	
12.	Confrontation of cultures	14	
Section D: Paths to Modernization		52	20
13.	Introduction	7	
14.	The Industrial Revolution	15	
15.	Displacing indigenous People	15	
16.	Paths to modernization	15	
	● Map work (units 1-16)	10	5
	● Project Work	10	20
Note:- Value Based Question can be taken from any of the above Section- A , B, C, D---- 05 Marks. Accordingly, teacher can reduce weightage of the corresponding sections.			
	Total	220 Periods	100 marks

Class XI: Themes in World History

Themes	Periods	Objectives
1. Introduction to World History	(8)	
SECTION A: EARLY SOCIETIES	(40)	
2. Introduction	(7)	
3. From the Beginning of Time	(18)	<ul style="list-style-type: none"> □ Familiarize the learner with ways of reconstructing human evolution. Discuss whether the experience of present-day hunting-gathering people can be used to understand early societies.
Focus: Africa, Europe till 15000 BC (a) Views on the origin of human beings. (b) Early societies. (c) Historians' views on present-day hunting-gathering societies.		
4. Early Cities	(15)	<ul style="list-style-type: none"> □ Familiarize the learner with the nature of early urban centres. □ Discuss whether writing is significant as a marker of civilization.
Focus: Iraq, 3rd millennium BC (a) Growth of towns. (b) Nature of early urban societies. (c) Historians' Debate on uses of writing.		
SECTION B: EMPIRES	(50)	
5. Introduction	(7)	
6. An Empire across Three Continents	(15)	<ul style="list-style-type: none"> □ Familiarize the learner with the history of a major world empire □ Discuss whether slavery was a significant element in the economy.
Focus: Roman Empire, 27 B.C to A.D 600. (a) Political evolution (b) Economic expansion (c) Religion (d) Late Antiquity. (e) Historians' views on the institution of Slavery.		
7. Central Islamic Lands	(15)	<ul style="list-style-type: none"> □ Familiarize the learner with the rise of Islamic empires in the Afro-Asian territories and its implications for economy and society. □ Understand what the crusades meant in these regions and how they were experienced.
Focus: 7th to 12th centuries (a) Polity (b) Economy (c) Culture. (d) Historians' viewpoints on the nature of the crusades.		
8. Nomadic Empires	(13)	<ul style="list-style-type: none"> □ Familiarize the learner with the varieties of nomadic society and their institutions. □ Discuss whether state formation is possible in nomadic societies.
Focus: the Mongol, 13th to 14th century (a) The nature of nomadism. (b) Formation of empires. (c) Conquests and relations with other states. (d) Historians' views on nomadic societies and state formation.		

Themes	Objectives
SECTION C: CHANGING TRADITIONS (50)	
9. Introduction (7)	
10. Three Orders (14) Focus: Western Europe, 13th-16th century (a) Feudal society and economy. (b) Formation of states. (c) Church and Society. (d) Historians' views on decline of feudalism.	<ul style="list-style-type: none"> □ Familiarize the learner with the nature of the economy and society of this period and the changes within them. □ Show how the debate on the decline of feudalism helps in understanding processes of transition.
11. Changing Cultural Traditions (15) Focus on Europe, 14th to 17th century. (a) New ideas, and new trends in literature and arts. (b) Relationship with earlier ideas (c) The contribution of West Asia. (d) Historians' viewpoints on the validity of the notion 'European Renaissance'.	<ul style="list-style-type: none"> □ Explore the intellectual trends in the period. □ Familiarize students with the paintings and buildings of the period □ Introduce the debate around the idea of 'Renaissance'.
12. Confrontation of Cultures (14) Focus on America, 15th to 18th century. (a) European voyages of exploration. (b) Search for gold; enslavement, raids, extermination. (c) Indigenous people and cultures - the Arawaks, the Aztecs, the Incas. (d) The history of displacements. (e) Historians' viewpoints on the slave trade.	<ul style="list-style-type: none"> □ Discuss changes in the European economy that led to the voyages. □ Discuss the implications of the conquests for the indigenous people. □ Explore the debate on the nature of the slave trade and see what this debate tells us about the meaning of these "discoveries".
SECTION D:	
PATHS TO MODERNIZATION (52)	
13. Introduction (7)	<ul style="list-style-type: none"> □ Understand the nature of growth in the period and its limits.
14. The Industrial Revolution (15) Focus on England, 18th and 19th century. (a) Innovations and technological change (b) Patterns of growth. (c) Emergence of a working class. (d) Historians' viewpoints, Debate on 'Was there an Industrial Revolution?'	<ul style="list-style-type: none"> □ Initiate students to the debate on the idea of industrial revolution.
15. Displacing Indigenous People (15) Focus on North America and Australia, 18th-20th century.	<ul style="list-style-type: none"> □ Sensitize students to the processes of displacements that accompanied the

Themes	Objectives
(a) European colonists in North America and Australia. (b) Formation of white settler societies. (c) Displacement and repression of local people. (d) Historians' viewpoints on the impact of European settlement on indigenous population.	development of America and Australia. □ Understand the implications of such processes for the displaced populations.
16. Paths to Modernization (15) Focus on East Asia, late 19 th and 20 th century. (a) Militarization and economic growth in Japan. (b) China and the Communist alternative. (c) Historians' Debate on the meaning of modernization	□ Make students aware that transformation in the modern world takes many different forms. □ Show how notions like 'modernization' need to be critically assessed.
17. Map Work on Units 1-16 (10)	
18. Project work - (10) periods Please refer Circular separately for guidelines. Project work will help students: <ul style="list-style-type: none"> ● To develop skill to gather data from a variety of sources, investigate diverse viewpoints and arrive at logical deductions. ● To develop skill to comprehend, analyze, interpret, evaluate historical evidence and understand the limitation of historical evidence. ● To develop 21st century managerial skills of co-ordination, self-direction and time management. ● To learn to work on diverse cultures, races, religions and lifestyles. ● To learn through constructivism-a theory based on observation and scientific study. ● To inculcate a spirit of inquiry and research. ● To communicate data in the most appropriate form using a variety of techniques. ● To provide greater opportunity for interaction and exploration. ● To understand contemporary issues in context to our past. ● To develop a global perspective and an international outlook. ● To grow into caring, sensitive individuals capable of making informed, intelligent and independent choices. ● To develop lasting interest in history discipline. 	

QUESTION PAPER DESIGN (CODE 027)
CLASS–XI (2013 - 14)

Paper One

100 Marks
Time: 3 hours

S. No.	Units	Periods	Marks
1.	Introduction to World History	8	
Section A: Early Societies		40	15
2.	Introduction	7	
3.	From the beginning of time	18	
4.	Early cities	15	
Section B: Empires		50	20
5.	Introduction	7	
6.	An empire across three continents	15	
7.	Central Islamic lands	15	
8.	Nomadic Empires	13	
Section C: Changing Traditions		50	20
9.	Introduction	7	
10.	Three orders	14	
11.	Changing cultural traditions	15	
12.	Confrontation of cultures	14	
Section D: Paths to Modernization		52	20
13.	Introduction	7	
14.	The Industrial Revolution	15	
15.	Displacing indigenous People	15	
16.	Paths to modernization	15	
	● Map work (units 1-16)	10	5
	● Project Work	10	20
Note:- Value Based Question can be taken from any of the above Section- A , B, C, D---- 05 Marks. Accordingly, teacher can reduce weightage of the corresponding sections.			
	Total	220	100 marks

QUESTION PAPER DESIGN 2013-14									
HISTORY			Code No.027				Class- XI		
Time: 3 Hours			Max. Marks: 80						
S. No.	Typology of Questions	Learning outcomes and Testing Competencies	V. Short Answer - (2 Marks)	Short Answer - (4 Marks)	Passage Based (5 Marks)	Long Answer (8 Marks)	Map Skill (5 Marks)	Marks	% Weightage
1.	Remembering- (Knowledge based simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	<ul style="list-style-type: none"> Reasoning Analytical Skills Map identification skills , etc. 	1	1	1	1		19	24%
2.	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)		1	1		1		14	17%
3.	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem) (Map skill based questions- Identification, location, significance.)		1	1 (value based)	1	1	1	24	30%
4.	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources)		1	1	1	1		19	24%
5.	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)				1			4	5%
Total			$4 \times 2 = 8$	$5 \times 4 = 20$	$3 \times 5 = 15$	$4 \times 8 = 32$	$1 \times 5 = 5$	80	100%

I. Weightage to content

Section A: Early Societies	15 Marks
Section B : Empires	20 Marks
Section C: Changing Traditions	20 Marks
Section D: Paths to Modernization	20 Marks
Map Work Unit 1- 16	5 Marks
Project Work	20 marks
Note:- Value Based Question can be taken from any of the above Section- A , B, C, D--- 04 Marks	
Accordingly teacher can reduce weightage of the corresponding sections	
Total	100 Marks

II. Weightage to Difficulty level

Estimated Difficulty Level	Percentage
(i) Easy (E)	30%
(ii) Average (AV)	50%
(iii) Difficult (D)	20%

Scheme of Option: No internal choice except for blind students.

III. Division of Question Paper

The Question paper will be divided into A, B, C, D and E.

- **Part A** will carry 4 very short answer questions of 2 marks each.
- **Part B 'Section-I'** will carry 5 short answer questions of 4 marks each students should answer any four from section I.
- **Part B 'Section II'** is a value based compulsory question.
- **Part C** will carry 4 long questions of 8 marks each (word limit '350').
- **Part D** will carry 3 passage -based questions. The number of questions will be three, carrying 5 marks each (no internal choice). The passages will be taken from the textbooks as directed therein.
- **Part E** will have 1 map question of 5 marks. Items covered are 'identification and significance'.

IV. Scheme of Option

Part A will have no choice.

Part B will be divided into 2 sections (from 4 sections of the book) + 1 value based Section.

- Section I will have 5 questions from all the four sections, out of which the student will attempt any 4 questions.
- Section-II -One question will be a value based question which is a compulsory question.

Part C will carry four long answer questions. The number of questions will be 5 carrying 8 marks each. (Each question from four sections). Student will have to answer any four questions.

Part D will be passage-based questions. There will be THREE passages, ONE from each section followed by questions. There will be no internal choice.

In Part E, there will be one map question -Test items will be 'identification and significance'.

VI. Weightage of marks section-wise

	VSA 2 MARKS	SA 4 MARKS	Passage based	LONG ANSWER	Map questions	TOTAL
Section A: Early Societies	2(1)	4(1)		8(1)		14 Marks
Section B: Empires	2(1)	4(1)	5(1)	8(1)		19 Marks
Section C: Changing Traditions	2(1)	4(1)	5(1)	8(1)		19 Marks
Section D: Paths to Modernization	2(1)	4(1) 4 (1)(value based from any section)	5(1)	8(1)		19 Marks + 4 marks value question =23
Map Work Unit 1- 16					5(1)	5 Marks
Project work -						20 marks
	4x2=8	5x4=20	5x3=15	8x4=32	5x1=5	(80+20=100)
(Note: Value Based Question can be from Section A, B, C, D any carry 04 marks. Accordingly teacher can reduce weightage of the corresponding sections.)						

HISTORY (027)
Class XII, Syllabus (2014-15)

Paper One

100 Marks

Units	Periods	Marks
<ul style="list-style-type: none"> ● Themes in Indian History Part-I Units 1 - 4 	55	25
<ul style="list-style-type: none"> ● Themes in Indian History Part-II Units 5 - 9 	65	25
<ul style="list-style-type: none"> ● Themes in Indian History Part-III Units 10 - 15 	80	25
<ul style="list-style-type: none"> ● Unit 16 : Map Work 	10	5
<ul style="list-style-type: none"> ● Project work 	10	20
	220	100
<p>Note: There is no change in the syllabus. Value Based Question can be from Part-1, 2, 3 textbooks and carry 04 marks. Accordingly teacher can reduce weightage of the corresponding section.</p>		

Class XII: Themes in Indian History	
Themes	Objectives
<p>PART - I (Periods 55)</p>	
<p>1. The Story of the First Cities: Harappan Archaeology. (13) Broad overview: Early urban centres. Story of discovery: Harappan civilization Excerpt: Archaeological report on a major site. Discussion: How it has been utilized by archaeologists/historians.</p>	<ul style="list-style-type: none"> □ Familiarize the learner with early urban centres as economic and social institutions. □ Introduce the ways in which new data can lead to a revision of existing notions of history. □ Illustrate how archaeological reports are analyzed and interpreted by scholars.
<p>2. Political and Economic History: How Inscriptions tell a story. (14) Broad overview: Political and economic history from the Mauryan to the Gupta period. Story of discovery: Inscriptions and the decipherment of the script. Shifts in the understanding of political and economic history. Excerpt: Asokan inscription and Gupta period land grant. Discussion: Interpretation of inscriptions by historians.</p>	<ul style="list-style-type: none"> □ Familiarize the learner with major trends in the political and economic history of the subcontinent. □ Introduce inscriptional analysis and the ways in which these have shaped the understanding of political and economic processes.

Themes	Objectives
<p>3. Social Histories: Using the Mahabharata (14)</p> <p>Broad overview: Issues in social history, including caste, class, kinship and gender.</p> <p>Story of discovery: Transmission and publications of the Mahabharata.</p> <p>Excerpt: from the Mahabharata, illustrating how it has been used by historians.</p> <p>Discussion: Other sources for reconstructing social history.</p>	<ul style="list-style-type: none"> □ Familiarize the learner with issues in social history. □ Introduce strategies of textual analysis and their use in reconstructing social history.
<p>4. A History of Buddhism: Sanchi Stupa (14)</p> <p>Broad overview:</p> <p>(a) A brief review of religious histories of Vedic religion, Jainism, Vaisnavism, Saivism.</p> <p>(b) Focus on Buddhism.</p> <p>Story of discovery: Sanchi stupa</p> <p>Excerpt: Reproduction of sculptures from Sanchi.</p> <p>Discussion: Ways in which sculpture has been interpreted by historians, other sources for reconstructing the history of Buddhism.</p>	<ul style="list-style-type: none"> □ Discuss the major religious developments in early India. □ Introduce strategies of visual analysis and their use in reconstructing histories of religion.
<p>PART-II (Periods 65)</p>	
<p>5. Agrarian Relations: The Ain-i- Akbari (13)</p> <p>Broad overview:</p> <p>(a) Structure of agrarian relations in the 16th and 17th centuries.</p> <p>(b) Patterns of change over the period.</p> <p>Story of Discovery: Account of the compilation and translation of Ain-i-Akbari.</p> <p>Excerpt: from the Ain-i-Akbari</p> <p>Discussion: Ways in which historians have used the text to reconstruct history.</p>	<ul style="list-style-type: none"> □ Discuss developments in agrarian relations. □ Discuss how to supplement official documents with other sources.
<p>6. The Mughal Court: Reconstructing Histories through Chronicles (13)</p> <p>Broad overview:</p> <p>(a) Outline of political history 15th-17th centuries.</p> <p>(b) Discussion of the Mughal court and politics.</p> <p>Story of Discovery: Account of the production of court chronicles, and their subsequent translation and transmission.</p> <p>Excerpts: from the Akbarnama and Padshahnama.</p>	<ul style="list-style-type: none"> □ Familiarize the learner with the major landmarks in political history. □ Show how chronicles and other sources are used to reconstruct the histories of political institutions.

Themes	Objectives
<p>Discussion: Ways in which historians have used the texts to reconstruct political histories.</p> <p>7. New Architecture: Hampi (13) Broad overview:</p> <p>(a) Outline of new buildings during Vijayanagar period-temples, forts, irrigation facilities.</p> <p>(b) Relationship between architecture and the political system.</p> <p>Story of Discovery: Account of how Hampi was found.</p> <p>Excerpt: Visuals of buildings at Hampi</p> <p>Discussion: Ways in which historians have analyzed and interpreted these structures.</p> <p>8. Religious Histories: The Bhakti-Sufi Tradition (13) Broad overview:</p> <p>(a) Outline of religious developments during this period.</p> <p>(b) Ideas and practices of the Bhakti-Sufi saints.</p> <p>Story of Transmission: How Bhakti-Sufi compositions have been preserved.</p> <p>Excerpt: Extracts from selected Bhakti-Sufi works.</p> <p>Discussion: Ways in which these have been interpreted by historians.</p> <p>9. Medieval Society through Travelers' Accounts (13) Broad overview:</p> <p>Outline of social and cultural life as they appear in travelers' accounts.</p> <p>Story of their writings: A discussion of where they travelled, why they travelled, what they wrote, and for whom they wrote.</p> <p>Excerpts: from Alberuni, Ibn Batuta, Bernier.</p> <p>Discussion: What these travel accounts can tell us and how they have been interpreted by historians.</p> <p style="text-align: center;">PART - III (Periods 80)</p> <p>10. Colonialism and Rural Society: Evidence from Official Reports (13) Broad overview:</p> <p>(a) Life of zamindars, peasants and artisans in the late 18th century</p>	<p>□ Familiarize the learner with the new buildings that were built during the time.</p> <p>□ Discuss the ways in which architecture can be analyzed to reconstruct history.</p> <p>□ Familiarize the learner with religious developments.</p> <p>□ Discuss ways of analyzing devotional literature as sources of history.</p> <p>□ Familiarize the learner with the salient features of social histories described by the travelers.</p> <p>□ Discuss how travelers' accounts can be used as sources of social history.</p> <p>□ Discuss how colonialism affected zamindars, peasants and artisans.</p>

Themes	Objectives
<p>(b) East India Company, revenue settlements and surveys.</p> <p>(c) Changes over the nineteenth century.</p> <p>Story of official records: An account of why official investigations into rural societies were undertaken and the types of records and reports produced.</p> <p>Excerpts: From Firminger's Fifth Report, Accounts of Frances Buchanan-Hamilton, and Deccan Riots Report.</p> <p>Discussion: What the official records tell and do not tell, and how they have been used by historians.</p>	<p>□ Understand the problems and limits of using official sources for understanding the lives of people.</p>
<p>11. Representations of 1857 (13)</p> <p>Broad overview:</p> <p>(a) The events of 1857-58.</p> <p>(b) How these events were recorded and narrated.</p> <p>Focus: Lucknow.</p> <p>Excerpts: Pictures of 1857. Extracts from contemporary accounts.</p> <p>Discussion: How the pictures of 1857 shaped British opinion of what had happened.</p>	<p>□ Discuss how the events of 1857 are being reinterpreted.</p> <p>□ Discuss how visual material can be used by historians.</p>
<p>12. Colonialism and Indian Towns: Town Plans and Municipal Reports (13)</p> <p>Broad overview: The growth of Mumbai, Chennai, hill stations and cantonments in the 18th and 19th centuries.</p> <p>Excerpts: Photographs and paintings. Plans of cities. Extract from town plan reports. Focus on Kolkata town planning.</p> <p>Discussion: How the above sources can be used to reconstruct the history of towns. What these sources do not reveal.</p>	<p>□ Familiarize the learner with the history of modern urban centres. Discuss how urban histories can be written by drawing on different types of sources.</p>
<p>13. Mahatma Gandhi through Contemporary Eyes (13)</p> <p>Broad overview:</p> <p>(a) The Nationalist Movement 1918 - 48.</p> <p>(b) The nature of Gandhian politics and leadership.</p> <p>Focus: Mahatma Gandhi in 1931.</p> <p>Excerpts: Reports from English and Indian language newspapers and other contemporary writings.</p> <p>Discussion: How newspapers can be a source of history.</p>	<p>□ Familiarize the learner with significant elements of the Nationalist Movement and the nature of Gandhian leadership.</p> <p>□ Discuss how Gandhi was perceived by different groups.</p> <p>□ Discuss how historians need to read and interpret newspapers, diaries and letters as historical source.</p>

Themes	Objectives
<p>14. Partition through Oral Sources (14)</p> <p>Broad overview:</p> <p>(a) The history of the 1940s.</p> <p>(b) Nationalism, Communalism and Partition. Focus: Punjab and Bengal.</p> <p>Excerpts: Oral testimonies of those who experienced partition.</p> <p>Discussion: Ways in which these have been analyzed to reconstruct the history of the event.</p>	<ul style="list-style-type: none"> □ Discuss the last decade of the national movement, the growth of communalism and the story of partition. □ Understand the events through the experience of those who lived through these years of communal violence. □ Show the possibilities and limits of oral sources.
<p>15. The Making of the Constitution (14)</p> <p>Broad overview:</p> <p>(a) Independence and the new nation state.</p> <p>(b) The making of the Constitution.</p> <p>Focus: The Constitutional Assembly debates.</p> <p>Excerpts: from the debates.</p> <p>Discussion: What such debates reveal and how they can be analyzed.</p>	<ul style="list-style-type: none"> □ Familiarize students with the history of the early years after independence. □ Discuss how the founding ideals of the new nation state were debated and formulated. □ Understand how such debates and discussions can be read by historians.
<p>16. Map Work on Units 1-15 (10)</p>	
<p>17. Project Work (10 periods)</p> <p>Please refer Circular for project work guidelines.</p> <p>Project work will help students:</p> <ul style="list-style-type: none"> ● To develop skill to gather data from a variety of sources, investigate diverse viewpoints and arrive at logical deductions. ● To develop skill to comprehend, analyze, interpret, evaluate historical evidence and understand the limitation of historical evidence. ● To develop 21st century managerial skills of co-ordination, self-direction and time management. ● To learn to work on diverse cultures, races, religions and lifestyles. ● To learn through constructivism-a theory based on observation and scientific study. ● To inculcate a spirit of inquiry and research. ● To communicate data in the most appropriate form using a variety of techniques. ● To provide greater opportunity for interaction and exploration. ● To understand contemporary issues in context to our past. ● To develop a global perspective and an international outlook. ● To grow into caring, sensitive individuals capable of making informed, intelligent and independent choices. ● To develop lasting interest in history discipline. 	

HISTORY (027)
Class XII (2014-15)
Design of the Question Paper

Paper One

100 Marks

Units	Periods	Marks
● Themes in Indian History Part-I Units 1 - 4	55	25
● Themes in Indian History Part-II Units 5 - 9	65	25
● Themes in Indian History Part-III Units 10 - 15	80	25
● Unit 16 : Map Work	10	5
● Project Work	10	20
	220	100
Note: There is no change in the syllabus. Value Based Question can be from Part-1, 2, 3 textbooks and carry 04 marks. Accordingly teacher can reduce weightage of the corresponding sections.		

QUESTION PAPER DESIGN 2014-15									
HISTORY			Code No.027				Class- XII		
Time: 3 Hours			Max. Marks: 80						
S. No.	Typology of Questions	Learning outcomes and Testing Competencies	V. Short Answer - (2 Marks)	Short Answer - (4 Marks)	Source Based (7 Marks)	Long Answer (8 Marks)	Map Skill (5 Marks)	Marks	% Weightage
6.	Remembering- (Knowledge based simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	<ul style="list-style-type: none"> Reasoning Analytical Skills Map identification skills, etc. 	1	1	1	1		21	26%
7.	Understanding- (Comprehension –to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)		1	1		1		14	18%
8.	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem) (Map skill based questions- Identification, location, significance.)		-	1 (value based) +1	1	-	1	20	25%
9.	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources)		1	1	1	1		21	26%
10.	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)				1			4	5%
			One from each book	Two from each book	Each theme on question	Each theme one question			
Total			3×2=6	6×4=24	3×7= 21	3×8=24	1×5 =5	80	100%

Note: Each source based question will have 3 questions with marks ranging from 1-4.

I. Weightage to content

Themes in Indian History (Part I)	25 Marks
Themes in Indian History (Part II)	25 Marks
Themes in Indian History (Part III)	25 Marks
Map Work	5 Marks
Project work	20 marks
Note:- Value Based Question can be taken from any of the above theme I,II,or III ----	
04 Marks	
Total	100 Marks

II. Weightage to Difficulty level

Estimated Difficulty Level	Percentage
(i) Easy (E)	30%
(ii) Average (AV)	50%
(iii) Difficult (D)	20%

Scheme of Option: No internal choice except for blind students.

III. Division of Question Paper

The Question paper will be divided into A, B, C, D and E.

- Part A will carry 3 very short answer questions of 2 marks each.
- Part B 'Section-I' will carry 6 short answer questions of 4 marks each, out of which one is a value based compulsory question. (Part-B' Section-II', Value based)
(No change in the syllabus)
- Part C will carry 3 long answer questions of 8 marks each (word limit '350').
- Part D will carry three source -based questions. The number of questions will be three, carrying 7 marks each (no internal choice). The sources will be taken from the textbooks as directed therein.
- Part E will have 1 map question of 5 marks. Items covered are identification and significance.

IV. Scheme of Option

Part A will have no choice.

Part B will be divided into 2 sections (3 books) + 1 value based section.

- **Section I** will have 6 questions from all the three books, out of which the student will attempt any 5 questions.
- **Section-II** -One question will be a value based question which is a compulsory question.

Part C will carry three long answer questions. The number of questions will be 4, carrying 8 marks each. (Each question from three themes). Student will have to answer any three questions.

Part D will be source-based questions. There will be THREE sources, ONE from each book followed by questions. There will have "no internal choice".

In Part E, there will be one map question -Test items will be 'identification' and 'significance'.

There is no change in the list of Maps.

X. Weightage of Marks Book-wise

	VSA 2 MARKS	SA 4 MARKS	SOURCE BASED 7 MARKS	Marks	LONG ANSWER 8 MARKS	TOTAL
Book I (Ancient India)	2(1)	4+4	7(1)		8(1)	25
Book II (Medieval India)	2(1)	4+4	7(1)		8(1)	25
Book III (Modern India)	2(1)	4+4	7(1)		8(1)	25
Map				5x1		5
Project work -						20
	2x3=6	4x6=24	7x3=21	5	8x3=24	100

(**Note:** Value Based Question can be from Part-1, 2, 3 textbooks and carry 04 marks. Accordingly teacher can reduce weightage of the corresponding sections.)

LIST OF MAPS

Book 1

- P-2. Mature Harappan sites: Harappa, Banawali, Kalibangan, Balakot, Rakhigadi, Dholavira, Nageshwar, Lothal, Mohenjodaro, Chanhudaro, Kot Diji.
- P-30. Mahajanapada and cities :
Vajji, Magadha, Koshala, Kuru, Panchala, Gandhara, Avanti, Rajgir, Ujjain, Taxila, Varanasi.
- P-33. Distribution of Ashokan inscriptions :
 - Kushans, Shakas, Satvahana, Vakatakas, Guptas
 - Cities/towns : Mathura, Kanauj, Puhar, Brahukachchha
 - Pillar inscriptions - Sanchi, Topra, Meerut, Pillar, Kaushambi.
 - Kingdom of Cholas, Keralaputras and Pandyas.
- P-43. Important kingdoms and towns :
 - Kushans, Shakas, Satvahana, Vakarakas, Guptas
 - Cities/towns: Mathura, Kanauj, Puhar, Brahukachchha, Shrivasti, Rajgir, Vaishali, Varanasi, Vidisha
- P-95. Major Buddhist Sites :
Nagarjunakonda, Sanchi, Amaravati, Lumbini, Nasik, Bharhut, BodhGaya, Shrivasti, Ajanta.

Book 2

1. P-174. Bidar, Golconda, Bijapur, Vijayanagar, Chandragiri, Kanchipuram, Mysore, Thanjavur, Kolar, Tirunelveli, Quilon
2. P-214. Territories under Babur, Akbar and Aurangzeb : Delhi, Agra, Panipat, Amber, Ajmer, Lahore, Goa.

Book 3

1. P-297. Territories/cities under British Control in 1857 :
Punjab, Sindh, Bombay, Madras, Fort St. David, Masulipatnam, Berar, Bengal, Bihar, Orissa, Avadh, Surat, Calcutta, Dacca, Chitagong, Patna, Benaras, Allahabad and Lucknow.
2. P-305. Main centres of the Revolt :
Delhi, Meerut, Jhansi, Lucknow, Kanpur, Azamgarh, Calcutta, Benaras, Jabalpur, Agra.
3. P-305. Important centres of the National Movement:
Champaran, Kheda, Ahmedabad, Benaras, Amritsar, Chauri Chaura, Lahore, Bardoli, Dandi, Bombay(Quit India Resolution), Karachi.

Prescribed Books:

1. Themes in World History, Class XI, Published by NCERT
2. Themes in Indian History, Part I, Class XII, Published by NCERT
3. Themes in Indian History Part-II, Class XII, Published by NCERT
4. Themes in Indian History Part-III, Class XII, Published by NCERT

Note: The above textbooks are also available in Hindi medium.

22. POLITICAL SCIENCE (CODE NO. 028)

Rationale

At the senior secondary level students who opt Political Science are given an opportunity to get introduced to the diverse concerns of a Political Scientist. At this level there is a need to enable students to engage with political processes that surround them and provide them with an understanding of the historical context that has shaped the present. The different courses introduce the students to the various streams of the discipline of Political Science: Political Theory, Indian Politics and International Politics. Concerns of the other two streams - Comparative Politics and Public Administration- are accommodated at different places in these courses. In introducing these streams, special care has been taken not to burden the students with the current jargon of the discipline. The basic idea here is to lay the foundations for a serious engagement with the discipline at the under graduation stage.

Objectives:

Indian Constitution at Work

- Enable students to understand historical processes and circumstances in which the Constitution was drafted.
- Provide opportunity for students to be familiar with the diverse visions that guided the makers of the Indian Constitution.
- Enable students to identify the certain key features of the Constitution and compare these to other constitutions in the world.
- Analyse the ways in which the provisions of the Constitution have worked in real political life.

Political Theory

- Develop the skills for logical reasoning and abstraction.
- Inculcate attention to and respect for viewpoints other than one's own.
- Introduce students to the different political thinkers in relation to a concept and in everyday social life.
- Enable students to meaningfully participate in a concern of current political life that surrounds them.
- Encourage the students to analyse any unexamined prejudices that one may have inherited.

Contemporary World Politics

- Enable the students to expand their horizons beyond India and make sense of the political map of contemporary world.
- Familiarise the students with some of the key political events and processes in the post cold war era.
- Equip students to be conscious of the way in which global events and processes shape our everyday lives.
- Strengthen their capacity for political analysis by thinking of contemporary developments in a historical perspective.

Politics in India after Independence

- Enable students to be familiar with some of the key political events and figures in the post- independence period.
- Develop skills of political analysis through events and processes of recent history.
- Develop their capacity to link macro processes with micro situations and their own life.
- Encourage the students to take a historical perspective of making sense of the contemporary India.

POLITICAL SCIENCE (028)

Class XI, 2013-14

One Paper

Marks: 100

Time: 3 hrs.

Units	Periods-220	Marks-100
Part A: Indian Constitution at work		
1. Philosophy of the Constitution } 2. Rights of the Indian Constitution }	17 16	10
3. Election and Representation } 4. Executive }	11 11	10
5. Legislature } 6. Judiciary }	11 11	10
7. Federalism } 8. Local Governments }	11 11	10
9. Constitution as a living document	11	10
Total	110	50
Part B: Political Theory		
10. Political Theory : An Introduction } 11. Freedom }	10 11	10
12. Equality } 13. Social Justice }	11 12	10
14. Rights } 15. Citizenship }	11 11	10
16. Nationalism } 17. Secularism }	11 11	10
18. Peace } 19. Development }	11 11	10
Total	110	50

Course Content:

Part A: Indian Constitution at Work

1. **Philosophy of the Constitution** **17 Periods**
The making of the Constitution, the constituent Assembly, Procedural achievements and Philosophy of the Constitution.
2. **Rights in the Indian Constitution** **16 Periods**
The importance of Rights, Fundamental Rights in the Indian Constitution, Directive Principles of State Policy, Relationship between Fundamental Rights and Directive Principles
3. **Election and Representation** **11 Periods**
Elections and Democracy, Election System in India, Reservation of Constituencies, Free and Fair Elections, Electoral Reforms
4. **Legislature** **11 Periods**
Why do we need a Parliament? Two Houses of Parliament. Functions and Power of the Parliament, Legislative functions, control over Executive. Parliamentary committees. Self-regulation.
5. **Executive** **11 Periods**
What is an Executive? Different Types of Executive. Parliamentary Executive in India, Prime Minister and Council of Ministers. Permanent Executive: Bureaucracy.
6. **Judiciary** **11 Periods**
Why do we need an Independent Judiciary? Structure of the Judiciary, Judicial Activism, Judiciary and Rights, Judiciary and Parliament.
7. **Federalism** **11 Periods**
What is Federalism? Federalism in the Indian Constitution, Federalism with a strong Central Government, conflicts in India's federal system, Special Provisions.
8. **Local Governments** **11 Periods**
Why do we need Local Governments? Growth of Local Government in India, 73rd and 74th Amendments, implementation of 73rd and 74th Amendments.
9. **Constitution as a Living Document** **11 Periods**
Are Constitutions static? The procedure to amend the Constitution. Why have there been so many amendments? Basic Structure and Evolution of the Constitution. Constitution as a Living Document.

Part B: Political Theory

10. **Political Theory: An Introduction** **10 Periods**
What is Politics? What do we study in Political Theory? Putting Political Theory to practice. Why should we study Political Theory?
11. **Freedom** **11 Periods**
The Ideal of Freedom. What is Freedom? Why do we need constraints? Harm principle. Negative and Positive Liberty.

12. **Equality** **11 Periods**
Significance of Equality. What is Equality? Various dimensions of Equality. How can we promote Equality?
13. **Social Justice** **12 Periods**
What is Justice? Just Distribution. Justice as fairness. Pursuing Social Justice.
14. **Rights** **11 Periods**
What are Rights? Where do Rights come from? Legal Rights and the State. Kinds of Rights. Rights and Responsibilities.
15. **Citizenship** **11 Periods**
What is citizenship? Citizen and Nation, Universal Citizenship, Global Citizenship
16. **Nationalism** **11 Periods**
Nations and Nationalism, National Self-determination, Nationalism and Pluralism
17. **Secularism** **11 Periods**
What is Secularism? What is Secular State? The Western and the Indian approaches to Secularism. Criticisms and Rationale of Indian Secularism.
18. **Peace** **11 Periods**
What is Peace? Can violence ever promote peace? Peace and the State. Different Approaches to the pursuit of peace. Contemporary challenges to peace.
19. **Development** **11 Periods**
What is development? Criticism of the dominant. Development Model. Alternative conceptions of development.

Prescribed Books:

1. Indian Constitution at work, Class XI, Published by NCERT
2. Political Theory, Class XI, Published by NCERT

Note: The above textbooks are also available in Hindi and Urdu versions.

POLITICAL SCIENCE		QUESTION PAPER DESIGN 2013-14							CLASS-XI	
Time: 3 Hours		Code No.028							Max. Marks: 100	
S. No.	Typology of Questions	Learning Outcomes & Testing Skills	Very Short Answer (1 Mark)	Very Short Answer - (2 Marks)	Short Answer (4 Marks)	Long Answer I based on Passages (5 Marks)	Map Question/ Picture based interpretation (5 Marks)	Long Answer II (6 Marks)	Marks	% weightage
1	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	<ul style="list-style-type: none"> Reasoning Analytical Skills Critical thinking 		1	2		-	2	22	22%
2	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)		2		2	1		1	21	21%
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		1	1		1	1	2	25	25%
4	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources) (includes Map interpretation)		1	2	1	1		1	20	20%
5	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		1	1	1	-	1	-	12	12%
Total			1x5=5	5x2=10	6x4=24	3x5=15	2x5=10	6x6=36	100	100%

Note: Care to be taken to cover all chapters.

POLITICAL SCIENCE (Code 028)
CLASS XI (2013-14)
Question Paper Design

One Paper

100 Marks
Time: 3 hrs.

Units		Marks
1.	Philosophy of the Constitution } 2. Rights of the Indian Constitution }	10
3.	Election and Representation } 4. Executive }	10
5.	Legislature } 6. Judiciary }	10
7.	Federalism } 8. Local Governments }	10
9.	Constitution as a Living Document	10
		50
10.	Political Theory : An Introduction } 11. Freedom }	10
12.	Equality } 13. Social Justice }	10
14.	Rights } 15. Citizenship }	10
16.	Nationalism } 17. Secularism }	10
18.	Peace } 19. Development }	10
		50

3. Weightage of Difficulty Level

Estimated difficult level	Percentage
Difficult	20%
Average	50%
Easy	30%

4. Scheme of Options:

There is internal choice for long answer questions of 6 marks.

There are three passage - based questions of 5 marks each. No questions from plus(+) boxes.

- 5.** In order to assess different mental abilities of learners, question paper is likely to include questions based on passages, visuals such as maps, cartoons, etc. No factual question will be asked on the information given in the plus (+) boxes in the textbooks.

POLITICAL SCIENCE (Code 028)
Class XII (2014-15)

One Paper

Marks: 100

Time: 3 hrs.

Units	Periods	Marks
Part A: Contemporary World Politics		
1. Cold War Era	14	14
2. The End of bipolarity	13	
3. US Hegemony in World Politics	13	16
4. Alternative centres of Power	11	
5. Contemporary South Asia	13	
6. International Organizations	13	10
7. Security in Contemporary World	11	
8. Environment and Natural Resources	11	10
9. Globalisation	11	
	110	50
Part B: Politics in India since Independence		
10. Challenges of Nation-Building	13	16
11. Era of One-party Dominance	12	
12. Politics of Planned Development	11	
13. India's External relations	13	6
14. Challenges to the Congress System	13	12
15. Crisis of the Democratic Order	13	
16. Rise of Popular Movements	11	
17. Regional aspirations	11	16
18. Recent Developments in Indian Politics	13	
	110	50

COURSE CONTENTS

	Periods
Part A: Contemporary World Politics	
1. Cold War Era	14
Emergence of two power blocs after the second world war. Arenas of the cold war. Challenges to Bipolarity: Non Aligned Movement, quest for new international economic order. India and the cold war.	
2. The End of Bipolarity	13
New entities in world politics: Russia, Balkan states and Central Asian states, Introduction of democratic politics and capitalism in post-communist regimes. India's relations with Russia and other post-communist countries.	
3. US Hegemony in World Politics	13
Growth of unilateralism: Afghanistan, first Gulf War, response to 9/11 and attack on Iraq. Dominance and challenge to the US in economy and ideology. India's renegotiation of its relationship with the USA.	
4. Alternative Centres of Power	11
Rise of China as an economic power in post-Maoera, creation and expansion of European Union, ASEAN. India's changing relations with China.	
5. Contemporary South Asia in the Post-Cold War Era	13
Democratisation and its reversals in Pakistan and Nepal. Ethnic conflict in Sri Lanka, Impact of economic globalization on the region. Conflicts and efforts for peace in South Asia. India's relations with its neighbours.	
6. International Organizations	13
Restructuring and the future of the UN. India's position in the restructured UN. Rise of new international actors: new international economic organisations, NGOs. How democratic and accountable are the new institutions of global governance?	
7. Security in Contemporary World	11
Traditional concerns of security and politics of disarmament. Non-traditional or human security: global poverty, health and education. Issues of human rights and migration.	
8. Environment and Natural Resources	11
Environment movement and evolution of global environmental norms. Conflicts over traditional and common property resources. Rights of indigenous people. India's stand in global environmental debates.	
9. Globalisation	11
Economic, cultural and political manifestations. Debates on the nature of consequences of globalisation. Anti-globalisation movements. India as an arena of globalization and struggle against it.	

Part B: Politics in India since Independence

10. **Challenges of Nation-Building** 13
Nehru's approach to nation-building; Legacy of partition: challenge of 'refugee' resettlement, the Kashmir problem. Organisation and reorganization of states; Political conflicts over language.
11. **Era of One-Party Dominance** 12
First three general elections, nature of Congress dominance at the national level, uneven dominance at the state level, coalitional nature of Congress. Major opposition parties.
12. **Politics of Planned Development** 11
Five year plans, expansion of state sector and the rise of new economic interests. Famine and suspension of five year plans. Green revolution and its political fallouts.
13. **India's External Relations** 13
Nehru's foreign policy. Sino-Indian war of 1962, Indo-Pak war of 1965 and 1971. India's nuclear programme and shifting alliances in world politics.
14. **Challenges to the Congress System** 13
Political succession after Nehru. Non-Congressism and electoral upset of 1967, Congress split and reconstitution, Congress' victory in 1971 elections, politics of 'garibi hatao'.
15. **Crisis of the Democratic Order** 13
Search for 'committed' bureaucracy and judiciary. Navnirman movement in Gujarat and the Bihar movement. Emergency: context, constitutional and extra-constitutional dimensions, resistance to emergency. 1977 elections and the formation of Janata Party. Rise of civil liberties organisations.
16. **Popular Movements in India** 11
Farmers' movements, Women's movement, Environment and Development-affected people's movements. Implementation of Mandal Commission report and its aftermath.
17. **Regional Aspirations** 11
Rise of regional parties. Punjab crisis and the anti Sikh riots of 1984. The Kashmir situation. Challenges and responses in the North East.
18. **Recent Developments in Indian politics** 13
Participatory upsurge in 1990s. Rise of the JD and the BJP. Increasing role of regional parties and coalition politics. NDA, UPA-I and UPA-II government.

Prescribed Books:

1. Contemporary World Politics, Class XII, Published by NCERT
2. Politics in India since Independence, Class XII, Published by NCERT

Note: The above textbooks are also available in Hindi and Urdu versions.

POLITICAL SCIENCE		QUESTION PAPER DESIGN 2014-15							CLASS-XII	
Time: 3 Hours		Code No.028							Max. Marks: 100	
S. No.	Typology of Questions	Learning Outcomes & Testing Skills	Very Short Answer (1 Mark)	Very Short Answer - (2 Marks)	Short Answer (4 Marks)	Long Answer I based on Passages (5 Marks)	Map Question/ Picture based interpretation (5 Marks)	Long Answer II (6 Marks)	Marks	% weightage
1	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	<ul style="list-style-type: none"> Reasoning Analytical Skills Critical thinking 		1	2		-	2	22	22%
2	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)		2		2	1		1	21	21%
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		1	1		1	1	2	25	25%
4	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources) (includes Map interpretation)		1	2	1	1		1	20	20%
5	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		1	1	1	-	1	-	12	12%
Total			1x5=5	5x2=10	6x4=24	3x5=15	2x5=10	6x6=36	100	100%

Note: Care to be taken to cover all chapters.

The weightage or the distribution of marks over the different dimensions paper shall be as follows:-

1. **Weightage of Content**

Part A: Contemporary World Politics

Units		Marks
1	Cold War Era	14
2	The End of Bipolarity	
3	US Hegemony in World Politics	16
4	Alternative Centres of Power	
5	Contemporary South Asia	
6	International Organizations	10
7	Security in Contemporary World	
8	Environment and Natural Resources	10
9	Globalization	
		50

PartB: Politics in India since Independence

10.	Challenges of Nation-Building	16
11	Era of One-Party Dominance	
12	Politics of Planned Development	
13	India's External Relations	6
14	Challenges to the Congress System	12
15	Crisis of the Democratic Order	
16	Rise of Popular Movements	16
17	Regional Aspirations	
18	Recent Developments in Indian Politics	
		50

2. **Weightage of Difficulty Level**

Estimated difficult level	Percentage
Difficult	20%
Average	50%
Easy	30%

3. **Scheme of Options:**

There is internal choice for long answer questions.

Map question has choice only with another map.

There are three passage-based or picture-based questions.

4. In order to assess different mental abilities of learners, question paper is likely to include questions based on passages, visuals such as maps, cartoons, etc. No factual question will be asked on the information given in the plus(+) boxes in the textbooks.

23. GEOGRAPHY (CODE NO. 029)

Geography is introduced as an elective subject at the senior secondary stage. After ten years of general education, students branch out at the beginning of this stage and are exposed to the rigours of the discipline for the first time. Being an entry point for the higher education, students choose Geography for pursuing their academic interest and, therefore, need a broader and deeper understanding of the subject. For others, geographical knowledge is useful in daily lives because it is a valuable medium for the education of young people. Its contribution lies in the content, cognitive processes, skills and values that Geography promotes and thus helps the students explore, understand and evaluate the environmental and social dimensions of the world in a better manner.

Since Geography explores the relationship between people and their environment, it includes studies of physical and human environments and their interactions at different scales-local, state/region, nation and the world. The fundamental principles responsible for the varieties in the distributional pattern of physical and human features and phenomena over the earth's surface need to be understood properly. Application of these principles would be taken up through selected case studies from the world and India. Thus, the physical and human environment of India and study of some issues from a geographical point of view will be covered in greater detail. Students will be exposed to different methods used in geographical investigations.

Objectives:

The course in Geography will help learners to :

- Describe locations.
- List/describe what students might see, hear, smell, at a place.
- List/describe ways a place is linked with other places.
- Compare conditions and connections in one place to another.
- Analyze/describe how conditions in one place can affect nearby places.
- Identify regions as places that are similar or connected.
- Describe the spatial pattern of something on a map.
- Familiarise with key concepts, terminology and core principles of Geography.
- Search for, recognize and understand the processes and patterns of the spatial arrangement of the natural features as well as human aspects and phenomena on the earth's surface.
- Understand and analyse the inter-relationship between physical and human environments and utilise such knowledge in reflecting on issues related to community.
- Apply geographical knowledge and methods of inquiry to emerging situations or problems at different levels-local, regional, national and global.
- Develop geographical skills, relating to collection, processing and analysis of spatial data/ information and preparation of report including maps and graphs and use of computers where ever possible; and to be sensitive to issues.

**GEOGRAPHY (029)
CLASS XI (2013-14)**

One Theory Paper **70 Marks**
3 Hours

Part A. Fundamentals of Physical Geography	30 (Marks)
Unit-1: Geography as a discipline	
Unit-2: The Earth	
Unit-3: Landforms	
Unit-4: Climate	
Unit-5: Water (Oceans)	
Unit-6: Life on the Earth	
Unit-7: Map and diagram	5 (Marks)
Part B. India-Physical Environment	30 (Marks)
Unit-8: Introduction	
Unit-9: Physiography	
Unit-10: Climate, vegetation and soil	
Unit-11: Natural hazards and Disasters	
Unit-12: Map and Diagram	5 (Marks)
Part C. Practical Work	30 (Marks)
Unit-1: Fundamentals of Maps	10
Unit-2: Topographic and Weather Maps	15
Unit-3: Practical Record Book and Viva	5

Note: The question paper will include a section on **Open Case Studies** based-questions on two case studies, one from Part A and one from Part B of 7 marks each, a total of 14 marks. The case studies will be supplied to students in advance. These case studies are designed to test the analytical and higher order thinking skills of students.

Part A: Fundamentals of Physical Geography **90 Periods**

Unit-1: Geography as a Discipline **05 Periods**

- Geography as an integrating discipline, as a science of spatial attributes.
- Branches of Geography; Physical Geography and Human Geography.
- Scope and Career Options

Unit-2: The Earth **12 Periods**

- Origin and evolution of the earth; Interior of the earth.
- Wegener's continental drift theory and plate tectonics.
- Earthquakes and volcanoes: causes, types and effects.

Unit-3: Landforms **20 Periods**

- Rocks: major types of rocks and their characteristics.
- Landforms and their evolution.
- Geomorphic processes: weathering, mass wasting, erosion and deposition; soil-formation.

Unit 4: Climate **30 Periods**

- Atmosphere- composition and structure; elements of weather and climate.
- Insolation-angle of incidence and distribution; heat budget of the earth-heating and cooling of atmosphere (conduction, convection, terrestrial radiation and advection); temperature-factors controlling temperature; distribution of temperature-horizontal and vertical; inversion of temperature.
- Pressure-pressure belts; winds-planetary, seasonal and local; air masses and fronts; tropical and extratropical cyclones.
- Precipitation-evaporation; condensation-dew, frost, fog, mist and cloud; rainfall-types and world distribution.
- World climates-classification (Koeppen and Thornthwaite), Global warming and climatic changes.
- Climate and Global Concerns.

Unit 5: Hydrosphere **10 Periods**

- Basics of Oceanography
- Oceans - distribution of temperature and salinity.
- Movements of ocean water-waves, tides and currents; submarine reliefs.
- Ocean resources and pollution.

Unit 6: Biosphere **08 Periods**

- Biosphere - importance of plants and other organisms; biodiversity and conservation; ecosystem and ecological balance.

**Unit 7: Map work on identification of features based on 1 to 6 units on the outline/
Physical/Political map of the world.** **05 Periods**

Part - B India - Physical Environment **80 Periods**

Unit 8: Introduction **05 Periods**

- Location, space relations, India's place in the world.

Unit 9: Physiography **28 Periods**

- Structure and Relief; Physiographic Divisions.
- Drainage systems: Concept of river basins, Watershed; the Himalayan and the Peninsular rivers.

Unit 10: Climate, Vegetation and Soil **28 Periods**

- Weather and climate - spatial and temporal distribution of temperature, pressure winds and rainfall, Indian monsoon: mechanism, onset and withdrawal, variability of rainfalls : spatial and temporal; Climatic types (Koeppen).

- Natural vegetation-forest types and distribution; wild life; conservation; biosphere reserves.
- Soils - major types (ICAR's classification) and their distribution, soil degradation and conservation.

Unit 11: Hazards and Disasters: Causes, Consequences and Management (One case study to be introduced for each topic) 15 Periods

- Floods, Cloudbursts
- Droughts: types and impact
- Earthquakes and Tsunami
- Cyclones: features and impact
- Landslides

Unit 12: Map Work of features based on above units for locating and labelling on the Outline/Political/Physical map of India. 04 Periods

Part - C. Practical Work 50 Periods

Unit 1: Fundamentals of Maps 20 Periods

- Maps -types; scales-types; construction of simple linear scale, measuring distance; finding direction and use of symbols.
- Latitude, longitude and time.
- Map projection- typology, construction and properties of projection : Conical with one standard parallel and Mercator's projection.

Unit 2: Topographic and Weather Maps 30 Periods

- Study of topographic maps (1 : 50,000 or 1 : 25,000 Survey of India maps); contour cross section and identification of landforms-slopes, hills, valleys, waterfall, cliffs; distribution of settlements.
- Aerial Photographs:Types and Geometry-vertical aerial photographs; difference between maps and aerial photographs; photo scale determination.
- Satellite imageries, stages in remote sensing data-acquisition, platform and sensors and data products, (photographic and digital).
- Identification of physical and cultural features from aerial photographs and satellite imageries.
- Use of weather instruments: thermometer, wet and dry-bulb thermometer, barometer, wind vane, rain gauge.
- Use of weather charts: describing pressure, wind and rainfall distribution.

Unit 3: Practical Record Book and Viva Voce

Viva to be based on Practical Unit I and II only.

QUESTION PAPER DESIGN 2013-14								
GEOGRAPHY (Theory)			Code No.029				CLASS-XI	
Time: 3 Hours			Max. Marks: 70					
S. No.	Typology of Questions	Learning Outcomes & Testing Skills	Short Answer (1 Mark)	Short Answer - (3 Marks)	Long Answer I (5 Marks)	Map Skills based (5 Marks)	Marks	%
1	Remembering- (Knowledge based) Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information), <i>Map skill based questions (Identification, location)</i>	<ul style="list-style-type: none"> • Reasoning • Analytical Skills • Critical thinking 	3	1	1	1 (identify location)	16	23%
2	Understanding- (Comprehension - to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)		1	1	2	-	14	20%
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		-	1	2	-	13	19%
5	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources) (includes Map interpretation)		2	1	2	1 (Map interpretation)	20	28%
6.	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		1	1+1 (values based)	-	-	7	10%
Total			7×1 =7	6×3=18	7×5=35	2×5=10	70 (22) Practical 30	100%
Time Estimated			15 min.	60 min.	70 min.	20 min.	165+15 = 180 min	

Note: No Chapterwise weightage, care to be taken to cover chapters in both books.

The question paper will include a section on **Open Case Studies** based-questions on two case studies, one from Part A and one from Part B of 7 marks each, a total of 14 marks. The case studies will be supplied to students in advance. These case studies are designed to test the analytical and higher order thinking skills of students.

GEOGRAPHY, CODE-029
CLASS - XI (2013-14)

1. Theory -One Paper

Time: 3 hours

Marks : 70

Part-I	Fundamentals of Physical Geography	35
	Unit-1: Geography as a discipline	30
	Unit-2: The Earth	
	Unit -3: Landforms	
	Unit - 4: Climate	
	Unit - 5: Water (Oceans)	
	Unit - 6 : Life on the Earth	
	Unit - 7 : Map Work	5
Part -II	India- Physical Environment	35
	Unit - 8 : Introduction	30
	Unit - 9 : Physiography	5
	Unit - 10: Climate, vegetation and soil	
	Unit -11 : Natural hazards and Disasters	
	Unit -12 : Map Work	5
Total		70
<p>Value Based Question from any unit 1-6 (Part- I), 8-11(Part-II) - 3 Marks</p> <p><i>Note: - One Value Based Question can be taken from any unit 1-6 (Part -I), 8-11 (Part-II). Accordingly the weightage of the lessons can be reduced as per the discretion of the teacher.</i></p> <p>The question paper will include a section on Open Case Studies based-questions on two case studies, one from Part A and one from Part B of 7 marks each, a total of 14 marks. The case studies will be supplied to students in advance. These case studies are designed to test the analytical and higher order thinking skills of students.</p>		
Part -III Practical Work		30 Marks
Unit -1 : Fundamentals of Maps		10
Unit - 2 : Topographic and Weather Maps		15
Unit - 3 : Practical Record Book and Viva		05

2. Weightage to Difficulty Level

Estimated Difficulty Level	Percentage
(i) Easy (E)	20%
(ii) Average (AV)	60%
(iii) Difficult (D)	20%

GEOGRAPHY (CODE - 029)
Class XII (2014-15)

One Theory Paper

3 Hours
70 Marks

A. Fundamentals of Human Geography Unit 1: Human Geography Unit 2: People Unit 3: Human Activities Unit 4: Transport, Communication and Trade Unit 5: Human settlements	30 Marks
Unit 6: Map Work	5 Marks
B. India: People and Economy Unit 7: People Unit 8: Human Settlements Unit 9: Resources and Development Unit 10: Transport, Communication and International Trade Unit 11: Geographical Perspective on selected issues and problems	30 Marks
Unit 12: Map Work	5 Marks
C. Practical Work Unit 1: Processing of Data and Thematic Mapping Unit 2: Field study or Spatial Information Technology Unit 3: Practical Record Book and Viva Voce	30 Marks 15 10 5

GEOGRAPHY (CODE - 029)
CLASS XII

Part-A. Fundamentals of Human Geography **90 Periods**

35 Marks

Unit 1: Human Geography: Nature and Scope **05 Periods**

Unit 2: People **18 Periods**

- Population-distribution, density and growth
- Population change-spatial patterns and structure; determinants of population change;
- Age-sex ratio; rural-urban composition;
- Human development - concept; selected indicators, international comparisons

Unit 3: Human Activities **28 Periods**

- Primary activities - concept and changing trends; gathering, pastoral, mining, subsistence agriculture, modern agriculture; people engaged in agricultural and allied activities - some examples from selected countries.
- Secondary activities-concept; manufacturing: types - household, small scale, large scale; agro based and mineral based industries; people engaged in secondary activities - some examples from selected countries.
- Tertiary activities-concept; trade, transport and tourism; services; people engaged in tertiary activities - some examples from selected countries.
- Quaternary activities-concept; people engaged in quaternary activities - case study from selected countries.

Unit 4: Transport, Communication and Trade **23 Periods**

- Land transport - roads, railways; trans-continental railways.
- Water transport- inland waterways; major ocean routes.
- Air transport- Intercontinental air routes.
- Oil and gas pipelines.
- Satellite communication and cyber space- Importance and usage for geographical information; use of GPS.
- International trade-Bases and changing patterns; ports as gateways of international trade, role of WTO in International trade.
- OCEAN: National rights and international treaties.

Unit 5: Human Settlements **10 Periods**

- Settlement types - rural and urban; morphology of cities (case study); distribution of mega cities; problems of human settlements in developing countries.

**Unit 6: Map Work on identification of features based on 1-5 units on the outline/
Physical/Political map of World.** **05 Periods**

Part B. India: People and Economy **90 Periods**

Unit 7: People **15 Periods**

- Population : distribution, density and growth; composition of population - linguistic, religious; sex, rural-urban and occupational-regional variations in growth of population.
- Migration: international, national-causes and consequences.
- Human development: selected indicators and regional patterns.
- Population, environment and development.

Unit 8: Human Settlements **10 Periods**

- Rural settlements - types and distribution.
- Urban settlements - types, distribution and functional classification.

Unit 9: Resources and Development **30 Periods**

- Land resources- general land use; agricultural land use, Geographical conditions and distribution of major crops (Wheat, Rice, Tea, Coffee, Cotton, Jute, Sugarcane and Rubber), agricultural development and problems.
- Water resources-availability and utilization-irrigation, domestic, industrial and other uses; scarcity of water and conservation methods-rain water harvesting and watershed management (one case study related with participatory watershed management to be introduced).
- Mineral and energy resources- distribution of metallic (Iron ore, Copper, Bauxite, Manganese); non-metallic (Mica, Salt) minerals; conventional (Coal, Petroleum, Natural gas and Hydroelectricity) and non-conventional energy sources (solar, wind, biogas) and conservation.
- Industries - types, factors of industrial location; distribution and changing pattern of selected industries- iron and steel, cotton textiles, sugar, petrochemicals, and knowledge based industries; impact of liberalization, privatisation and globalisation on industrial location; industrial clusters.
- Planning in India- target group area planning (case study); idea of sustainable development (case study).

Unit 10: Transport, Communication and International Trade **15 Periods**

- Transport and communication-roads, railways, waterways and airways: oil and gas pipelines; Geographical information and communication networks.
- International trade- changing pattern of India's foreign trade; sea ports and their hinterland and airports.

Unit 11: Geographical Perspective on Selected Issues and Problems (One case study to be introduced for each topic) **15 Periods**

- Environmental pollution; urban-waste disposal.
- Urbanisation, rural-urban migration; problems of slums.
- Land degradation.

Unit 12: Map work on locating and labelling of features based on above units on outline map of India. **05 Marks**

Part-C Practical Work **40 Periods**

Unit 1: Processing of Data and Thematic Mapping **25 Periods**

- Type and Sources of data: Primary, Secondary and other sources.
- Tabulating and processing of data; calculation of averages, measures of central tendency, deviation and rank correlation.
- Representation of data- construction of diagrams: bars, circles and flowchart; thematic maps; construction of dot; choropleth and isopleth maps.
- Data analysis and generation of diagrams, graphs and other visual diagrams using computers.

Unit 2: Field Study or Spatial Information Technology **15 Periods**

Field visit and study: map orientation, observation and preparation of sketch; survey on any one of the local concerns; pollution, ground water changes, land use and land-use changes, poverty, energy issues, soil degradation, impact of floods and drought, catchment area of school, Market survey and

Household survey (any one topic of local concern may be taken up for the study; observation and questionnaire survey may be adopted for the data collection; collected data may be tabulated and analysed with diagrams and maps). Students can be given different topics to get more insight into various problems of society.

OR

Spatial Information Technology

Introduction to GIS; hardware requirements and software modules; data formats; raster and vector data, data input, editing and topology building; data analysis; overlay and buffer.

Prescribed Books:

1. Fundamentals of Physical Geography, Class XI, Published by NCERT
2. India, Physical Environment, Class XI, Published by NCERT
3. Practical Work in Geography, Class XI, Published by NCERT
4. Fundamentals of Human Geography, Class XII, Published by NCERT
5. India - People and Economy, Class XII, Published by NCERT
6. Practical Work in Geography, Class XII, Published by NCERT

Note: The above textbooks are also available in Hindi medium.

QUESTION PAPER DESIGN 2014-15								
GEOGRAPHY (Theory)			Code No.029			CLASS-XII		
Time: 3 Hours			Max. Marks: 70					
S. No.	Typology of Questions	Learning Outcomes & Testing Skills	Short Answer (1 Mark)	Short Answer - (3 Marks)	Long Answer I (5 Marks)	Map Skills based (5 Marks)	Marks	%
1	Remembering- (Knowledge based) Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information), <i>Map skill based questions (Identification, location)</i>	<ul style="list-style-type: none"> • Reasoning • Analytical Skills • Critical thinking 	3	1	1	1 (identify location)	16	23%
2	Understanding- (Comprehension) –to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)		1	1	2	-	14	20%
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		-	1	2	-	13	19%
5	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources) (includes Map interpretation)		2	1	2	1 (Map interpretation)	20	28%
6.	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		1	1+1 (values based)	-	-	7	10%
Total			7×1 =7	6×3=18	7×5=35	2×5=10	70 (22) Practical 30	100%
Time Estimated			15 min.	60 min.	70 min.	20 min.	165+15 =180 min	

Note: No Chapterwise weightage, care to be taken to cover chapters in both books

I. Weightage to content (Chapter nos. of NCERT textbooks are given against unit within brackets)

Part A: Fundamentals of Human Geography (Textbook I) 35 marks

A. Fundamentals of Human Geography	35 Marks
Unit 1: Human Geography (Ch.1)	30
Unit 2: People (Ch. 2 to 4)	
Unit 3: Human Activities (Ch. 5 to 7)	
Unit 4: Transport, Communication and Trade (Ch. 8 and 9)	
Unit 5: Human Settlements (Ch. 10)	
Unit 6: Map Work----World map (for identification only relating to Units 1 to 5)	5
Total	35

II. Weightage to content (Chapter nos. of NCERT textbooks are given against unit within brackets)

Part B : India, People and Economy 35 marks

B. India: People and Economy	35 Marks
Unit 7: People (Ch. 1-3)	30
Unit 8: Human Settlements (Ch. 4)	
Unit 9: Resources and Development (Ch. 5-9)	
Unit 10: Transport, Communication and International Trade (Ch. 10-11)	
Unit 11: Geographical Perspective on selected issues and problems(Ch.12)	
Unit 12: Map Work	5
Total	70

Note: Value Based Question from any Unit 1-11.

III. Weightage to Difficulty Level

Estimated Difficulty Level	Percentage
(i) Easy (E)	20%
(ii) Average (AV)	60%
(iii) Difficult (D)	20%

Scheme of Option: No internal choice except for blind students.

Fundamentals of Human Geography Textbook I (NCERT)

Map Items for identification only on outline political map of the World.

Unit-1	Ch.-1	Nil
Unit-2	Ch. 2 to 4	<ol style="list-style-type: none">1 Largest and smallest Country of each continent in area.2 Countries having smallest and largest population of each continent.3 Countries having lowest and highest density of population of each continent.4 Countries having lowest and highest growth rate of population of each continent according to 2001-2011.5 Countries having lowest and highest rank in Human Development Index in 2003.
Unit-3	Ch. 5 to 7 Primary Activities.	<ol style="list-style-type: none">1 Areas of subsistence gathering.2 Major areas of nomadic herding of the world.3 Major areas of commercial livestock rearing.4 Major areas of extensive commercial grain farming.5 Major areas of mixed farming of the World.6 Major areas of dairy farming of the World.
	Secondary Activities	<ol style="list-style-type: none">1 Ruhr region, Silicon Valley, Appalachian region, Great lakes region.
Unit - 4	Ch. 8 to 9	<ol style="list-style-type: none">2 Transcontinental Railways: Terminal Stations of transcontinental railways3 Major Sea Ports : Europe: North Cape, London, Hamburg North America: Vancouver, San Francisco, New Orleans South America: Rio De Janeiro, Colon, Valparaiso Africa: Suez, Durban and Cape Town Asia: Yokohama, Shanghai, Hongkong, Aden, Colombo, Karachi, Kolkata Australia: Perth, Sydney, Melbourne and Auckland4. Inland Waterways: Suez canal, Panama canal, Rhine waterway and St. Lawrence Seaway5. Major Airports: Asia: Tokyo, Beijing, Irkutsk, Vladivostok, Mumbai, Jedda, Aden

		Europe: Moscow, London, Paris, Berlin, and Rome
		North America: Chicago, New Orleans, Mexico City
		South America: Bogota, Brasilia, Buenos Aires, Santiago
		Australia: Drarwin and Wellington.
Unit - 5	Ch. 10	Mega cities of the world

India-People and Economy (Textbook II)
for locating and labelling only on the outline political map of India

Units -7	Ch. 1 to 4 and 8	(i) States having largest and smallest area. (ii) States having largest and smallest population. (iii) States having highest and lowest density of population (iv) States having highest and lowest growth rate of population 2001-2011. (v) States having highest and lowest rural population. (vi) States having highest and lowest urban population. (vii) States having highest and lowest participation rate. (viii) States having highest and lowest literacy rate. (ix) States having highest and lowest female literacy rate. (x) State having highest percentage of population below poverty line. (xi) State at the top in human development index. (xii) 53 top ten Metropolitan cities (2011).
Unit -9	Ch. 5 to 9	Leading producing states of the following crops: (a) Rice, (b) Wheat, (c) Jowar, (d) Bajra, (e) Maize, (f) Groundnut, (g) Cotton, (h) Jute, (i) Sugarcane, (j) Tea, and (k) Coffee Minerals: Iron-ore mines: Mayurbhanj, Kendujhar, Durg, Bailadela, Ratnagiri, Bellary. Manganese mines: Sundergarh, Balaghat, Nagpur, Shimoga. Copper mines: Hazaribagh, Singhbhum, Khetari, Udaipur and Amarkantak. Bauxite mines: Katni, Bilaspur and Koraput.

Coal mines: Jharia, Bokaro, Raniganj, Korba, Talcher, Singareni, Neyveli.

Oil Refineries: Bhatinda, Panipat, Mathura, Jamnager, Mangalore, Tatipaka, Haldia, Guwahati, Baroni Industries.

Iron and Steel Plants: Bhadravati, Bhilai, Bokaro.

Durgapur, Rourkela and Jameshedpur.

Cotton Textile: Ahmedabad, Surat, Gwalior, Varanasi, Murshidabad, Pune, Nagpur, Solapur and Mysore.

Software Technology Parks: Gandhinager, Shrinager, Mohali, Shimla, Delhi, Noida, Kanpur, Indore, Hyderabad, Bhubaneshwar and Major Industrial Regions.

Unit - 10 Ch. 10 and 11

Transport:

(i) States having lowest and highest density of roads.

(ii) Headquarters of all railway zones.

(iii) Major Sea Ports: Kandla, Marmagao, Kochi, Tuticorin, Chennai, Paradwip, Haldia.

(iv) International Air ports:

Ahmedabad, Mumbai, Bangalore, Chennai, Kolkata, Guwahati, Delhi, Amritsar, Panaji, Kochi and Thiruvananthapuram.

24. PSYCHOLOGY (CODE NO. 037)

Psychology is introduced as an elective subject at the higher secondary stage of school education. As a discipline, psychology specializes in the study of experiences, behaviours and mental processes of human beings within a socio-cultural and socio- historical context. This course purports to introduce the learners to the basic ideas, principles and methods in Psychology so as to enable them to understand themselves and their social world better. The emphasis is put on creating interest and exposure needed by learners to develop their own knowledge base and understanding.

The course deals with psychological knowledge and practices which are contextually rooted. It emphasizes the complexity of behavioural processes and discourages simplistic cause-effect thinking. This is pursued by encouraging critical reasoning, allowing students to appreciate the role of cultural factors in behaviour, and illustrating how biology and experience shape behaviour. The course while developing an appreciation of subjectivity, also focuses on multiplicity of worldviews.

It is suggested that the teaching - learning processes should involve students in evolving their own understanding. therefore, teaching of Psychology should be based on the use of case studies, narratives, experiential exercises, analysis of common everyday experiences, etc.

The present effort at reforming and updating the syllabus is based on the feedback received from the teachers and students as well as some new educational and curricular concerns such as, the curriculum load, interdisciplinary approach, issues related to gender parity, concerns of special and marginalised groups, peace and environmental concerns, and inculcating citizenship values.

Objectives

1. To develop appreciation about human behaviour and human mind in the context of learners' immediate society and environment.
2. To develop in learners an appreciation of multidisciplinary nature of psychological knowledge and its application in various aspects of life.
3. To enable learners to become perceptive, socially aware and self-reflective.
4. To facilitate students' quest for personal growth and effectiveness, and to enable them to become responsive and responsible citizens.

CLASS-XI (2013-14) (THEORY)

One Theory Paper

3 Hours

Foundations of Psychology

Marks : 70

Units	Periods	Marks
I. Introduction to Psychology	16	17
II. Methods of Psychology	20	
III. The Bases of Human Behaviour	20	
IV. Human Development	16	23
V. Sensory and Perceptual Processes	20	
VI. Learning	20	16
VII. Human Memory	20	
VIII. Language and Thought	20	14
IX. Motivation and Emotion	18	
	170	70

Term I Foundations of Psychology 170 Periods

Unit I: Introduction to Psychology 16 Periods

The unit seeks to help understanding and appreciating Psychology as a discipline, its applications and relationships with other sciences through appropriate and interesting examples and analysis of everyday experiences.

Nature of Psychology; Evolution of the discipline of Psychology; Developments of Psychology in India; Psychology and other disciplines; Linkages across psychological processes. Emerging perspectives: Evolutionary Psychology, Cultural Psychology and Positive Psychology.

Unit II: Methods of Psychology 20 Periods

The objective of this unit is to familiarize with the methods of studying and understanding Qualitative method, psychological questions and issues.

Goals of psychological enquiry; Some important methods: Observation, Naturalistic, Experimental, Correlational studies; Interview, Case study; Psychological tools: Tests, Questionnaires and gadgets; Qualitative Methods, Ethical issues in the study of psychological processes.

Unit III: The Bases of Human Behaviour 20 Periods

This unit focuses on the role of biological and socio-cultural factors in the shaping of human behaviour and experience.

Evolutionary perspective on human behaviour; Biological and cultural roots; Nervous system and endocrine system: Structure and relationship with behaviour and experience; Brain and behaviour, Role of Neurotransmitters in behaviour. State of consciousness and wakefulness. Genetic bases of behaviour; Culture and human behaviour: Socialization, Enculturation and Acculturation; Globalization; Diversity and pluralism in the Indian context.

Unit IV: Human Development 16 Periods

This unit deals with variations in development and the developmental tasks across the life span.

Meaning of development; Factors influencing development; Contexts of development; Overview of developmental stages: Prenatal, Infancy, Childhood, Adolescence (particularly issues of identity, health, social participation and moral development), Adulthood and Old age.

Term II

Unit V: Sensory and Perceptual Processes 20 Periods

This unit aims at understanding how various sensory stimuli are received, attended to and given meaning.

Knowing the world; Nature of stimuli; Nature and functioning of sense modalities; Sensory Adaptation; Attention : Nature and determinants; Selective and sustained attention; Principles of perceptual organization; Role of perceiver-characteristics in perception; Perceptual phenomena : After images; Space Perception, Perceptual constancy, Illusions, Socio-cultural influences on perception.

Unit VI: Learning 20 Periods

This unit focuses on how human beings acquire new behaviour and how changes in behaviour take place.

Nature of learning; Paradigms of learnings: Classical and Operant Conditioning, Observational Learning, Cognitive learning, Verbal learning, Concept learning, Skill-learning; Factors facilitating learning; Transfer of learning; Learning styles; Learning disabilities; Some Applications of learning principles.

Unit VII: Human Memory

20 Periods

This unit deals with how information is received, stored, retrieved and lost. It will also discuss how memory can be improved.

Nature of memory; Information Processing Approach; Levels of processing; Memory systems: Sensory memory, Short-term memory, Long-term memory; Knowledge representation and organisation in memory; Memory as a constructive process; Memory and Emotions; Prospective Memory; Nature and causes of forgetting; Enhancing memory; Brain and memory.

Unit VIII: Language and Thought

20 Periods

This unit deals with thinking and related processes like reasoning, problem-solving, decision making and creative thinking and relationship between thought and language.

Building blocks of thinking; Thought and language: Nature and interrelationship; Stages of cognitive development: Development of language and language use; Reasoning; Problem-solving; Decision making; Creative thinking: Nature, process and development.

Unit IX: Motivation and Emotion

18 Periods

This unit focuses on why human beings behave as they do. It also deals with how people experience positive and negative events and respond to them.

Human existence and nature of motivation; Biological needs; Social and psychological motives: Achievement, Affiliation and Power, Maslow's hierarchy of needs; Emerging concepts: Competence, Self efficacy and Intrinsic Motivation; Nature of emotions; Physiological, cognitive and cultural bases of emotions; Expression of emotions; Positive emotions: Happiness, Optimism, Empathy and Gratitude; Development of positive emotions; Managing negative emotions such as anger and fear.

Practicals (Projects, experiments, small studies, etc.)

60 Periods

The students shall be required to undertake one project and conduct two experiments. The project would involve the use of different methods of enquiry and related skills. Practical would involve conducting experiments and undertaking small studies, exercises, related to the topics covered in the course (e.g. Human development, Learning, Memory, Motivation, Perception, Attention and Thinking).

Practical Examination

- | | |
|---|----------|
| (i) Practical (Experiments) file | 05 Marks |
| (ii) Project File | 05 Marks |
| (iii) Viva Voce (Project and experiments) | 05 Marks |
| (iv) One experiment : (05 for conduct and 10 for reporting) | 15 Marks |

QUESTION PAPER DESIGN 2013-14									
PSYCHOLOGY			CODE NO.037				CLASS-XI		
TIME: 3 Hours			Max. Marks: 70						
S. No	Typology of Questions	Learning outcomes and Testing Competencies	Learning checks (LC) (1 Mark)	Very Short Answer (VSA) (2 Marks)	Short Answer-I (SA-I) (3 Marks)	Short Answer-II (SA-II) (4 Marks)	Long Answer (LA) (6 Marks)	Total Marks	% Weightage
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	<ul style="list-style-type: none"> • Reasoning • Analytical Skills • Critical Thinking Skillsetc. 	3	2	-	2	1	21	30%
02	Understanding- (Comprehension –to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		-	4	1	1	1	21	30%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)		3	-	1	2	-	14	20%
04	High Order Thinking Skills (Analysis& Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		4	-	1	-	-	07	10%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		-	-	1	1	-	07	10%
	TOTAL		10×1=10	6×2=12	4×3=12	6×4=24	2×6=12	70 (28)	100%

**PSYCHOLOGY (CODE 037)
CLASS-XII (THEORY) (2014-15)**

One Theory Paper

Marks 70

Psychology, Self and Society

Units	Period	Marks
I. Intelligence and Aptitude	20	19
II. Self and Personality	24	
III. Human Strengths and Meeting Life Challenges	14	
IV. Psychological Disorders	24	24
V. Therapeutic Approaches and Counselling	20	
VI. Attitude and Social Cognition	20	15
VII. Social Influence and Group Processes	22	
VIII. Environmental and Social Concerns	13	12
IX. Developing Psychological Skills and their Application	13	
	170	70

TERM - I

Unit I: Intelligence and other Psychological Positions (20 Periods)

The unit aims at studying how people differ with respect to intelligence and aptitude.

Variations in individual behaviour: Theories of Intelligence; Culture and Intelligence; Emotional intelligence; Creativity, Interest, Values, Aptitude: Nature and types; Assessment of psychological attributes.

Unit II: Self and Personality (24 Periods)

This unit focuses on the study of self and personality in the context of different approaches in an effort to appraise the person. The assessment of personality will also be discussed.

Aspects of Self: Self Concept, Self-esteem and Self-regulation; Culture and self; Personality: Approaches to Study Personality: Type and Trait, Psychodynamic, Humanistic Existential, Behavioural and Cultural; Assessment of Personality: Self-report Measures, Behavioural Analysis, and Projective Measures.

Unit III: Human Strengths and Meeting Life Challenges (14 Periods)

This unit deals with the nature of stress and how responses to stress depend on an individual's appraisal of stressors. Strategies to cope with stress will also be dealt with.

Life challenges and adjustment; Concept of adaptation; Positive Psychology; Human strengths and virtues: Stress, nature, types and coping; Concepts of health and well-being; Life Skills.

Unit IV: Psychological Disorders (24 Periods)

This unit discusses the concepts of normality and abnormality and the major psychological disorders.

Concepts of abnormality and psychological disorders, Causal factors associated with abnormal behaviour, Classification of disorders, Major psychological disorders: Anxiety, Somato-form, Dissociative, Mood, Schizophrenic, Developmental and Behavioural, Substance Related, Internet-addiction.

Unit V: Therapeutic Approaches and Counselling

20 Periods

This unit discusses the goals, techniques and effectiveness of different approaches to treat psychological disorders.

Nature and process of therapy; Nature of therapeutic relationship; Types of therapies: Psycho-dynamic, Humanistic, Cognitive, Behaviour; Alternative therapies: Yoga, Meditation, Zen; Rehabilitation of mentally ill people. Counselling, Prevention of mental disorders.

TERM - II

Unit VI: Social Cognition and Attitude

20 Periods

This unit focuses on the formation and change of attitudes, cultural influences on attributional tendencies and conditions influencing pro-social behaviour.

Explaining behaviour through attributions; Social cognition; Schemas and Stereotypes; Impression formation; Nature and components of attitudes; Attitude formation and change; Pro-social Behaviour; Prejudice and discrimination; Strategies for handling prejudice.

Unit VII: Social Influence and Group Processes

(22 Periods)

The unit deals with the concept of group, its functions and the dynamics of social influence processes like conformity, obedience and compliance. Different conflict resolution strategies will also be discussed. Illustrations from Indian society context will be used.

Processess of Social Influence: Nature of Conformity, Obedience, and Compliance; Cooperation and Competition; Groups: Nature, formation and types; Influences of Group on individual behaviour; Social identity; Inter-Group Conflict; Conflict Resolution Strategies.

Unit VIII: Environmental and Social Concerns

13 Periods

This unit focuses on the application of psychological understanding to some important social issues.

Human-environment relationship; Human impact on Environment. Noise, Pollution, Crowding; Natural disasters, Psychology and Social Concerns: Aggression and Violence, Social Inequality and Poverty; Impact of media; Promoting pro-environmental behaviour.

Unit IX: Developing Psychological Skills and their Application

13 Periods

(This unit introduces some of the important Psychological skills and their Application in their personal and social life)

Domains of psychological application: Psychological testing, Observational Skills, Interviewing Skills, Communication Skills.

Practicals

30 Marks 60 Periods

- A. Development of case profile:
Using appropriate methods like, interview, observation and psychological tests.
- B. Test administration:
Students are required to administer or interpret five tests.
- C. In Practical examination, the student will be required to administer and interpret two psychological tests.

Distribution of Marks:

- | | |
|--------------------|----------|
| (i) Practical File | 10 Marks |
|--------------------|----------|

- | | |
|---|----------|
| (ii) Viva Voce (Case profile and practical) | 05 Marks |
| (iii) Two practicals (5 for accurate conduct and 10 for reporting). | 15 Marks |

Prescribed Books:

1. Psychology, Class XI, Published by NCERT
2. Psychology, Class XII, Published by NCERT
3. Supplementary Reading Material in Psychology for Classes XI and XII (available on the CBSE website www.cbse.nic.in).

Note: The above textbooks and reading material are also available in Hindi medium.

QUESTION PAPER DESIGN 2014-15									
PSYCHOLOGY			CODE NO.037				CLASS-XII		
TIME: 3 Hours			Max. Marks: 70						
S. No	Typology of Questions	Learning outcomes and Testing Competencies	Learning checks (LC) (1 Mark)	Very Short Answer (VSA) (2 Marks)	Short Answer-I (SA-I) (3 Marks)	Short Answer-II (SA-II) (4 Marks)	Long Answer (LA) (6 Marks)	Total Marks	% Weightage
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	<ul style="list-style-type: none"> • Reasoning • Analytical Skills • Critical Thinking Skillsetc. 	3	2	-	2	1	21	30%
02	Understanding- (Comprehension –to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		-	4	1	1	1	21	30%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)		3	-	1	2	-	14	20%
04	High Order Thinking Skills (Analysis& Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		4	-	1	-	-	07	10%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		-	-	1	1	-	07	10%
	TOTAL		10×1=10	6×2=12	4×3=12	6×4=24	2×6=12	70 (28)	100%

25. SOCIOLOGY (CODE NO 039)

Rationale

Sociology is introduced as an elective subject at the senior secondary stage. The syllabus is designed to help learners to reflect on what they hear and see in the course of everyday life and develop a constructive attitude towards society in change; to equip a learner with concepts and theoretical skills for the purpose. The curriculum of Sociology at this stage should enable the learner to understand dynamics of human behaviour in all its complexities and manifestations. The learners of today need answers and explanations to satisfy the questions that arise in their minds while trying to understand social world. Therefore, there is a need to develop an analytical approach towards the social structure so that they can meaningfully participate in the process of social change. There is scope in the syllabus not only for interactive learning, based on exercises and project work but also for teachers and students to jointly innovate new ways of learning.

- Sociology studies society. The child's familiarity with the society in which she /he lives in makes the study of Sociology a double edged experience. At one level Sociology studies institutions such as family and kinship, class, caste and tribe religion and region- contexts with which children are familiar of, even if differentially. For India is a society which is varied both horizontally and vertically. The effort in the books will be to grapple overtly with this both as a source of strength and as a site for interrogation.
- Significantly the intellectual legacy of Sociology equips the discipline with a plural perspective that overtly engages with the need for defamiliarization, to unlearn and question the given. This interrogative and critical character of Sociology also makes it possible to understand both other cultures as well as relearn about one's own culture.
- This plural perspective makes for an inbuilt richness and openness that not too many other disciplines in practice share. From its very inception Sociology has had mutually enriching and contesting traditions of an interpretative method that openly takes into account 'subjectivity' and causal explanations that pay due importance to establishing causal correspondences with considerable sophistication. Not surprisingly its field work tradition also entails large scale survey methods as well as a rich ethnographic tradition. Indeed Indian sociology, in particular has bridged this distinction between what has often been seen as distinct approaches of Sociology and social anthropology. The syllabus provides ample opportunity to make the child familiar with the excitement of field work as well as its theoretical significance for the very discipline of Sociology.
- The plural legacy of Sociology also enables a bird's eye view and a worm's eye view of the society the child lives in. This is particularly true today when the local is inextricably defined and shaped by macro global processes.
- The syllabus proceeds with the assumption that gender as an organizing principle of society cannot be treated as an add on topic but is fundamental to the manner that all chapters shall be dealt with.
- The chapters shall seek for a child centric approach that makes it possible to connect the lived reality of children with social structures and social processes that Sociology studies.
- A conscious effort will be made to build into the chapters a scope for exploration of society that makes learning a process of discovery. A way towards this is to deal with sociological concepts not as givens but a product of societal actions humanly constructed and therefore open to questioning.

Objectives

1. To enable learners to relate classroom teaching to their outside environment.
2. To introduce them to the basic concepts of Sociology that would enable them to observe and interpret social life.
3. To be aware of the complexity of social processes.
4. To appreciate diversity in society in India and the world at large.
5. To build the capacity of students to understand and analyze the changes in contemporary Indian society.

**SOCIOLOGY (CODE 039)
CLASS-XI (2013-14)**

One Paper Theory

3 Hours
Marks 80

Unitwise Weightage

Units	Periods	Marks
A. Introducing Sociology		34
1. Society, Sociology and relationship with other Social Sciences	20	
2. Basic Concepts	20	
3. Social Institutions	22	
4. Culture and Society	18	
5. Practical in Sociology : Methods and Techniques: Evaluated through Practical	20	
B. Understanding Society		46
6. Structure, Process and Stratification	20	
7. Social Change	20	
8. Environment and Society	16	
9. Western Social Thinkers	22	
10. Indian Sociologists	22	
	200	80

CLASS-XI

Practical Examination

40 Periods

Max. Marks 20

Time allotted : 3hrs

Unitwise Weightage	
A. Project (undertaken during the academic year at school level)	07 marks
i. Statement of the purpose	
ii. Methodology / Technique	
iii. Conclusion	
B. Viva - based on the project work	05 marks
C. Research design	08 marks
i. Overall format	
ii. Research Question/Hypothesis	
iii. Choice of technique	
iv. Detailed procedure for implementation of technique	
v. Limitations of the above technique	
	Total 20 Marks

A. INTRODUCING SOCIOLOGY	34 Marks
Unit 1:Society and Sociology and Relationship with other Social Sciences	20 Periods
<ul style="list-style-type: none">● Introducing Society: Individuals and collectivities. Plural Perspectives● Introducing Sociology: Emergence. Nature and Scope. Relationship to other disciplines	
Unit 2:Basic Concepts	20 Periods
<ul style="list-style-type: none">● Social Groups● Status and Role● Social Stratification● Social Control	
Unit 3:Social Institutions	22 Periods
<ul style="list-style-type: none">● Family, Marriage and Kinship● Political and Economic Institutions● Religion as a Social Institution● Education as a Social Institution	
Unit 4:Culture and Society	18 Periods
<ul style="list-style-type: none">● Culture, Values and Norms: Shared, Plural, Contested● Socialization: Conformity, Conflict and the Shaping of Personality	
Unit 5:Practical in Sociology: Methods and Techniques	20 Periods
<ul style="list-style-type: none">● Methods: Participant Observation, Survey● Tools and Techniques: Observation, Interview, Questionnaire● The Significance of Field Work in Sociology	
B. UNDERSTANDING SOCIETY	46 Marks
Unit 6:Structure, Process and Stratification	20 Periods
<ul style="list-style-type: none">● Social Structure● Social Processes: Cooperation, Competition, Conflict● Social Stratification: Class, Caste, Race, Gender	
Unit 7:Social Change	20 Periods
<ul style="list-style-type: none">● Social Change: Types and Dimensions; Causes and Consequences● Social Order: Domination, Authority and Law; Contestation, Crime and Violence● Village, Town and City: Changes in Rural and Urban Society	
Unit 8:Environment and Society	16 Periods
<ul style="list-style-type: none">● Ecology and Society● Environmental Crises and Social Responses	

Unit 9: Western Social Thinkers

22 Periods

- Karl Marx on Class Conflict
- Emile Durkheim on Division of Labour
- Max Weber on Bureaucracy

Unit 10: Indian Sociologists

22 Periods

- G.S. Ghurye on Race and Caste
- D.P. Mukherjee on Tradition and Change
- A.R. Desai on the State
- M.N. Srinivas on the Village

10Marks

QUESTION PAPER DESIGN 2013-14							
SOCIOLOGY		CODE NO.039			CLASS-XI		
TIME: 3 Hours				Max. Marks: 80			
S.No	Typology of Questions	Learning outcomes and Testing Competencies	Very Short Answer (VSA) (2 Marks)	Short Answer (SA) (4 Marks)	Long Answer (LA) (6 Marks)	Total Marks	%Weightage
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	<ul style="list-style-type: none"> • Reasoning • Analytical Skills • Critical Thinking Skillsetc. 	5	2	1	24	30%
02	Understanding- (Comprehension –to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		3	1	1	16	20%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)		3	2	1	20	25%
04	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		1	1	1	12	15%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		2	1	-	08	10%
TOTAL			14×2=28	7×4=28	4×6=24	80(25)	100%

**SOCIOLOGY (CODE 039)
CLASS–XII (2014-15)**

One Paper Theory **Marks 80**
Unitwise Weightage **3 hours**

Units	Periods	Marks
A. Indian Society		32
1. Introducing Indian Society	10	Non evaluative
2. Demographic Structure and Indian Society	10	
3. Social Institutions-Continuity and Change	12	
4. Market as a Social Institution	10	
5. Pattern of Social Inequality and Exclusion	20	
6. Challenges of Cultural Diversity	16	
7. Suggestions for Project Work	16	Non evaluative
B. Change and Development in Indian Society		48
8. Structural Change	10	
9. Cultural Change	12	
10. The Story of Democracy	18	
11. Change and Development in Rural Society	10	
12. Change and Development in Industrial Society	14	
13. Globalization and Social Change	10	
14. Mass Media and Communications	14	
15. Social Movements	18	
	200	80

**Practical Examination
Class - XII**

40 Periods

Max. Marks: 20 **Time allotted : 3 Hrs**

Unitwise Weightage

A. Project (undertaken during the academic year at school level)	07 marks
i. Statement of the purpose	
ii. Methodology / Technique	
iii. Conclusion	
B. Viva - based on the project work	05 marks
C. Research design	08 marks
i. Overall format	
ii. Research Question/Hypothesis	
iii. Choice of technique	

- iv. Detailed procedure for implementation of technique
 v. Limitations of the above technique
 B & C to be administered on the day of the external examination

		Total 20 Marks
A. INDIAN SOCIETY		58 Marks
Unit 1: Introducing Indian Society		10 Periods
<ul style="list-style-type: none"> ● Colonialism, Nationalism, Class and Community 		
Unit 2: Demographic Structure and Indian Society		10 Periods
<ul style="list-style-type: none"> ● Rural-Urban Linkages and Divisions 		
Unit 3: Social Institutions: Continuity and Change		12 Periods
<ul style="list-style-type: none"> ● Family and Kinship ● The Caste System 		
Unit 4: Market as a Social Institution		10 Periods
<ul style="list-style-type: none"> ● Market as a Social Institution 		
Unit 5: Pattern of Social Inequality and Exclusion		20 Periods
<ul style="list-style-type: none"> ● Caste Prejudice, Scheduled Castes and Other Backward Classes ● Marginalization of Tribal Communities ● The Struggle for Women's Equality ● The Protection of Religious Minorities ● Caring for the Differently Abled 		
Unit 6: The Challenges Of Cultural Diversity		16 Periods
<ul style="list-style-type: none"> ● Problems of Communalism, Regionalism, Casteism and Patriarchy ● Role of the State in a Plural and Unequal Society ● What We Share 		
Unit 7: Suggestions For Project Work		16 Periods
B. CHANGE AND DEVELOPMENT IN INDIA		48 Marks
Unit 8: Structural Change		10 Periods
<ul style="list-style-type: none"> ● Colonialism, Industrialization, Urbanization 		
Unit 9: Cultural Change		12 Periods
<ul style="list-style-type: none"> ● Modernization, Westernization, Sanskritisation, Secularization ● Social Reform Movements and Laws 		

Unit 10: The Story of Democracy	18 Periods
<ul style="list-style-type: none">● The Constitution as an instrument of Social Change● Parties, Pressure Groups and Democratic Politics● Panchayati Raj and the Challenges of Social Transformation	
Unit 11: Change and Development in Rural Society	10 Periods
<ul style="list-style-type: none">● Land Reforms, Green Revolution and Agrarian Society	
Unit 12: Change and Development in Industrial Society	14 Periods
<ul style="list-style-type: none">● From Planned Industrialization to Liberalization● Changes in the Class Structure	
Unit 13: Globalisation and Social Change	10 Periods
Unit 14: Mass Media and Communication Process	14 Periods
Unit 15: Social Movements	18 Periods
<ul style="list-style-type: none">● Class-Based Movements: Workers, Peasants● Caste-Based Movements: Dalit Movement, Backward Castes, Trends in Upper Caste Responses● Women's Movements in Independent India● Tribal Movements● Environmental Movements	

Prescribed Books:

1. Introducing Sociology, Class XI, Published by NCERT
2. Understanding Society, Class XI, Published by NCERT
3. Indian Society, Class XII, Published by NCERT
4. Social Change and Development in India, Class XII, published by NCERT

QUESTION PAPER DESIGN 2014-15							
SOCIOLOGY		CODE NO.039			CLASS-XII		
TIME: 3 Hours				Max. Marks: 80			
S.No	Typology of Questions	Learning outcomes and Testing Competencies	Very Short Answer (VSA) (2 Marks)	Short Answer (SA) (4 Marks)	Long Answer (LA) (6 Marks)	Total Marks	% Weightage
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	<ul style="list-style-type: none"> • Reasoning • Analytical Skills • Critical Thinking Skillsetc. 	5	2	1	24	30%
02	Understanding- (Comprehension –to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		3	1	1	16	20%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)		3	2	1	20	25%
04	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		1	1	1	12	15%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		2	1	-	08	10%
TOTAL			14 × 2 = 28	7 × 4 = 28	4 × 6 = 24	80(25)	100%

26. PHILOSOPHY (CODE NO. 040)

Objectives

Philosophy is a theoretical enterprise, which discusses critically fundamental questions about life and reality. It deals with fundamental concepts and principles, which pertain to different disciplines but are not examined within these disciplines. In India, philosophy is called *darsana*, and means exploring the meaning of life, which enables a person to move towards the realization of the ultimate truth. This syllabus is designed to give students a glimpse of the nature of philosophical inquiry and issues discussed in both Indian and Western traditions in their main branches of Philosophy: Epistemology, Logic, Ethics, and Metaphysics. The course will encourage students to do reflective and critical thinking, and develop a perspective on life and the world.

Class XI (Theory) (2013-14)

Theory Paper

100 marks
Time: 3 Hours

S. No.	Units	No. of Periods	Marks
1	Indian Theories of Knowledge (Epistemology)	50	20
2	Western Theories of Knowledge (Epistemology)	50	20
3	Principles of Reasoning (Logic)	140	60
	Total	240	100

Unit 1: Indian Theories of Knowledge (Epistemology)	(Total 50 Periods)	20 Marks
(i) Classification of Indian philosophical systems		(5 pds)
(ii) Six ways of knowing in Indian Philosophy		(5 pds)
(iii) Nyaya of definition of perception and distinction between determinate and indeterminate perception		(10 pds)
(iv) Buddhist view on indeterminate perception		(10 pds)
(v) Nyaya view on inference (Nyaya): Vyapti, tarka, and kinds of Anumana		(15 pds)
(vi) Carvaka's critique of inference		(5 pds)
Unit 2: Western Theories of Knowledge (Epistemology)	(Total 50 Periods)	20 Marks
(vii) Rationalism: Descartes on universal and certain knowledge, Method of doubt		(12 pds)
(viii) Empiricism: Locke on rejection of innate ideas, origin of ideas, kinds of knowledge		(13 pds)
(ix) Hume - Impressions and Ideas, Kinds of knowledge, skepticism (causation, self)		(12 pds)
(x) Kant: Synthetic a priori knowledge		(13 pds)
Unit 3: Principles of Reasoning (Logic)	(Total 140 Periods)	60 Marks
(A) Aristotelian Logic		25 Marks
(xi) The nature and subject-matter of logic		(10 pds)

(xii) Terms, sentences, propositions, truth and validity	(15 pds)
(xiii) Relations between propositions - square of opposition	(20 pds)
(xiv) Changing sentences into their logical form	(15 pds)
(xv) Categorical syllogism	(20 pds)
(B) Symbolic Logic	25 Marks
(xvi) Value of use of symbols, symbolization, variable and constant	(15 pds)
(xvii) Truth function and truth-functional connectives, Truth Table	(22 pds)
(C) Inductive Reasoning	10 Marks
(xviii) Mill's Methods of Experimental Inquiry	(23 pds)

References:

Nigel Warburton, Philosophy: The Basics

Jeffrey Tlumark, Classical Modern Philosophy, Routledge Contemporary Introduction to Philosophy.

Chatterji and Dutta, Introduction to Indian Philosophy (Hindi translation available)

Bhola Nath Roy, A Textbook of Inductive Logic (Hindi translation available)

Bhola Nath Roy, A Textbook of Deductive Logic (Hindi translation available)

QUESTION PAPER DESIGN 2013-14							
PHILOSOPHY		CODE NO. 040				CLASS-XI	
TIME: 3 Hours				Max. Marks: 100			
S. No.	Typology of Questions	Learning outcomes and Testing Competencies	Very Short Answer (VSA) (2 Marks)	Short Answer (SA) (3 Marks)	Long Answer (LA) (6 Marks)	Total Marks	% Weightage
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	<ul style="list-style-type: none"> • Reasoning • Analytical Skills • Critical Thinking Skillsetc. 	3	3	1	21	21%
02	Understanding- (Comprehension –to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		4	4	2	32	32%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)		-	2	-	06	06%
04	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		5	4	2	34	34%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		2	1	-	07	07%
TOTAL			14 × 2 = 28	14 × 3 = 42	5 × 6 = 30	100(33)	100%

Class XII (Theory) (2014-15)

Theory Paper

**Time: 3 Hours
100 Marks**

S. No.	Units	No. of Periods	Marks
1	Unit 1 : Ethics (Moral Philosophy)	175	70
2	Unit 2 : Theory of Reality (Metaphysics)	65	30
	Total	240	100

Unit 1: Ethics (Moral Philosophy) (Total 175 pds) 70 Marks

A. Western Ethical Theories) 25 Marks (50 Periods)

- (i) Divine Command theory (05 Periods)
- (ii) Aristotle's virtue ethics (15 Periods)
- (iii) Immanuel Kant's deontology (15Periods)
- (iv) J.S. Mill's Utilitarianism (15 Periods)

B. Indian Ethics 25 Marks (70 Periods)

- (v) The concept of Rta; the concept and kinds of Dharma: samanyadharma, apaddharma, varnasramadharm (15 Periods)
- (vi) Purusarthas: Dharma, artha, kama, moksa (10 Periods)
- (vii) The Bhagavadgita on svadharma, niskama-karma, lokasamgraha (10 Periods)
- (viii) Buddhist view on Pancasila, Eightfold Path(astanga-marga), Brahmavihara, Bodhisattva's vows (10 Periods)
- (ix) Jaina view on panca-mahavrata (10 Periods)
- (x) Mahatma Gandhi and Vivekananda on religious tolerance (15 Periods)

C. Ethical Concerns 20 Marks (55 Periods)

- (xi) Gender equality (10 Periods)
- (xii) Ambedkar's critique of caste and untouchability (10 Periods)
- (xiii) Theories of punishment, issue of capital punishment (15 Periods)
- (xiv) Human Rights (10 Periods)
- (xv) Environmental degradation (10 Periods)

Unit 2: Theory of Reality (Metaphysics) (Total 65 pds) 30 Marks

- (xvi) Proofs for the existence of God: Ontological, cosmological, and design arguments; Problem of Evil (20 Periods)
- (xvii) Descartes on mind-body dualism (10 Periods)

(xviii) Nyaya proofs for the existence of God	(10 Periods)
(xix) The Bhagavadgita on the immortality of soul and rebirth	(10 Periods)
(xx) Jaina view on anekantavada, syadvada	(15 Periods)

References:

Smith and Titus, Living Issues in Philosophy

William Lillie, An Introduction to Ethics

Duncan Richter, Why be Good: A Historical Introduction to Ethics

Peter singer, Practical Ethics

I.C. Sharma, Ethical Philosophy: Philosophies of India, Allen and Unwin, 1991

Y.V. Satyanarayana, Ethics Theory and Practice, Pearson 2010

QUESTION PAPER DESIGN 2014-15							
PHILOSOPHY			CODE NO. 040			CLASS-XII	
TIME: 3 Hours			Max. Marks: 100				
S. No.	Typology of Questions	Learning outcomes and Testing Competencies	Very Short Answer (VSA) (2 Marks)	Short Answer (SA) (3 Marks)	Long Answer (LA) (6 Marks)	Total Marks	% Weightage
01	Remembering- (Knowledge based) Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	<ul style="list-style-type: none"> • Reasoning • Analytical Skills • Critical Thinking Skillsetc. 	3	3	1	21	21%
02	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		4	4	2	32	32%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)		-	2	-	06	06%
04	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		5	4	2	34	34%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		2	1	-	07	07%
TOTAL			14×2=28	14×3=42	5×6=30	100(33)	100%

27. CREATIVE WRITING AND TRANSLATION STUDIES (CODE NO. 069)

I. Aims and Objectives of the Course

a) Creative Writing

1. Understand literature as a creative act.
2. Understand the creative process involved in literary composition.
3. Understand different forms and techniques of literary composition such as types of prose, poetry and drama.
4. Appreciate the writer's purpose, intended meaning, attitudes and moods experienced and cultural appeal.
5. Formulate the emotional and intellectual response to literary composition.
6. Understand multiplicity of meanings of a composition including indirect and figurative meaning.
7. Write original composition in prose, poetry and drama.

b) Translation Studies

To make learners :

1. Aware of the process of translation.
2. Understand the difficulty of translating across languages.
3. Able to translate simple text effectively.

c) Approach

This course is as much teacher centred as student centred. That implies the teacher herself/himself shall display in his/her interactions a degree of literary sensibility and sensitivity.

It is expected that teacher will:

- Articulate multiple meanings as an example of readings.
- Draw the attention of students to indirect and figuratively expressed meanings.
- Explain the feature and effect of different forms of literary composition.

It is also expected that the learners shall develop a holistic appreciation of literature in terms of listening, speaking, reading and writing (LSRW).

Learners are to participate in the process of literary appreciation and treat their own responses with respect.

d) Methodology

Classroom discussions and a brief exposition of composition by students to cultivate the ability to express and reflect the grounds of their response.

ACQUISITION OF LANGUAGE SKILLS

LISTENING

Listening and Speaking (Aural and Oral)

I. Objectives of Aural and Oral Skills involved in the conduct of the course are to develop the ability to:

- listen to different types of texts and appreciate the difference of forms, styles and purpose of a composition.
- listen to different discourses such as speeches, lectures and actively participate in ensuing discussions.
- listen to reports and other expository texts and extract relevant information.
- listen to poetry for understanding the features of the language of the poetry and the mode of expression of sentiments and emotions.
- take part in role-plays and enact different characters in drama.
- develop the art of public speaking.
- read poems aloud emotively.

II. Approach to Listening Skills

The idea is to adopt practices that cultivate the ability to listen attentively and speak carefully. Learners are to be exposed to listening to actual literary compositions.

READING

I. Objectives of Reading

To develop in the learners the ability to :

- use dictionaries, thesaurus and reference materials both hard and soft copy
- read at different levels of reading i.e. skimming, scanning and close reading
- infer and understand the writer's attitude, bias, if any
- comprehend the difference between what is said and what is implied
- differentiate between persuasion, exposition and imaginative expression
- understand the cultural context of the work
- identify different figures of speech
- develop a personal response to the given text
- appreciate the special features of the language used in literary texts
- identify the elements of style such as humour, pathos, satire and irony in the text
- explore and evaluate features of character, plot, setting, etc.
- appreciate the oral, mobile and visual elements of drama

II. Approach to Reading

Learners to be encouraged and trained to :

- relate what they read to their life experiences

- comprehended, interpret and evaluate what they read
- extend their vocabulary through sustained reading
- read a composition at different levels to arrive at different layers of meaning.

WRITING

I. Objectives of Writing

To train the learners

- in oral responses to the questions based on text.
- different kinds of writings using appropriate vocabulary, language, length and style.
- to compare writings : reports, descriptions of people, places and processes.
- to write reports, autobiography, memoir, stories.
- to write reflective writing : using ideas and themes expressing one's view and using a persuasive writing style.
- to write travelogues and features using appropriate illustrations.
- to compare
 - essays on different themes.
 - simple stories in different narrative styles.
 - simple dialogues about different situations.
- to review a book or a film
- to deliver short speeches in an impressive or persuasive style.
- to compose a diary or a journal entry.
- to expand an outline into a full composition
- to compose poems using appropriate words
- to compose short poems of a given type, say, a lyric.

II. APPROACH

An interactive, participative and a multiskill approach is to be adopted which integrates LSR as precursor to the act of writing.

CREATIVE WRITING AND TRANSLATION STUDIES

CODE NO : 069

Class–XI (2013-14)

One paper

100 Marks

3 Hours

Section – Wise Weightage of the Paper

Section	Areas of Learning	Periods	Marks	
A.	Reading Comprehension (Three unseen passages, prose and poetry)	40	20	} 80
B.	Creative Writing Skills	40	20	
	Translation	40	20	
C.	Textual	60	20	
D	Portfolio Assessment (CCE - Internal)	40	20	
		220	100	

SECTION–A

READING COMPREHENSION

20 Marks

40 period

Three unseen passages (including poems) with a variety of questions on different levels of comprehension (literal, interpretative and critical) including marks for vocabulary such as inferring and word formation. The total number of words in the three passages, including the poem or a stanza, would be about 1050-1100.

The unseen passages would be:

1. **Non-fictional prose**, an excerpt 250-300 words in length (for extracting information, inferring and interpreting, evaluating and word building)
2. **Fictional prose**, a very short story or an excerpt, 250-300 words in length (for interpretation, understanding character, responding to the text)
3. **A short poem or a few stanzas (about 15 lines)** (for understanding central idea, appreciation and personal response)

These **passages or poems** could be of any one of the following types:

- a) Autobiographies or reflective writing like essays or articles.
- b) Excerpts from narrative and fictional writing like stories, novels and plays.
- c) A short poem like a sonnet or a lyric, or a stanza from a ballad or a longer lyrical poem.

SECTION-B

i) **CREATIVE WRITING SKILLS** 20 Marks 40 periods

Four writing tasks as indicated below:

- a. Develop a **composition** of personal writing such as a diary entry, memoir or an autobiography (200 words).
- b. Develop a **feature or a review** such as a travelogue, book or film review based on verbal or a visual input (200 words).
- c. Developing an **original poem** such as a sonnet or a lyric or free verse based on a given idea or theme, visual input, an incident or event in life.

ii) **TRANSLATION** 40 periods

- a. **Guided translation**, i.e., a piece of translated text for completion based on the original text (prose or poetry)
- b. **Open translation** of a prose piece (100 words)
- c. **Open translation** of a short poem or a stanza

SECTION-C

READER 20 Marks 60 periods

- a. Four questions of **three marks** each to be answered in **60-80 words** based on the understanding of the text.
- b. **One** out of the **two open ended** essay topics to be answered in **200 words**.

SECTION-D

PORTFOLIO ASSESSMENT 20 Marks 40 periods

The Reader has inbuilt suggestions and activities for the students' **Portfolio**.

20 marks have been allotted for the **Portfolio** wherein the following would be assessed:

- a. Ideas and their sequencing
- b. Applying the basic principles of the particular genre
- c. Use of correct and effective language
- d. Use of appropriate style
- e. Use of techniques and figures of speech

Note : The Portfolio will consist of a compilation of all written submissions over the duration of the course. A minimum of 15 written assignments each of creative writing and translation would need to be submitted. The submission would include both the original and improved versions of assigned tasks reflective of gradual improvement.

The Portfolio will be evaluated according to the following criteria :

1. Regularity in submission of both class and home written assignments.
2. Quality of tasks with emphasis on creative and comprehensive application.

3. Average grades of all Creative Writing and Translation written tasks.
4. Oral Communication Skills and classroom transaction.

Conversation Skills will be tested as part of **Continuous Assessment**. The learners may be assessed for making relevant responses to the text, formulating a point of view and defending it. Learners will also be assessed for their ability to read aloud with adequate modulations, portions from stories, poems or plays. Dramatization would be another aspect which would be used for exercising their spoken skills.

NOTE: The Portfolio can be monitored and moderated at any time by an expert nominated by the Board.

Prescribed Books:

- Reader :**
1. Creative Writing and Translation Studies for Class XI published by CBSE.
 2. Srijan INCERT (Bilingual)

QUESTION PAPER DESIGN										
Creative Writing and Translation Studies					CLASS-XI (2013-14)					
TIME: 3 Hours					CODE NO.069					
S. No.	Typology of Questions	Learning outcomes and Testing Competencies	Very Short Answer-I (VSA-I) (1 Mark)	Short Answer-I (SA-I) (2 Marks)	Short Answer-II (SA-II) (3 Marks)	Short Answer-III (SA-III) (4 Marks)	Long Answer-I (LA-I) (6 Marks)	Long Answer-II (LA-II) (8 Marks)	Total Marks	Max. Marks: 80
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	<ul style="list-style-type: none"> Reasoning Analytical Skills Critical Thinking 	-	-	4	-	-	-	12	15%
02	Understanding- (Comprehension –to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		12	4	-	-	-	-	20	25%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)		-	-	-	1	-	2	20	25%
04	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		-	-	-	-	-	1	08	10%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		-	-	-	-	2	1	20	25%
	TOTAL		12×1=12	4×2=08	4×3=12	1×4=04	2×6=12	4×8=32	80(27)	100%

CREATIVE WRITING AND TRANSLATION STUDIES

CODE NO. : 069

Class - XII (2014-15)

One paper

100 Marks

Section - Wise Weightage of the Paper

3 Hours

Section	Areas of Learning	Periods	Marks	
A.	Reading Comprehension (Three unseen passages, prose and poetry)	40	20	} 80
B.	Creative Writing Skills	40	20	
	Translation	40	20	
C.	Textual	60	20	
D	Portfolio Assessment (CCE - Internal)	40	20	
		220	100	

SECTION-A

A. READING COMPREHENSION

20 Marks 40 periods

Three unseen passages (including poems) with a variety of questions on different levels of comprehension (literal, interpretative and critical) including marks for vocabulary such as inferring and word formation. The total number of words in the three passages, including the poem or a stanza, would be about **1050-1100**.

The unseen passages would be:

1. **Non-fictional prose**, an excerpt **400-450 words** in length (for extracting information, inferring and interpreting, evaluating and word attack)
2. **Fictional prose**, a very short story or an excerpt, **300-350 words** in length (for interpretation, understanding character, responding to the text)
3. **A short poem** or a few stanzas (about 15 lines) (for understanding central idea, appreciation and personal response)

These **passages or poems** could be of any one of the following types:

1. Excerpts from expository or narrative writing like descriptions, reports, biographies, memoirs or autobiographies or reflective writing like essays or articles.
2. Excerpts from narrative and fictional writing like stories, novels and plays.
3. A short poem like a sonnet or a lyric, or a stanza from a ballad or a longer lyrical poem.

SECTION-B

I. CREATIVE WRITING SKILLS

20 Marks 40 periods

The following writing tasks are to be assigned and submitted:

- a) Develop a **composition** of personal writing such as a diary entry, memoir or an autobiography (**200 words**)
- b) Develop a **feature** or a **review** such as a travelogue, book or film review based on verbal or a visual input (**200 words**)
- c) Develop an **original piece** of writing based on a given idea or theme, visual input, an incident or event in life.

II. TRANSLATION

20 Marks 40 periods

The following tasks are to be assigned and submitted.

- Guided translation** i.e. a piece of translated text for completion based on the original text (**prose or poetry**)
- Open translation** of a prose piece (**100 words**)
- Open translation** of a short poem or a stanza

SECTION-C

READER

20 Marks 60 periods

- Four** questions out of five of three marks each to be answered in **60-80 words** based on the understanding of the text.
- One** out of the **two open ended** essay topics in **200 words**.

SECTION-D

PORTFOLIO ASSESSMENT

20 Marks 40 periods

The Reader has inbuilt suggestions and activities for the learner's Portfolio.

In Portfolio, 20 marks have been allotted for assessing the following :

- Ideas and their sequencing
- Applying the basic principles of the particular genre
- Use of correct and effective language
- Use of appropriate style
- Use of techniques and figures of speech.

Note: The Portfolio will consist of a compilation of all written submission over the duration of the course. A minimum of 15 written assignments each of Creative Writing and Translation would need to be submitted. The submission would include both the original and improved versions of assigned tasks reflective of gradual improvement.

The Portfolio will be evaluated according to the following criteria:

- Regularity in submission of both class and home written assignments.
- Quality of tasks with emphasis on creative and comprehensive application.
- Average grades of all Creative Writing and Translation written tasks.
- Oral Communication Skills and classroom transaction.

Conversation Skills will be tested as part of '**Continuous Assessment**'. The students can be assessed for making relevant responses to the text, making a point of view and defending their point of view. Students will also be assessed for their ability to read aloud portions from stories, poems or plays. Dramatization would be another aspect which would be used for exercising their spoken skills.

NOTE: The Portfolio can be monitored and moderated at any time by an expert nominated by the Board.

Prescribed Books:

Reader : Creative Writing and Translation Studies for Class XII published by CBSE.

Srijan II NCERT (Bilingual)

QUESTION PAPER DESIGN										
Creative Writing and Translation Studies					CLASS-XII (2014-15)					
TIME: 3 Hours					CODE NO.069					
S. No.	Typology of Questions	Learning outcomes and Testing Competencies	Very Short Answer-I (VSA-I) (1 Mark)	Short Answer-I (SA-I) (2 Marks)	Short Answer-II (SA-II) (3 Marks)	Short Answer-III (SA-III) (4 Marks)	Long Answer-I (LA-I) (6 Marks)	Long Answer-II (LA-II) (8 Marks)	Total Marks	% Weightage
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information)	<ul style="list-style-type: none"> Reasoning Analytical Skills Critical Thinking 	-	-	4	-	-	-	12	15%
02	Understanding- (Comprehension –to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		12	4	-	-	-	-	20	25%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations, Use given content to interpret a situation, provide an example, or solve a problem)		-	-	-	1	-	2	20	25%
04	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		-	-	-	-	-	1	08	10%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		-	-	-	-	2	1	20	25%
	TOTAL		12×1=12	4×2=08	4×3=12	1×4=04	2×6=12	4×8=32	80(27)	100%

28. PHYSICAL EDUCATION (Code No.048)

It covers the following:

- I. Eligibility conditions for opting Physical Education as an elective subject
- II. Conditions for granting affiliation to the schools for offering Physical Education as an elective subject
- III. Theory syllabus for class XI (Part A & B)
- IV. Theory syllabus for class XII (Part A & B)
- V. Part C - Practical - Distribution of marks for the practical

I. ELIGIBILITY CONDITIONS FOR OPTING PHYSICAL EDUCATION

The following category of students shall be permitted to opt for the Physical Education:

- Those granted permission to join the course should be medically fit to follow the Physical Education curriculum, theory and practical, prescribed by the Board.
- Those who have represented the school in the Inter School Sports and Games competitions in any game.
- The student should undergo the prescribed physical fitness test and secure a minimum of 40% score.

II. CONDITIONS FOR GRANTING AFFILIATION TO SCHOOLS FOR OFFERING PHYSICAL EDUCATION AS AN ELECTIVE SUBJECT

Only those schools satisfying the following conditions will be permitted to offer Physical Education as a course of study at +2 stage as an elective subject:

- (i) The school should have adequate open space to accommodate at least 200 M track and play fields for minimum three games/sports.
- (ii) The teacher handling the elective programme of Physical Education should hold a Master's Degree in Physical Education.
- (iii) The school should provide adequate funds for Physical Education and Health Education for purchase of equipment, books on Physical Education and also for the maintenance of sports facilities.

**PHYSICAL EDUCATION (CODE - 048)
CLASS XI (2013-14)**

Theory		Max. Marks 70 No. of Periods: 180
Unit I.	Physical Fitness, Wellness and Lifestyle	11 Periods
	<ul style="list-style-type: none">● Meaning and importance of Physical Fitness, Wellness and Lifestyle● Factors affecting Physical Fitness and Wellness● Indicators of Health - Physical and Psychological● Preventing Health Threats through Lifestyle Change● Components of positive lifestyle	
Unit II.	Changing Trends and Career in Physical Education	11 Periods
	<ul style="list-style-type: none">● Define Physical Education, its Aims and Objectives● Development of Physical Education - Post Independence● Concept and Principles of Integrated Physical Education● Concept and Principles of Adaptive Physical Education● Career Options in Physical Education	
Unit III.	Olympic Movement	11 Periods
	<ul style="list-style-type: none">● Ancient and Modern Olympics● Olympic Symbols, Ideals, Objectives and Values● International Olympic Committee● Indian Olympic Association● Dronacharya Award, Arjuna Award and Rajiv Gandhi Khel Ratna Award● Organisational set-up of CBSE Sports and Chacha Nehru Sports Award	
Unit IV.	Yoga	11 Periods
	<ul style="list-style-type: none">● Meaning and Importance of Yoga● Yoga as an Indian Heritage● Elements of Yoga● Introduction to - Asanas, Pranayam, Meditation and Yogic Kriyas● Prevention and Management of Common Lifestyle Diseases; Obesity, Diabetes, Hyper-Tension and Back-Pain	
Unit V.	Doping	10 Periods
	<ul style="list-style-type: none">● Meaning and types of Doping● Prohibited substances and methods	

- Athletes responsibilities
- Testing - in competition and Out-of-Competition
- Side effects of prohibited substances

Unit VI. Management of Injuries **11 Periods**

- Common sports injuries of soft Tissues, Joints and Bones
- First-Aid in Common Sports Injuries
- Prevention of Sports injuries
- Rehabilitation through Massage and Exercise

Unit VII. Test and Measurement in Sports **11 Periods**

- Define Test and Measurement
- Importance of Test and Measurement in Sports
- Calculation of BMI and Waist - Hip Ratio
- Somato Types (Endomorphy, Mesomorphy and Ectomorphy)
- Procedures of Anthropometric Measurement - Height, Weight, Arm and Leg Length and Skin Fold

Unit VIII. Fundamentals of Anatomy and Physiology **11 Periods**

- Define Anatomy, Physiology and its importance
- Function of skeleton system, Classification of bones and types of joints
- Function and structure of muscles
- Function and structure of Respiratory System
- Structure of Heart and introduction to Circulatory System

Unit IX. Biomechanics and Sports **11 Periods**

- Meaning and Importance of Biomechanics in Physical Education and Sports
- Newton's Law of Motion and its application in sports
- Levers and its types and its application in Sports
- Equilibrium - Dynamic and Static and Centre of Gravity and its application in sports
- Force - Centrifugal and Centripetal and its application in Sports

Unit X. Psychology and Sports **11 Periods**

- Definition and importance of Psychology in Physical Education and Sports
- Define and differentiate between 'Growth and Development'
- Developmental characteristics at different stage of development
- Adolescent problems and their management
- Define Learning, Laws of Learning and transfer of Learning

Unit XI Training in Sports

11 Periods

- Meaning and Concept of Sports Training
- Principles of Sports Training
- Warming up and limbering down
- Load, Adaptation and Recovery
- Skill, Technique and Style

Practical

**Max. Marks 30
No. of Periods 60**

- | | |
|---|------------|
| 01. Physical Fitness | - 05 Marks |
| 02. Athletics - Any two events - Sprints and Jumps* | - 05 Marks |
| 03. Health and Fitness Activities - Medicine Ball/Thera Tube/Pilates/Rope Skipping (Any one)- | 05 Marks |
| 04. Skill of any one Individual Game of choice from the given list*** | - 05 Marks |
| 05. Viva | - 05 Marks |
| 06. Record File** | - 05 Marks |

*The events being opted must be other than from those administered under Physical Fitness Test.

**1. Write benefits of Medicine Ball, Thera Tube and Pilates.

2. Measure BMI of ten members from family or neighbourhood and show graphical representation of the data.

3. Draw a neat diagram of Standard Track with all its specifications. Mention all the Track and Field Events.

Mention the latest records at Indian, World and Olympic Level.

***Badminton, Judo, Swimming, Table Tennis, Taekwondo and Tennis

**PHYSICAL EDUCATION (CODE 048)
CLASS XII (2014-15)**

THEORY

**Max. Marks 70
No. of Periods 180**

Unit I. Sports Environment and Society

11 Periods

- Meaning and need of sports environment
- Essential elements of positive sports environment
- Role of individual in improvement of sports environment
- Role of Spectators and media in creating positive sports environment
- Women participation - As discourse and Ideology

Unit II. Adventure Sports and Leadership Training

11 Periods

- Meaning and objectives of Adventure Sports
- Types of activities - Camping, Rock Climbing, Tracking, River Rafting and Mountaineering
- Material requirement and safety measures
- Identification and use of Natural Resources
- Conservation of environment
- Creating leaders through Physical Education

Unit III. Sports and Nutrition

11 Periods

- Balanced Diet and Nutrition: Macro and Micro Nutrients
- Nutritive and Non-Nutritive Components of Diet
- Eating Disorders - Anorexia Nervosa and Bulimia
- Effects of Diet on Performance
- Eating for Weight Control - A Healthy weight, The pitfalls of Dieting, food intolerance and food myths

Unit IV. Planning in Sports

11 Periods

- Meaning and Objectives of Planning
- Various Committees and its responsibilities
- Tournament - Knock-Out, League or Round Robin and Combination
- Procedure to draw Fixtures - Knock-Out (Bye and Seeding) and League (Staircase and Cyclic)
- Intramural and Extramural - Meaning, Objectives and its Significance
- Specific Sports Programme (Sports Day, Health Run, Run for Fun, Run for Specific Cause and Run for Unity)

Unit V. Postures **11 Periods**

- Meaning and concept of correct postures - standing and sitting
- Advantages of correct posture
- Common Postural Deformities - Knock Knee; Flat Foot; Round Shoulders; Lordosis, Kyphosis, Bow Legs and Scolioses
- Physical activities as corrective measures

Unit VI. Children and Sports **08 Periods**

- Motor development in children
- Factors affecting motor development
- Physical and Physiological benefits of exercise on children
- Advantages and disadvantages of weight training and food supplement for children
- Activities and quality of life

Unit VII. Test and Measurement in Sports **14 Periods**

- Measurement of Muscular Strength - Kraus Weber Test
- Motor Fitness Test - AAPHER
- Measurement of Cardio Vascular Fitness - Harward Step Test/Rockfort Test
- Measurement of Flexibility - Sit and Reach Test
- Rikli and Jones - Senior Citizen Fitness Test
 1. Chair Stand test for lower body strength
 2. Arm Curl test for upper body strength
 3. Chair Sit and Reach test for lower body flexibility
 4. Back Scratch test for upper body flexibility
 5. Eight Foot Up and Go test for agility
 6. Six minute walk test for Aerobic Endurance

Unit VIII. Physiology and Sports **11 Periods**

- Physiological factor determining component of Physical Fitness
- Effect of exercise on Cardio Vascular System
- Effect of exercise on Respiratory System
- Effect of exercise on Circulatory System
- Physiological changes due to ageing and role of regular exercise on ageing process

Unit IX. Biomechanics and Sports **11 Periods**

- Projectile and factors affecting Projectile Trajectory
- Angular and Linear Movements

- Introduction to Work, Power and Energy
- Friction
- Mechanical Analysis of Walking and Running

Unit X. Psychology and Sports **11 Periods**

- Understanding stress, anxiety and its management
- Coping Strategies - Problem Focused and Emotional focused
- Personality, its dimensions and types; Role of sports in personality development
- Motivation, its type and technique
- Self-esteem and Body image

Unit XI. Training in Sports **10 Periods**

- Strength - Definition, types and methods of improving strength - Isometric, Isotonic and Isokinetic
- Endurance - Definition, types and methods to develop Endurance - Continuous Training, Interval Training and Fartlek Training
- Speed - Definition, types and methods to develop speed - Acceleration run and pace run
- Flexibility - Definition, types and methods to improve flexibility
- Coordinative abilities - Definition and types

PRACTICAL **Max. Marks 30**

Periods - 60

- | | |
|---|------------|
| 01. Physical Fitness - AAHPER | - 05 Marks |
| 02. Athletics - Middle and Long Distance Runs and Throws* | - 05 Marks |
| 03. Health and Fitness Activities - Asanas/Swiss Ball/Plyometric/Aerobics (Any one) | - 05 Marks |
| 04. Skill of any one Team Game of choice from the given list*** | - 05 Marks |
| 05. Viva | - 05 Marks |
| 06. Record File** | - 05 Marks |

*The events being opted must be other than from those administered under Physical Fitness Test.

**1. Write benefits of Asanas, Swiss Ball and Plyometric.

2. Measure Resting Heart Rate and Respiratory Rate of ten members from family or neighbourhood for three weeks and show graphical representation of the data.

3. Draw a neat diagram of the Field/Court of any one Game of choice. Write its history, Rules and Regulations, Terminologies and Important Tournaments.

*** Athletics, Basketball, Football, Handball, Hockey, Kho Kho and Volleyball

29. FASHION STUDIES (CODE NO. 053)

Preamble:

Fashion is dynamic and ever changing. It is one of the most powerful forces in our lives. It influences every facet of our lifestyle at a particular period of time, e.g., the clothes we wear, the music we listen, the food we eat, where we go for holiday or the car we drive in, etc.

Fashion is a big business and key driver for several industries, e.g., apparel, accessories, textiles, automobiles, etc.

The purpose of the course 'Fashion Studies' is to tell the students about the fundamentals of fashion design. Fashion Design as a profession includes the entire process of designing and producing fashion apparels from the fibre and yarn stage to the finished product. The course will give an overview of fashion design and elaborate on different aspects like elements of design, history of fashion, fabrics, understanding of the body, pattern development and garment construction.

Total marks Theory : 70, Periods 180

Practical : 30, Periods 60

Course Structure Class XI (2013-14)

Unit	Periods	Marks
Unit - I Introduction to Fashion Studies	30	10
Unit-II Introduction to Fabrics	50	20
Unit-III Elements of Design	80	20
Unit-IV Elements of Garment Making	80	20
	180+60 for Practical	70+30 Practical 100

Unit - I: Introduction to Fashion Studies

30 Periods

Overview of Fashion

Objectives of the course

- To introduce students to fashion studies and provide an overview of fashion
- To familiarize students with essential fashion terminology and fashion theories
- To know about consumer segmentation
- To clarify the roles and responsibilities of fashion professionals

Learning outcomes

After finishing the course, the students will be able to:

- Demonstrate their knowledge of fundamental aspects of fashion
- Describe appropriate terminology and theories related to fashion

- Describe the process of fashion diffusion across consumer segments
- Demonstrate the fundamental knowledge related to the fashion industry

Course Content

- Understanding fashion- introduction and definition
- Factors influencing fashion
- Key Concepts and Terminology - trends, collection, style, art and craft, event garde and mass fashion, knock-offs limited fashion and co-branded labels, classics and fads
- Movement and Direction of fashion - Fashion Forecasting, Pendulum swing, Fashion cycles
- Theories of fashion movement - trickle-down, trickle-up, trickle-across
- Consumer segmentation
- Role of fashion professionals in Design, Technology, Merchandising

Teaching Methodology: Illustrated lectures with slides and visuals

Reference Text:

Concept to consumer, by Gini Stephens Frigns

Inside Fashion Business, by V. Jeanette A. Jarrow,

Miriam Guerrero, Beatrice Judelle

Unit - II:Introduction to Fabrics

50 Periods

Introduction to Fibres, Dyeing and Printing

Objectives of the course

- To introduce students with the world of fibres
- To introduce students to yarn formation and weaving
- To introduce students to the process of dyeing and printing

Learning outcomes

After finishing the course, the students will be able to:

- Identify different manmade and natural fibres
- Understand the conversion of fibre to fabric
- Appreciate the process of dyeing and printing of textiles

Course Content

- Fibre, classification of fibres and properties of fibres
- Yarn formation
- Weaving and basic weaves
- Dyeing of textiles
- Printing of textiles

Teaching Methodology: Illustrated lectures with slides and visuals along with actual fabric samples. The teacher would be expected to create a library of fabrics to explain and conduct the classes.

Reference Text:

'Textiles' by Sara Kadolph & Anna Langford

Essentials of Textiles, by Marjorie Joseph

Unit - III: Elements of Design

80 Periods

Design Fundamentals

Objectives of the course

- To introduce the students to the meaning of design
- To develop an understanding of Elements of Design and Principles of Design
- To develop and initialize a design vocabulary, an essential tool for practicing designers
- To develop skills of visualization and communication using design fundamentals

Learning outcomes

After finishing the course, the students will be able to

- Understand and apply the Elements of Design
- Understand and apply the Principles of Design
- Use basic design language
- Translate abstract, sensorial ideas into visual language

Course Content

- Understanding the meaning of design
- Understanding the basic Elements of Design - Dot, Line, Shape and Texture
- Understanding The Colour Theory - Hue, Tint, Shade, Tone, Colour Schemes
- The language and psychology of colour
- Understanding the basic Principles of Design- Rhythm, Balance, Contrast, Emphasis

Teaching Methodology: Illustrated lectures with slides, visuals and demonstrations wherever required.

Evaluation Criteria

- Understanding of the assignment given
- Quality of the work submitted
- Daily assessment after each student presents the work
- Marks would be given for level of improvement of work
- 10% marks to be given for punctuality, regularity and sincerity
- Timely completion of the project

Reference Text:

'Grafix' by Wolfganghageney

Repeat pattern-Peter Phillips, Gillian Bunce

Design Elements 2 -Richard Hora

Unit - IV: Elements of Garment Making

80 Periods

Objectives of the course

- To introduce the students to the skill of garment making
- To make them familiar with sewing machine and its various parts
- To make them familiar with the use of other sewing aids
- To teach them basic hand and machine stitches and their applications
- To teach them various simple sewing machine operations

Learning outcomes

After finishing the course, the students will be able to:

- Work sufficiently with proficiency on the sewing machine
- Rectify simple problems of the machine faced while stitching
- Stitch different kinds of seams using the sewing machine
- Finish garment edges with hand stitches
- Make gathers, pleats and tucks on the fabric

Course Content

- Introduction to sewing machine, its various parts and functions along with other sewing aids.
- Understanding the maintenance of sewing machine and simple problems and their solutions.
- Develop proficiency in straight and curved seams.
- Basic hand stitches - basting, hemming, back stitch, running stitch, etc., with their end use.
- Basic machine seams used for stitching or finishing various parts of the garments like plain seam, French seam, flat fell, lapped.
- Fabric manipulation like gathers, pleats and tucks.

Teaching Methodology: Illustrated lectures with slides, visuals and demonstrations where ever required.

Evaluation Criteria

- Understanding of the assignment given
- Quality of the work submitted
- Daily assessment after each student presents the work
- Marks would be given for level of improvement of work
- 10% marks to be given for punctuality, regularity and sincerity
- Timely completion of the project

Reference Text:

Encyclopaedia of Dressmaking, by Marshall Cavendish

Readers Digest book of Sewing, Encyclopedia of Sewing.

**FASHION STUDIES
PRACTICALS
CLASS - XI**

- Exercises using elements of art like line, form, colour, texture, space, etc., following the principles of design
- Exercises on colour wheel, value chart, intensity chart, colour schemes
- Exercises on hand stitches - basting, running, hemming, back stitch and its variations
- Seams - plain, French, lapped, flat fell, Hongkong, eased and top stitched
- Gathers, pleats and tucks
- End term project
- Viva voce and portfolio

QUESTION PAPER DESIGN

FASHION STUDIES

Code - 053

Class - XI (2013-14)

Time 3 Hours

Max. Marks: 70

S. No.	Typology of Questions	Very Short Answer (VSA) (1 mark)	Short Answer-I (SA-I) (2 marks)	Short Answer -II (SA-II) (3 marks)	Long Answer (L.A.) (5 marks)	Total Marks	% Weightage
01	Knowledge Based	1	1	2	---	9	13%
02	Conceptual Understanding	1	1	2	1	14	20%
03	Application Based and Inferential type	---	1	3	2	21	30%
04	Reasoning Based	3	3	1	---	12	17%
05	Skill Based	2	2	1	1	14	20%
	Total	7	8	9	4	70(28)	100%

FASHION STUDIES (Code 053)
CLASS XII (2014-15)

Unit	Periods	Marks
Unit-I History of Fashion	40	15
Unit-II Basic Pattern Development	80	20+15 (Theory + Practical)
Unit-III Elements of Fashion	40	15
Unit-IV Basics of Garment Making	80	20+15 (Theory + Practical)
	180+60 for Practical	70+30 = 100

Unit 1: History of Fashion

40 Periods

Objectives of the course

- To provide an overview of history of costume from ancient civilization to the present
- To explain the socio-cultural factors influencing costume
- To familiarize students with terminology of costume history

Learning outcomes

After finishing the course, the students will be able to do the following:

- Express their knowledge of history of clothing and costume
- Express their understanding of the role of multiple factors influencing costume
- Use appropriate terminology related to fashion history

Course Content

- Introduction to history of fashion, sources of information
- Factors affecting clothing - protection, ritualistic, identification, adornment
- Origin and development of costume -
 - i. Draped costume
 - ii. War costume - armour, techniques of construction, ancient war costumes, uniforms during World Wars, Oriental and Indian war costumes
- Industrial Revolution - mechanical inventions, influence on India
- Effect of World Wars on fashion
- Evolution of 20th century Indian fashion and influence of films on fashion
- International Trade
- Regulatory bodies for fashion and textiles in India

Teaching Methodology: Illustrated lectures with slides and visuals

Reference Text:

Kaleidoscope of fashion, by Mehar Castilino

Ancient Indian Costume, by Roshan Alkazi

Unit - II: Basic Pattern Development

80 Periods

Objectives of the course

- To introduce students to the World of Fashion Designing through pattern development
- To explain the importance of this skill that enable the designer to convert a design sketch into a three dimensional form
- To develop basic blocks for bodice, sleeve and skirt
- To understand and implement the concept and importance of test fits and to convert paper patterns into muslin

Learning outcomes

After finishing the course, the students will be able to

- Understand the basic skill of pattern making
- Understand and appreciate the concept of fit and balance
- Develop basic blocks from measurement charts and body measurements
- Test fit and correct the fit of the pattern
- Develop patterns for simple designs using basic blocks

Course Content

- Methods of measuring body and dress form
- Relationships of sizes and measurements
- Tools of pattern making
- Common terms used in pattern development
- Introduction to pattern Development for womenswear - how patterns are made and developed, the importance of fit and balance and methods of achieving it.
- Basic Bodice - developed from the standard measurement chart and test fitted on the dress form.
- Making the important details such as darts, seam allowance, notches gain lines, etc.
- Making of garment details Armholes, Necklines - V, U round, boat, square
- Develop basic sleeve block
- Develop basic skirt block with one dart or two darts.
- Basics of collar development basic collars like peter pan and Chinese
- Dart manipulation

Final product: Students will learn to develop patterns from basic blocks for simple designs for skirts and blouses.

Teaching Methodology: Illustrated lectures with slides, visuals and demonstrations where ever required.

Evaluation Criteria:

- Understanding of the assignment given
- Quality of the work submitted
- Daily assessment after each student presents the work
- Marks would be given for level of improvement of work
- 10% marks to be given for punctuality, regularity and sincerity
- Timely completion of the project

Reference Text:

Pattern making by Helen Armstrong

Pattern making for women's wear by Winifred Aldrich

Pattern making by Pamela Stringer.

Unit - III: Elements of Fashion

40 Periods

Elements of Fashion Clothing

Objectives of the course

- To introduce students to the basic segments in fashion clothing.
- To teach students about fashion, fashion centres, categories of clothing and trims.
- To sensitize students about different items of garments in each category, i.e., menswear, womenswear and childrens wear.
- To teach students the difference between high fashion and mass fashion garments.
- To distinguish between custom made and ready to wear garments.

Learning outcomes

After finishing the course, the students will be able to

- Understand the segments in fashion clothing
- Be aware of fashion terminologies
- Be aware of the fashion centres
- Know the various categories of menswear, womenswear and childrenswear
- Get the understanding of trims used in apparels
- Understand the difference between hi-fashion and mass-fashion, custom made and ready to wear garments.

Course Content

- Menswear, womenswear and kidswear
- Menswear - shirts, trousers, formal jackets, suit and sporty suit
- Womenswear - dresses, blouses, skirts, trousers, kameezes, saris and blouses
- Kids wear - garments for different age categories (between 0-15 years) jhabla, frocks, skirts, blouses, trousers, dungarees, T-shirts, etc., highlighting the need of age group for which they are designed.
- Trims used for the fashion apparel
- Hi-fashion, custom-made and ready to wear garments
- Mass-fashion ready to wear garments

Teaching Methodology: Illustrated lectures with slides and visuals.

Reference Text:

Concept to consumer by Gini Stephens Frings

Encyclopaedia of Fashion details

Unit - IV: Basics of Garment Making

80 Periods

Objectives of the course

- To teach students to assemble a garment
- To construct a bodice using different seams
- To stitch a placket for bodice opening
- To finish a neckline using piping and facing
- To set in a sleeve in the arm hole
- To gather or pleat the skirt and finish the waistline with a waist band or a bodice

Learning outcomes

After finishing the course, the students will be able to

- Assemble various parts of the garment and stitch a complete garment
- Finish a bodice with suitable seam finishes
- Set in the sleeve in the armhole
- Assemble a skirt and finish the waistline suitably

Course content

- Understanding fabric types and selection of underlining, interfacing, inter-lining
- Making method and preparing fabric for cutting
- Pattern layout and cutting of special fabrics
- Assembling of bodice using different seams and appropriate finish for side seam and shoulder seams
- Concept of slit and seam plackets. Various plackets and placement of fasteners on different parts of garment
- Appropriate neckline finishes with piping, bias facing and shaped facing. Importance and use of stay stitching.
- Sleeve attachment to the bodice by setting in the sleeve into armhole
- Assembling of skirt, finishing gathers and pleats into a waistband

Final product:

Constructing a skirt and blouse using pattern template

Teaching Methodology: Illustrated lectures with slides, visuals and demonstrations wherever required

Evaluation Criteria

- Understanding of the assignment given
- Quality of the work submitted
- Daily assessment after each student presents the work
- Marks would be given for level of improvement of work

- 10% marks to be given for punctuality, regularity and sincerity
- Timely completion of the project

Reference Text:

Encyclopedia of dressmaking by Marshall Cavendish

Readers Digest book of Sewing

Encyclopedia of Sewing

CLASS-XII: PRACTICALS

- Prepare draft and test fit according to the measurements of the dress from the following womens wear basic block, sleeve block, skirt block, collars - Chinese and Peterpan
- Exercises on dart manipulation using slash and spread method

Garment stitching and finishing

- Darts
- Waist bands
- Pockets
- Placket - slit and seam
- Neckline finish
- Sleeve attachments
- Construction of garment - skirt and blouse using pattern templates
- End term project
- Viva voce and portfolio

Lab requirement for a batch of 30 students

Lab size - 35ft x 20 ft. (minimum)

AC environment

Item	Nos.
Industrial sewing machines with power (costs at least ₹4,500/- each)	30
Pattern making tables 5 ft x 4 ft (cork top)	8 (4 students/tab)
Dress forms (half) costs ₹8000/- each	30 (one per student)
Steam irons @ ₹1000/-	4
Ironing boards @ ₹500/-	4
Soft boards all around the wall	
Stools	30
White board	1
Black board	1

Approximate cost will be ₹5,00,000/-

Selection criteria of school

They should have ability to provide appropriate environment, space, equipment, machinery and maintenance, trained faculty, exclusive library for the course, willingness to upgrade facility and faculty.

QUESTION PAPER DESIGN

FASHION STUDIES

Code - 053

Class - XII (2014-15)

Time 3 Hours

Max. Marks: 70

S. No.	Typology of Questions	Very Short Answer (VSA) (1 mark)	Short Answer-I (SA-I) (2 marks)	Short Answer -II (SA-II) (3 marks)	Long Answer (L.A.) (5 marks)	Total Marks	% Weightage
01	Knowledge Based	1	1	2	---	9	13%
02	Conceptual Understanding	1	1	2	1	14	20%
03	Application Based and Inferential type	---	1	3	2	21	30%
04	Reasoning Based	3	3	1	---	12	17%
05	Skill Based	2	2	1	1	14	20%
	Total	7	8	9	4	70(28)	100%

30. FINE ARTS

A student may offer any one of the following courses:

- (a) **Painting** (Code No. 049)
OR
- (b) **Graphics** (Code No. 050)
OR
- (c) **Sculpture** (Code No. 051)
OR
- (d) **Applied Art-Commercial Art** (Code No. 052)

The following art terminologies for all the four subjects are prescribed only for reference and general enrichment.

1. Elements of Composition : Point, line, form, colour, tone, texture and space.
2. Principles of Composition : Unity, harmony, balance, rhythm, emphasis and proportion, abstraction and stylisation.
3. Drawing and Painting : Foreshortening, perspective, eye-level, fixed point of view, vanishing point, ratio-proportion, sketching, proportion sketching, drawing, light and shade, painting from still-life, land- scape, anatomy, vertical, horizontal, two and three dimensional, transparent and opaque.

Materials : Paper (Cartridge, Handmade, etc.), pencil, water, acrylic colours, tempera colours, poster colours, pastel colours, waterproof ink, canvas and hard-board.
4. Media of Composition : Collage, Mosaic, Painting, Mural, Fresco, Batik Tie and Dye.
5. Sculpture : Relief and round sculpture, modelling with clay, terra-cotta, carving in wood, stone, bronze casting, Plaster of Paris and metal welding.
6. Graphics : Linocut, relief printing, etching, Lithography, silk screen printing letter press and offset printing.
7. Applied Art : Book cover design and illustration, cartoon, poster, advertisements for newspaper and magazine animation and printage processes, photography, computer graphic, hoarding and T.V.
8. Portfolio Assessment Method

Introduction: The Art Portfolio will consist of a compilation of all art work, from sketch to finished product. The submission would include both the original and improved versions of assigned tasks reflective of gradual improvement. Step by step development of the work will be assessed in all units.

Components of a Portfolio:

- Schedule of work
- Research Skills
- Resources and materials
- Study of connections with artists / art movements
- Art making skills

- Personal artist statement
- Studies (e. g., composition/techniques-medium)
- Picture of the final work (reflective skills)
- Evaluation of final work (affective skills)
- Any kind of personalized notes in relation to art work

Profile of Learners Growth

Values and Attitudes Rubric

The learner develops the ability to:

- Respect, appreciate and demonstrate an open mind towards the artistic expression of others
- Appears enthusiastic and willing to study artistic expressions from other cultures or regions of the world that are very different from own.
- Accept different forms and styles and tries to explore their meaning.
- Be sensitive towards other's creations
- Be ready to research and transfer his/her learning to his / her own art
- Take initiative
- Be responsible for his/her own learning and progress
- Apply theoretical knowledge in practical contexts
- Possess information and communication technology skills
- Be resourceful and organize information effectively
- Listen effectively

PORTFOLIO ASSESSMENT FOR FINE ARTS MAY BE DONE ON THE BASIS OF FOLLOWING CRITERIA

Creativity

Candidates are required to produce evidence that demonstrates a creative approach to problem-solving. Evidence should also include the ability to interpret a given brief and original approaches to produce a solution. Sketchbooks, notebooks and relevant support material should form part of this evidence.

1. Drawing
2. Detailed Study - observation, record, analysis, interpreting a variety of subject
3. Mood reflected
4. Follow-up of the Fundamentals of Visual Arts (Elements and Principles)
5. Message the artist wants to convey

Innovation

The knowledge gained with the help of case study (historical importance, great artist work). How has the above been understood in relation to the topic or the theme taken up by the student?

Technique

To foster creativity and self expression (basic understanding of colour concept and application in relation to colour and texture of the material used by the student). Size, details, proportion required according to the base used for the painting medium chosen according to their art stream. Techniques studied from folk style, contemporary art or traditional art should be used while creating a new concept.

The learners:

- Discover their potential for creativity, self-expression and visual awareness through painting.
- Feel confident with the chosen medium as a means of communicating and generating ideas.
- Develop observation, recording, manipulation and application skills.
- Experiment with a range of media and techniques.
- Relate their work to other artists work and understand the historical context of this work.
- Understand the basic principles of colour.
- Develop critical awareness.

Execution of Work

- Highlight the method of work giving a historical study of the work.
- Originality in the presentation (paintings, sketches, etc.)
- Demonstrate an understanding of basic colour principles, colour mixing and representation.
- Employ a variety of traditional and experimental techniques and processes
- Use a variety of media and materials
- Observe, record, analyse, interpret a variety of subjects, including :
 - the manufactured environment
 - the natural environment
 - the human figure
- Present evidence of personal enquiry and self expression
- Discuss and relate own work to recognized artists work
- Observe colour in other craft and design areas
- Make informed critical judgement on work in progress

Experimentation

A. Progressive Work

Candidates are required to show evidence of research carried out. It is expected that their skills will demonstrate evidence of process and the exploration of a wide range of subjects. An accepted standard of achievement using a range of media and material should be an integral part of the candidate's development.

B. Skills

Sound aesthetic judgement and organizational skills should be demonstrated in the process of work presented by a candidate.

C. Logical organization and collection of creations.

D. Critical evaluation and aesthetic judgement applied.

(A) PAINTING

(Code No. 049)

Introduction

The course in Painting at Senior Secondary stage as an elective subject is aimed to develop aesthetic sense of the students through the understanding of various important well known aspects and modes of visual art expression in India's rich cultural heritage from the period of Indus valley to the present time. It also encompasses practical exercises in drawing and painting to develop their mental faculties of observation, imagination, creation and physical skills required for its expressions.

Objectives**A) Theory (History of Indian Art)**

The objective of including the history of Indian Art for the students is to familiarise them with the various styles and modes of art expressions from different parts of India. This would enrich their vision and enable them to appreciate and develop an aesthetic sensibility to enjoy the beauty of nature and life. The students will also have an opportunity to observe and study the evolution of its mutations and synthesis with other style and the rise of an altogether new style. The students should be made aware of art as a human experience. The teachers should be able to expose them to the wide range of artistic impressions, the media and the tools used. The history of Indian art is a long one. Hence the students would be acquainted with brief glimpses of the development of Indian visual art as are required for concept formation. Examples included in the course of study are selected because of their aesthetic qualities and are intended purely as guidelines.

B) Practicals

The purpose of introducing practical exercises in painting is to help and enable the students:

- To develop skill of using drawing and painting material (surface, tools and equipment, etc.) effectively.
- To sharpen their observation skills through study of common objects and various geometrical and non-geometrical forms found in life and nature.
- To develop their skills to draw and paint these observations.
- To develop an understanding of painting-composition (The use of the elements and the principles of painting-composition).
- To create the forms and the colour schemes in imagination with an ability to express them effectively in drawing and painting.
- To express the different feelings and moods of life and nature in lines, forms and colours.

CLASS-XI (THEORY) (2013-14)

(Code 49)

One Theory Paper

40 Marks

Unitwise Weightage

Time: 2 Hours

Units	Periods	Marks
History of Indian Art		
1. Pre-Historic rock paintings and art of Indus Valley	12	10
2. Buddhist, Jain and Hindu Art	24	15
3. Temple Sculpture. Bronzes and Artistic aspects of Indo- Islamic architecture	36	15
	72	40

Unit 1:Pre-historic Rock Paintings and Art of Indus Valley

12 Periods

(2500 B.C. to 1500 B.C.)

1 A. Pre-Historic Rock-Paintings

Introduction

- 1) Period and Location
- 2) Study of following Pre-historic Paintings :
 - (i) A Roaring Animal, Bhimbethaka
 - (ii) Wizard's Dance, Bhimbethaka

B. Introduction

- (i) Period and Location.
- (ii) Extension: In about 1500 miles
 - (a) Harappa & Mohenjo-daro (Now in Pakistan)
 - (b) Ropar, Lothal, Rangpur, Alamgirpur, Kali Bangan, Banawali and Dholavira (in India)

2) Study of following

Sculptures and Terracottas:

- (i) Dancing girl (Mohenjo-daro)
Bronze, 10.5 x 5 x 2.5 cm.
Circa 2500 B.C.
(Collection: National Museum, New Delhi).
- (ii) Male Torso (Harappa)
Red lime Stone, 9.2 x 5.8 x 3 cms.
Circa 2500 B.C.
(Collection: National Museum, New Delhi).
- (iii) Mother Goddess (Mohenjo-daro) terracotta, 22 x 8 x 5 cm.
Circa 2500 B.C. (Collection: National Museum, New Delhi).

3) Study of following

Seal:

- (i) Bull (Mohenjo-daro)
Stone (Steatite), 2.5 x 2.5 x 1.4 cm.
Circa 2500 B.C. (Collection: National Museum, New Delhi).

4) Study of following :

Decoration on earthen wares:

- (i) Painted earthen-ware (Jar) Mohenjo-daro
(Collection: National Museum, New Delhi).

Unit 2:Buddhist, Jain and Hindu Art

24 Periods

(3rd century B.C. to 8th century A.D.)

- 1) General Introduction to Art during Mauryan, Shunga, Kushana Gandhara and Mathura style and Gupta period:

2) Study of following Sculptures:

- i) Lion Capital from Sarnath (Mauryan period)
Polished sand stone,
Circa 3rd Century B.C.
(Collection: Sarnath Museum, U.P.)
- ii) Chauri Bearer from Didar Ganj (Yakshi) (Mauryan period)
Polished sand stone
Circa 3rd Century B.C.
(Collection: Patna Museum, Bihar)
- iii) Bodhisattva head from Taxila (Kushan period-Gindhara style)
Stone, 27.5 x 20 x 15c.m.
Circa 2nd Century A.D.
(Collection: National Museum, New Delhi)
- iv) Seated Buddha from Katra C. Mound Mathura-(Kushan Period)-Mathura Style
Red-spotted Sand Stone, Circa 3rd Century AD.
Stone
(Collection: Govt. Museum, Mathura)
- v) Seated Buddha from Sarnath (Gupta period)
Stone
Circa 5th century AD
(Collection: Sarnath Museum U.P.)
- vi) Jain Tirathankara (Gupta period)
Stone
Circa 5th Century A.D.
(Collection : State Museum, Lucknow U.P.)

(3) **Introduction to Ajanta**

Location, period, No. of caves, Chaitya and Vihara, paintings and sculptures, subject-matter and technique, etc.

(4) **Study of Following Painting and Sculpture:**

- (i) Padmapani Bodhisattva (Ajanta Cave No. I, Maharashtra)
Mural Painting
Circa 5th Century A.D.
- (ii) Mara Vijay (Ajanta Cave No. 26)
Sculpture in stone.
Circa 5th Century A.D.

Unit 3: Temples Sculpture, Bronzes and artistic aspects of Indo-Islamic Architecture

36 Periods

A) Artistic aspects of Indian Temple sculpture

12 Periods

(6th Century A.D. to 13th Century A.D.)

- (1) Introduction to Temple Sculpture
(6th Century A.D. to 13th Century A.D.)
- (2) Study of following Temple-Sculptures;
 - (i) Descent of Ganga (Pallava period, Mahabalipuram Tamil Nadu), granite rock Circa 7th Century A.D.
 - (ii) Ravana shaking Mount Kailash (Rashtrakuta period, Ellora, Maharashtra)
Stone
8th Century A.D.
 - (iii) Trimurti (Elephanta, Maharashtra)
Stone
Circa 9th Century A.D.
 - (iv) Lakshmi Narayana (Kandariya Mahadev Temple) (Chandela period, Khajuraho, Madhya Pradesh)
Stone
Circa 10th Century A.D.
 - (v) Cymbal Player, Sun Temple (Ganga Dynasty, Konark, Orissa)
Stone.
Circa 13th Century A.D.
 - (vi) Mother and Child (Vimal-Shah Temple, Solanki Dynasty, Dilwara, Mount Abu, Rajasthan)
white marble.
Circa 13th Century A.D.

(B) Bronzes:

12 Pds.

- (1) Introduction to Indian Bronzes
- (2) Method of casting (solid and hollow)
- (3) Study of following south Indian Bronzes:
 - (i) Nataraj (Chola period Thanjavur Distt., Tamil Nadu)
12th Century A.D.
(Collection: National Museum, New Delhi.)
 - (ii) Devi (Uma) Chola Period
11th Century A.D.
(Collection: National Museum, New Delhi.)

(C) Artistic aspects of the Indo-Islamic architecture

12 Pds.

- (1) Introduction
- (2) Study of following architectures:
 - (i) Qutab Minar, Delhi
 - (ii) Taj Mahal, Agra
 - (iii) Gol Gumbaj of Bijapur

**CLASS-XI (2013-14)
(PRACTICAL)**

One Practical Paper

Time: 6 Hours (3 + 3)
60 Marks

Unitwise Weightage

Units	Periods	Marks
1. Nature and Object Study	50	20
2. Painting Composition	50	20
3. Portfolio Assessment	48	20
	148	60

Unit 1: Nature and Object Study

20 Marks 50 Periods

Study of two or three natural and geometric forms in pencil with light and shade from a fixed point of view. Natural forms like plants, vegetables, fruits and flowers, etc., are to be used. Geometrical forms of objects like cubes, cones, prisms, cylinders and spheres should be used.

Unit 2: Painting Composition

20 Marks 50 Periods

(i) Simple exercises of basic design in variation of geometric and rhythmic shapes in geometrical and decorative designs and colours to understand designs as organised visual arrangements.

10 Marks 25 Periods

(ii) Sketches from life and nature

10 Marks 25 Periods

Unit 3: Portfolio Assessment

20 Marks 48 Periods

(a) Record of the entire years' performance from sketch to finished product. 10 Marks

(b) Five selected nature and object study exercises drawings in any media done during the session including minimum of two still life exercise. 05 Marks

(c) Two selected works of paintings done during the year 05 Marks

These selected works prepared during the course by the candidates and certified by the school authorities as the work done in the school will be placed before the examiners for assessment.

Note:

- The candidates should be given one hour-break after first three hours.
- The time-table to be so framed as to allow the students to work continuously for minimum of two periods at a stretch.

PAINTING (CODE - 049)
CLASS-XII (2014-15)
(THEORY)

One Theory Paper
Unitwise Weightage

40 Marks
Time: 2 Hours

Units	Periods	Marks
History of Indian Art		
1. The Rajasthani and Pahari Schools of Miniature Painting	18	10
2. The Mughal and Deccan Schools of Miniature Painting	18	10
3. The Bengal School of Painting	18	10
4. The Modern Trends in Indian Art	18	10
	72	40

Unit 1: The Rajasthani and Pahari Schools of Miniature Painting

(16th Century A.D. to 19th Century A.D.)

18 Periods

A brief introduction to Indian Miniature Schools: Western-Indian, Pala, Rajasthani, Mughal, Central India, Deccan and Pahari.

(A) The Rajasthani School:

- (1) Origin and Development
- (2) Sub-Schools-Mewar, Bundi, Jodhpur, Bikaner, Kishangarh and Jaipur
- (3) Main features of the Rajasthani School
- (4) Study of the following Rajasthani Paintings:

Title	Painter	Sub-School
Maru-Ragini	Sahibdin	Mewar
Raja Aniruddha Singh Hara	Utkal Ram	Bundi
Chaugan Players	Dana	Jodhpur
Krishna on swing	Nuruddin	Bikaner
Radha (Bani- Thani)	Nihal Chand	Kishangarh
Bharat Meets Rama at Chitrakut	Guman	Jaipur

(B) The Pahari School:

- (1) Origin and development
- (2) Sub-Schools-Basohli, Guler, Kangra, Chamba and Garhwal
- (3) Main features of the Pahari School
- (4) Study of the following Pahari Paintings:

Title	Painter	Sub-School
Krishna with Gopis	Manaku	Basohli
Bharat Worshipping		
Charan_Padukas of Rama	Unknown	Guler
Cosmic Dance of Shiva	Unknown	Chamba
Nand, Yashoda and Krishna with Kinsmen going to Vrindavana	Nainsukh	Kangra
Radha and Krishna Looking into a Mirror	Unknown	Garhwal

Unit 2: The Mughal and Deccan Schools of Miniature Painting (16th Century AD to 19th Century A.D.) **18 Periods**

(A) The Mughal School

- (1) Origin and development
- (2) Main features of the Mughal School
- (3) Study of the following Mughal Paintings:

Title	Painter	Period
Krishna lifting Mount Goverdhana	Miskin	Akbar
Babur crossing the River Sone	Unknown	Akbar
Jahangir holding the Picture of Madona	Abul Hassan	Jahangir
Falcon on a Bird-Rest	Ustad Mansoor	Jahangir
Kabir and Raidas	Ustad Faquirullah Khan	Shahjahan
Marriage procession of Dara Shikoh	Haji Madni	Provincial Mughal (Avadh)

(B) The Deccan School

- (1) Origin and development
- (2) Main features of the Deccan School
- (3) Study of the following Deccan Paintings:

Title	Painter	Sub-School
Ragini Pathamsika	Unknown	Ahmadnagar
Sultan Abdulla Qutb Shah	Unknown	Bijapur
Hazrat Nizamuddin Aaliya and Amrikusro	Unknown	Hyderabad
Dancers	Unknown	Hyderabad
Chand Bibi Playing Polo (Chaugan)	Unknown	Gol Konda

Unit 3: The Bengal School of Painting **18 Periods**
(Above mid of the 19th Century)

- (A) (I) A. New Era in Indian Art-an introduction
B. Study of the following painting
(i) Rama vanquishing the pride of the ocean - Raja Ravi Varma
- (II) Evolution of the Indian National Flag (First - 1906, Middle - 1921 and Final 1947 stages) : Study of the form and the colour scheme
- (B) (1) Introduction to the Bengal School of Painting
(i) Origin and development of the Bengal School of painting
(ii) Main features of the Bengal School of painting
- (2) Contribution of Indian artists in the struggle for National Freedom Movement
- (3) Study of the following paintings of the Bengal school:
 - (i) Journey's End - Rabindranath Tagore
 - (ii) Tiller of the Soil - Nandlal Bose
 - (iii) Rasa-Lila - Kshitindranath Majumdar
 - (iv) Radhika - M.A.R. Chughtai
 - (v) Meghdoot - Ram Gopal Vijaiargiya

Unit 4: The Modern Trends in Indian Art**18 Periods****Introduction****(1) Study of the following work of Contemporary (Modern) Indian Art****(a) Paintings**

- (i) Magician - Gaganendranath Tagore
- (ii) Mother and child - Jamini Roy
- (iii) Three Girls - Amrita Sher Gil
- (iv) Mother Tera - M.F. Hussain
- (v) Gossip - N.S. Bendre
- (vi) Untitled - G.R. Santosh

(b) Graphic - prints:

- (i) Whirl pool - Krishna Reddy
- (ii) Children - Somnath Hore
- (iii) Devi - Jyoti Bhatt
- (iv) Of Walls - Anupam Sud
- (v) Man, Woman and Tree - K. Laxma Goud

(c) Sculptures:

- (i) Triumph of Labour - D. P. Roychowdhury
- (ii) Santhal Family - Ramkinder Vaij
- (iii) Cries Un - heard - Amar Nath Sehgal
- (iv) Ganesha - P.V. Jankiram
- (v) Chatturmukhi - Aekka Yada Giri Rao

The names of artists and titles of their art work as listed above are only suggestive and in no way exhaustive. Teachers and students should expand this according to their own resources. However, the questions will be set from the above mentioned art works only.

PAINTING (Code 49)**CLASS-XII (2014-15)****(PRACTICAL)****One Practical Paper****Time: 6 Hours (3+3)
60 Marks****Unitwise Weightage**

Units	Periods	Marks
1. Nature, and Object Study	50	20
2. Painting Composition	50	20
3. Portfolio Assessment	48	20
	148	60

Unit 1: Nature and Object study**50 Periods**

Studies on the basis of exercises done in class XI with two or three objects and drapery for background. Exercises in pencil with light and shade and in full colour from a fixed point of view.

Unit 2: Painting Composition**50 Periods**

Imaginative painting based on subjects from Life and/or Nature in water and poster colours with colour values.

Unit 3: Portfolio Assessment**48 Periods**

- (a) Record of the entire year's performance from sketch to finished product. 10 Marks
- (b) Five selected nature and object study exercises in any media done during the session, including minimum of two still life exercises. 5 Marks
- (c) Two selected works of paintings done by the candidate during the year 5 Marks

These selected works prepared during the course by the candidate and certified by the school authorities as the work done in the school will be placed before the examiners for assessment.

Note: The time-table to be so framed as to allow the students to work continuously for minimum of two periods at a stretch.

Guidelines for Evaluation of Practical**1. Marking Scheme:****Part I: Nature and Object Study,**

- | | | | |
|---------------------------------|----|---|----------|
| (i) Drawing (composition) | 10 | } | 20 marks |
| (ii) Treatment of media/colours | 05 | | |
| (iii) Overall impression | 05 | | |

Part II: Painting Composition

- | | | | |
|---|----|---|----------|
| (i) Compositional arrangement including emphasis on the subject | 10 | } | 20 marks |
| (ii) Treatment of media (colour) | 05 | | |
| (iii) Originality, creativity and overall impression | 05 | | |

Part III: Portfolio Assessment

- | | | | |
|---|----|---|----------|
| (a) Record of the entire year's performance from sketch to finished product | 10 | } | 20 marks |
| (b) Five selected nature and object study exercises in any media including minimum of two still lives | 05 | | |
| (c) Two selected painting compositions prepared on the basis of life and nature | 05 | | |

2. Format of the Questions:**Part I: Nature and Object Study**

Draw and paint the still-life of a group of objects arranged on a drawing board before you, from a fixed point of view (given to you), on a drawing paper of half imperial size in pencil/colours. Your drawing should be proportionate to the size of the paper. The objects should be painted in realistic manner with proper light and shade and perspective, etc. In this study the drawing-board is not to be included.

Note : A group of objects to be decided by the external and internal examiners jointly as per instructions. The objects for nature study and object study are to be arranged before the candidates.

Part II: Painting Composition:

Make a painting - composition on any one of the following five subjects in any medium (water/pastel, tempera, acrylic) of your choice on a drawing-paper of half imperial size either horizontally or vertically. Your composition should be original and effective. Weightage will be given to a well composed drawing, effective use of media, proper emphasis on the subject matter and utilization of full-space.

Note: Any five subjects for painting composition are to be decided by the external and internal

examiners jointly as per instructions and are to mentioned here strictly just before the start of the examination for part II.

3. (A) Instructions for the selection of the objects for Nature and Object Study:

1. The examiners, are to select/decide two or three suitable objects in such a way so that natural and geometrical forms may be covered in the group of objects:
 - (i) Natural-forms-large size foliage and flowers, fruits, and vegetables, etc.
 - (ii) Geometrical forms made of wood/plastic/paper/metal/earthen, etc., such as cube, cone, prism, cylinder and sphere.
2. Objects should be selected generally of large (suitable) size.
3. An object relating to nature, according to the season and location of the examination centre, must be included in the group of objects. The natural-objects should be purchased/arranged only on the day of the examination so that its freshness may be maintained.
4. Two draperies in different colours (one in dark and other in light tone) are also to be included for background and foreground, keeping in view the colours and tones of the objects selected.

(B) Instructions to decide the subjects for Painting-Composition:

1. The examiners, are to select/decide five subjects suitable for painting - composition.
2. The subjects should be so designed that the candidates may get clear-cut ideas of the subjects and they can exercise their imagination freely, because it is not important what you do, but how you do it.
3. The examiners are free to select/decide the subjects, but these should be according to the standard of Class XII and environment of the school/candidates.

Some identified areas of the subjects for painting-composition are given below, in which some more areas may also be added:

- (i) Affairs of family friends and daily life.
- (ii) Affairs of family professionals.
- (iii) Games and sports activities.
- (iv) Nature
- (v) Fantasy
- (vi) National, religious, cultural, historical and social events and celebrations.

4. General Instructions to the examiners:

1. Candidates should be given one hour break after first three hours.
2. Work of the candidates, for Parts I, II and III, are to be evaluated on the spot jointly by the external and internal examiners.
3. Each work of Part I, II and III, after assessment is to be marked as "Examined" and duly signed by the external and internal examiners jointly.

Some Reference Books for teachers (For Practical Part):

1. "Paint Still life" by Claretta White yet to be revised (Walter T. Foster Publication).
2. "Art of Drawing" Grumbacher Library Wook (Walter T. Foster Publication).
3. "On Techniques" By Leon Frank (Walter T. Foster Publication).
4. "More Trees" by Fredrick Gardner (Walter T. Foster Publication).
5. "How to Draw and Paint Textures of Animals" By Walter J. Wilweding (Water T. Foster Publication).
6. "How to Draw and Paint Animal Expressions" by Walter J. Wilweding (Walter T. Foster Publication).
7. "Art of the Pencil" by Borough Johnson (Sir ISAAC Pitman & Sons Ltd., New Delhi).
8. "Design for you" by Ethel Jane Beitler (John Wilary & Sons Ltd., New Delhi).
9. "Complete Book of Artist's Techniques by Dr. Kurt Herbers, (Thomas and Hudson, London).

B. GRAPHICS

(CODE NO. 050)

Introduction

The Course in Graphics at Senior Secondary stage as an elective subject is aimed to develop aesthetic sense of the students through the understanding of various important, well known aspects and modes of Visual art expression in India's rich cultural heritage from the period of Indus Valley to the present time. It encompasses also a wider range of practical exercises in making of graphic prints for developing their mental faculties of observation, imagination creation and physical and technical skills.

Objectives

A) Theory (History of Indian Art)

Note: As the syllabus of Graphics (Theory) is the same as that of Painting (Theory), its objectives are same.

B) Practicals

The purpose of introducing practical exercises in graphics is to help and enable students to make simple compositions in monochrome and in colours through the various print-making techniques using methods and material specifically prescribed for adequate results. The students should be introduced to the subject by giving a short history of the print making techniques. They should be given exercises to inculcate respect for the tools and apparatus-used in the various processes including their maintenance and proper handling.

CLASS-XI (THEORY)

One Theory Paper

40 Marks

Unitwise Weightage

Time: 2 Hours

Units	Periods	Marks
History of Indian Art		
1. Pre-Historic Rock-Paintings and Art of Indus Valley	24	10
2. Buddhist and Jain and Hindu Art	24	15
3. Temples Sculptures Bronzes and Artistic aspects of Indo- Islamic Architecture	24	15
	72	40

Notes: The Syllabus of Graphics (Theory) for Class XI is the same as that of Painting (Theory) for class XI given earlier.

CLASS-XI (PRACTICAL)

One Practical Paper

60 Marks

Unitwise Weightage

Time: 6 Hours (3+3)

Units	Periods	Marks
1. Relief Printing through Linocut/Woodcut/Paper-cardboard	120	40
2. Portfolio Assessment	48	20
	168	60

Unit 1: To make Linocut/Woodcut/Paper-cardboard print on 1/4 Imperial sheet on a given subject **120 Periods**

Syllabus for Relief Printing (Linocuts/Woodcuts/Paper-cardboard Prints).

1. Introduction of the history of print making.
2. Printing methods and materials.
3. Characteristics of printing inks, solvents, and dyers.
4. Registration methods.
5. Simple, colour printing techniques.
6. Finishing of the mounting and prints.

Unit 2: Portfolio Assessment **48 Periods**

- (a) Record of the entire year's performance from sketch to finished product 10 Marks
- (b) The selected prints (either from Linocuts/Woodcuts/Paper-cardboard prints) prepared during the course by the candidate and certified by the school authorities as the work done in the school are to be placed before the examiners for assessment. 10 Marks

- Note: 1. The candidates should be given one hour break after first three hours.
2. The time-table to be so framed as to allow the students to work continuously for minimum of two periods at a stretch.

CLASS-XII (THEORY)

One Theory Paper **40 Marks**
Unitwise Weightage **Time: 2 Hours**

Units	Periods	Marks
History of Indian Art		
1. The Rajasthani and Pahari Schools of Miniature Painting	18	10
2. The Mughal and Deccan schools of Miniature Painting	18	10
3. The Bengal School of Painting	18	10
4. The Modern Trends in Indian Art	18	10
	72	40

Note: The Syllabus of Graphics (Theory) for Class XII is the same as that of Painting (Theory) for class XII given earlier.

CLASS-XII (PRACTICAL)

One Practical Paper

60 Marks

Unitwise Weightage

Time: 6 Hours (3 + 3)

Unit	Periods	Marks
1. Making of graphic-print through Serigraphy/Lithography/Etching and Engraving (Intaglio Process) techniques	120	40
2. Portfolio Assessment	48	20
	168	60

Note: The students in the class are expected to opt for any one of the following media depending upon the facilities available in their schools. 120 Periods

Unit-1 a) Serigraphy

1. The history of stencils and silk screen.
2. Methods and materials.
3. The use and maintenance of the squeeze.
4. Sealing, registration for colour, work and preparation for printing.
5. Solvents for cleaning, use and characteristics of printing inks.
6. Finishing mounting and the print.

OR

b) Lithography

120 Periods

1. Introduction: Short history and the methods and material used in producing lithographic prints.
2. The use and characteristics of the Litho stone/Zinc plates.
3. The use of lithographic chalks and ink (Tusche).
4. Preparing for printing and use of various chemicals inking and taking proofs.
5. Papers used in lithography and getting the final Print.
6. Finishing and mounting the print.

OR

c) Etching and Engraving (Intaglio Process)

120 Periods

1. Introduction to intaglio technique with a short history, methods and materials, Etching press.
2. Preparing the plate and laying the ground (resist) and Inking.
3. Characteristics of different types of grounds.
4. Characteristics and use of various acids.
5. Colour etching, use of stencils and marks.
6. Finishing and mounting the prints.

Unit 2:Portfolio Assessment

48Periods

- a) Record of the entire year's performance from sketch to finished product

10 Marks

- b) Three selected prints prepared during the course by the candidate and certified by the school authorities as works done in the school and to be placed before the external examiner for assessment.
10 Marks

Note: The time table to be so framed as to allow the students to work continuously for minimum of two periods at a stretch.

GUIDELINES FOR EVALUATION OF PRACTICAL

1. Marking Scheme:

Part I: Graphic-Composition (print making)

- | | | |
|---|----|----------|
| (i) Emphasis on the subject | 10 | |
| (ii) Handling on the material and technique of print-making | 10 | 40 marks |
| (iii) Composition and quality of print | 20 | |

Part II: Portfolio Assessment

- | | | |
|--|----|--|
| (a) Record of the entire year's performance from sketch to finished product. | 10 | |
| (b) Three selected Prints (4 + 3 + 3 marks for 3 prints) | 10 | |

2. Format of the questions:

Part I: Graphic Composition (print-making)

50 marks

Choose one of the print-making medium available and taught in your school viz. serigraphy, lithography, etching and engraving.

Make a Graphic-Composition on any one of the five subjects given below according to the possibility and suitability of the medium:

(Note: Any five suitable subjects for “Graphic-Composition (Print-making)” are to be decided by the internal and external examiners jointly in accordance with the instructions are to be mentioned here).

Make use of line, tone and texture, exploiting the medium fully to realize composition.

Print your composition in one or two colours.

Pay special attention to print quality and cleanliness. Submit two identical prints along with all the rough layouts as your final submission.

Size of the plate:

- | | |
|---------------------------|----------------|
| (i) Serigraphy | 30 cm x 20 cm. |
| (ii) Lithography | 30 cm x 20 cm. |
| (iii) Etching & engraving | 30 cm x 20 cm. |

3. Instructions to decide the subjects for painting – Composition:

1. The external and internal examiners, jointly are to select/decide five subjects suitable for Graphic-Composition (print-making).
2. Each subject should be so designed that the candidate may get a clear-cut idea of the subject, however, any candidate can perceive a subject in his/her own way but graphic quality must be maintained in the composition.
3. The examiners are free to select/decide the subjects, but these should be according to the standard of class XII and environment of the school/candidates.

Some identified areas of the subjects for Graphic-Composition (Print-making) are given below in which some more areas may be added, if needed:

- (i) Affairs of family, friends and daily life.
- (ii) Affairs of family professionals.
- (iii) Games & Sports Activities.
- (iv) Nature.
- (v) Fantasy.
- (vi) National, religious and cultural, historical and social events and celebrations.
- (vii) Historical monuments
- (viii) Folk and classical dances/theatres
- (ix) Traditional/ancient sculpture and painting
- (x) Relevant social issues

4. Instructions to the examiners

1. Candidates should be given one hour break after first three hours.
2. Work of the candidates for part I & II is to be evaluated on the spot by the external and internal examiners jointly.
3. Each work of parts I & II, after assessment, is to be marked as examined and duly signed by the external and internal examiners.

Some Reference books for teachers

1. "The Techniques of Graphic Art", by H. Van Kruhingen.
2. "Print Making", Harvevy Daniels (Hamlym).
3. "Art is Manual for Silk Screen Print Making", by Heavy Shockler.
4. "Print Making Today", by Jules Helles.
5. "Silk Screen Techniques", J.I. Biege Leison, Dover Publication, New York.
6. "Introducing Screen Printing", Anthony Kinsey Walson Guplill, New York.
7. "The Art and Craft of Screen Process Printing", Kosloff, All the Bruce Publishing Co., New York.
8. "Practical Screen Printing", Stephen Russ, Studio Vista Walson Auptill, New York.
9. "Artists Manual for Silk, Screen Print making", Harry Shekler, American Artist's Group' New York.
10. "Lithography", Vau Nostrav, Reinhold.
11. "Lithography for Artists", Standley Loues, Oxford University Press.
12. "Linocuts and Woodcuts", Michael Rothenstein Studio Vista, London.
13. "Relief Printing", Michael Rothenstein Studio Vista, London.
14. "Etching, Engraving and Intaglio Printing", Anthony Gross, Oxford University Press.
15. "The Art of Etching", E.S. Sumaden Gouslable, London.

(C) SCULPTURE (CODE NO. 051)**Introduction**

The Course in sculpture at Senior Secondary stage as an elective subject is aimed at developing aesthetic sense of the students through the understanding of various important, well known aspects and modes of visual art expression in India's rich cultural heritage from the period of Indus Valley to the present time. It encompasses also a wide range of practical exercises in making of various sculptures for developing their mental faculties of observation, imagination and creation and the physical and technical skills.

Objectives**A) THEORY (History of Indian Art)**

Note: As the syllabus of Sculpture (Theory) is the same as that of Painting (Theory), its objectives are same.

B) PRACTICALS

The purpose of introducing practical exercises in sculpture is to help and enable the students to make sculptures. All assignments should be designed to understand problems of volume, weight, play of form in space, etc., as against rendering on flat two dimensional. Adequate technical skills may be provided depending on the facilities available.

CLASS-XI (THEORY)

One Theory Paper **40 Marks**
Unitwise Weightage **Time: 2 Hours**

Units	Periods	Marks
HISTORY OF INDIAN ART		
1. Pre-Historic Rock-Painting and Art of Indus Valley	24	10
2. Buddhist and Jain and Hindu Art	24	15
3. Temple Sculpture, Bronze and Artistic aspects of Indo-Islamic Architecture	24	15
	72	40

Note: The Syllabus of Sculpture (Theory) for Class XI is the same as that of Painting (Theory) for Class XI given earlier.

CLASS-XI (PRACTICALS)

One Practical Paper
60 Marks **Time: 6 Hours (3+3)**
Unitwise Weightage

Units	Periods	Marks
1. Modelling in Relief (in clay or plaster of Paris)	60	20
2. Modelling in Round (in clay or plaster of Paris)	60	20
3. Portfolio Assessment	48	20
	168	60

- Unit 1:** Modelling in relief on given subjects from life and nature. **60 Periods**
- Unit 2:** Modelling in round on given subjects from life and nature. **60 Periods**
Handling of clay and its techniques, pinching, coiling, rolling, etc.
- Unit3: Portfolio Assessment** **48 Periods**
- a) Record the entire year's performance from sketch to finished product. **10 Marks**
- b) Four selected pieces of works prepared during the course by the candidate and certified by the school authorities as works executed in the school are to be placed before the examiners for assessment. **10 Marks**
- Note:**
- The candidate should be given one hour break after first three hours.
 - The time table to be so framed as to allow the students to work continuously for minimum of two periods at a stretch.

CLASS-XII (THEORY)

One Theory Paper **40 Marks**
Unitwise Weightage **Time: 2 Hours**

Units	Periods	Marks
History of Indian Art		
1. The Rajasthani and Pahari Schools of Miniature Painting	18	10
2. The Mughal and Deccan Schools of Miniature Painting	18	10
3. The Bengal School of Painting	18	10
4. The Modern Trends in Indian Art	18	10
	72	40

Note: The Syllabus of Sculpture (Theory) for Class XII is the same as that of Painting (Theory) for Class XII given earlier.

CLASS-XII (PRACTICAL)

One Paper **60 Marks**
Unitwise Weightage **Time: 6 Hours (3+3)**

Units	Periods	Marks
1. Modelling in Relief (Clay and plaster of Paris)	60	20
2. Modelling in Round (clay and plaster of Paris)	60	20
3. Portfolio Assessment	48	20
	168	60

- Unit 1:** Modelling in Relief* **60 Pds.**
- Unit 2:** Modelling in Round* **60 Pds.**
- Unit 3:** Portfolio Assessment **48 Pds.**
- (a) Record of the entire year's performance from sketch to finished product **(10 Marks)**
- (b) Four pieces of work prepared during the course selected by the candidate and certified by the school authorities as work executed in the school are to be placed before the examiners for assessment.

- * Use of clay composition in hollow for baking.
- * Modelling of simplified human figures, birds, animals and plants in relief and round. Geometrical shapes like cube, cone, cylinder, etc., and their composition in relief as an exercise in design study of textures. Use of plaster of Paris. 10 Marks

- Note:**
1. The candidate should be given one hour break after first three hours.
 2. The time table to be so framed as to allow the students to work continuously for minimum of two periods at a stretch.

GUIDELINES FOR EVALUATION OF PRACTICAL

1. Marking Scheme:

Part I: Modelling in Relief

- | | | |
|---|----|-----------------|
| (i) Composition including emphasis on the subject | 10 | |
| (ii) Handling of media | 05 | 20 Marks |
| (iii) Creative approach and overall impression | 05 | |

Part II: Modelling in Round

- | | | |
|---|----|-----------------|
| (i) Composition including emphasis on the subject | 10 | |
| (ii) Handling of media | 05 | 20 Marks |
| (iii) Creative approach and overall impression | 05 | |

Part III: Portfolio Assessment

- | | | |
|--|-----|-----------------|
| (a) Record of the entire year's performance from sketch to finished product. | 10 | |
| (b) Four works of sculpture consisting of: | | |
| (i) One sculpture in relief (High Relief) | 2.5 | |
| (ii) One sculpture in relief (Low Relief) | 2.5 | 20 Marks |
| (c) Two Sculpture in round | 05 | |

2. Format of the questions:

Part I: Modelling in Relief:

Make a sculpture in Relief (low/high) on any one of the following five subjects. The size should be within 25 to 30 cm. (horizontally or vertically) and about 4 cm. in thickness from the board.

(Note: Any five suitable subjects for “Modelling in Relief” are to be decided by the external and internal examiners jointly in accordance with the instructions and are to be mentioned here).

Part II: Modelling in Round:

Prepare a sculpture in round, in clay medium, on any one of the following five subjects. The height should be within 25 to 30 cm, horizontally or vertically.

Note: Any five suitable subjects for “Modelling in Round” are to be decided in accordance with the instructions and are to be mentioned here strictly just before the start of the examination for Part II.

3. Instructions to decide the subjects for Modelling in Relief and Round:

- (1) The examiners are to select/decide five subjects suitable for modelling in relief and five subjects for modelling in round. The subjects for “Modelling in Round” are to be conveyed to the candidates strictly just before the start of the examination for Part II.

- (2) Each subject should be so designed that the candidate may get a clear-cut idea of the subject, however, a candidate can perceive a subject in his/her own way. Distortion of human/animal forms may be allowed.
- (3) Choice of high or low relief should remain open to the candidates.
- (4) The examiners are free to decide the subjects but they should be according to the standard of class XII and environment of the school/candidates. Some identified areas of the subjects for Modelling in Relief are given below in which some more areas may also be included:
 - (i) Nature Study;
 - (ii) Design, natural, decorative, stylized and geometrical;
 - (iii) Family, friends and daily life;
 - (iv) Birds and animals;
 - (v) Games and sports activities;
 - (vi) Religious, social and personal activities;
 - (vii) Cultural activities;
 - (viii) Ideas - Personal, social, local, provincial, national and international.

4. General instructions to the examiners:

1. Candidates should be given one hour break after first three hours.
2. Work of the candidates of Parts I, II and III, is to be evaluated on the spot by the external and internal examiners jointly.
3. Each work of Parts I, II and III, after assessment, is to be marked as examined and duly signed by the external and internal examiners.

Some Reference books for teachers:

1. "Indian Sculpture", by Chintaman Kar.
2. "Exploring Sculpture", by Jan Amdell Mills & Boon, London.
3. "The Technique of Sculpture", John W. Mills, P.T. Patsford Ltd., London.
4. "A History Sculpture of the world", Sheldon Cneey, Thame and Hudson, London.
5. "Form and Space", Edward Their, Thomes and Hudson; London.
6. "Sculpture and Ideas", Michael F. Andrews.
7. "Modern Sculpture", Jean Selz, Heinemann, London.
8. "Creative Carving", (Material techniques appreciation), Dons Z. Meilach, Pritam Publishing.

(D) APPLIED ART (CODE NO. 052)

COMMERCIAL ART

Introduction

The course in Applied Art (Commercial Art) at Senior Secondary stage as an elective subject is aimed to develop aesthetic sense of the students through the understanding to various important, well known aspects and modes of visual art expression in India's rich cultural heritage from the period of Indus Valley to the present time. It encompasses also a wide range of practical exercises in commercial art for developing their mental faculties of observation, imagination, creation and physical and technical skills.

Objectives

A) THEORY (History of Indian Art)

Notes: As the syllabus of Applied Art-Commercial Art (Theory) is the same as that of Painting (Theory), its objectives are same.

B) PRACTICALS

The purpose of introducing practical exercises in Applied Art (Commercial Art) is to help and enable the students to develop professional competence in making Model Drawing Lettering, layout preparation and poster so that they can link their lives with productivity.

CLASS-XI (THEORY)

One Theory Paper 40 Marks
Unitwise Weightage Time: 2 Hours

Units	Periods	Mark
HISTORY OF INDIAN ART		
1. Pre-Historic Rock-Paintings and Art of Indus Valley	24	10
2. Buddhist, Jain and Hindu Art	24	15
3. Temple Sculpture Bronze and Artistic aspects of Indo-Islamic Architecture	24	15
	72	40

Note: The Syllabus of Applied Art-Commercial Art (Theory) for Class XI is the same as that of Painting (Theory) for Class XI given earlier.

CLASS-XI (PRACTICALS)

One Practical Paper 60 Marks
Unitwise Weightage Time: 6 Hours (3+3)

Units	Periods	Mark
1. Drawing	60	20
2. Lettering and layout	60	20
3. Portfolio Assessment	48	20
	168	60

Unit 1: Drawing 60 Pds.

Drawing from Still-Life and Nature, medium-pencil monochrome/colour.

Unit 2: (a) Lettering 60 Pds.

(i) Study of lettering of Roman and Devnagri Scripts

(ii) Identification of some type-faces and their sizes

(b) Layout

Making a simple layout with lettering as the main component.

Unit 3: Portfolio Assessment 48 Pds.

(a) Record of entire year's performance from sketch to finished product. (10)

(b) Five selected drawings in any media done during the year including minimum three lives. (05)

(c) Two selected works in chosen subject done during the year. (05)

- Note:**
- The candidate should be given one hour break after first three hours.
 - The time table to be so framed as to allow the students to work continuously for minimum of two periods at a stretch.

CLASS-XII (THEORY)

One Theory Paper 40 Marks

Unitwise Weightage

Time: 2 Hour

Units	Periods	Marks
HISTORY OF INDIAN ART		
1. The Rajasthani and Pahari Schools of Miniature Painting	18	10
2. The Mughal and Deccan Schools of Miniature Painting	18	10
3. The Bengal School of Painting	18	10
4. The Modern Trends in Indian Art	18	10
	72	40

Note: The Syllabus of Applied Art-Commercial Art (Theory) for ClassXII is the same as that of Painting (Theory) for Class XII given earlier.

CLASS-XII (PRACTICAL)

One Practical Paper 60 Marks

Unitwise Weightage

Time: 6 Hours (3+3)

Units	Periods	Marks
1. Illustration	60	20
2. Poster	60	20
2. Portfolio Assessment	48	20
	168	60

Unit 1: Illustration	60 Periods
Study of techniques of illustration on given subjects and simple situations supported by drawing from life and outdoor sketching in different media suitable for printing.	
Unit 2: Poster	60 Periods
Making a poster with specified data and slogan on a given subject in two or four colours.	
Unit 3: Portfolio Assessment	48 Periods
(a) Record of the entire years performance from sketch to finished product.	(10)
(b) Five selected drawings in any media done during the year including minimum of two illustrations	(05)
(c) Two selected posters in chosen subject .	(05)
Note:	The time table to be so framed as to allow the students to work continuously for minimum of two periods at a stretch.

Guidelines for Evaluation of Practical

1. Marking Scheme:

Part I: Illustrations

(i) Composition including quality of drawing	10	}	20 marks
(ii) Emphasis on the subject with a specific situation	05		
(iii) Reproducing quality and overall impression	05		

Part II: Poster

(i) Layout and Lettering	10	}	20 marks
(ii) Emphasis on the subject	05		
(iii) Proper colour scheme and overall impression	05		

Part III: Portfolio Assessment

(a) Record of the entire year's performance from sketch to finished product.	10	}	20 marks
(b) Five selected drawings in any media including minimum of two illustrations.	05		
(c) Two selected posters in chosen subjects.	05		

2. Format of the questions:

Part I: Illustration

Make an illustration in black and white in any colour media on any one of the following five subjects with a specific situation.

Size of the illustration: 30 cm x 22 cm.

Note : Any five suitable subjects or illustration, decided by the external and internal examiners jointly in accordance with the instructions are to be mentioned here.

Part II: Poster

Prepare a poster-design with specified data and slogan in English/Hindi language, in three flat colours, on any one of the following five subjects. The designing of the poster should have balanced use of typography and illustration.

Size of the Poster-design: 1/2 imp size.

Note : Any five suitable subjects for poster design decided by the external and internal examiners jointly in accordance with the instructions and are mentioned here, strictly just before the start of the examination for Part II.

3. A) Instructions to decide the subjects for illustration:

1. The examiners are to select/decide five suitable subjects.
2. Each subject should be given a specific situation, which is a main characteristic of an illustration.
3. Each subject should be so designed that the candidate may get a clear-cut idea of the subject and they can illustrate a specific situation based on given subject areas.
4. The examiners are free to decide the subjects but these should be according to the standard of the class XII and environment of the school/candidates.

Some identified areas of the subjects for illustration are given below, in which some more areas may be added if needed.

Subject with a specific situation:

- (i) Family and friends in daily life.
- (ii) Professionals/professions.
- (iii) Games and sports.
- (iv) Nature.
- (v) National events and celebrations.
- (vi) Religious events and festivals.
- (vii) Culture-Dance, Drama, Music and Art.

B) Instructions to decide the subjects for Poster-design:

1. The examiners are to select/decide five subjects suitable for poster-design.
2. Each subject should be given a specified data and slogan.
3. The data and slogan should be so framed/designed that the candidates may get a clear-cut idea of the subject.
4. The examiners must give the subjects data and slogan according to the standard of Class XII and environment of the school/candidates.

Some identified areas for poster-design are given below, in which some more areas/subjects may be added.

1. For Advertisement on:

- (i) Excursion/Tourism
- (ii) Cultural activities
- (iii) Community and nature development
- (iv) Ideas-Social, national and international
- (v) Commercial products

2. Instructions to the examiners:

1. Candidates should be given one hour break after first three hours.
2. Work of the candidates for Parts I, II and III is to be evaluated on the spot by the external and internal examiners jointly.
3. Each work of parts I, II and III, after assessment, is to be marked as examined and signed by the external and internal examiners.

Some Reference Books for teachers

1. Typolog - G.M. Rege, Bombay.
2. Kalatmak Lykhai, Published by D.A. V.P.
3. Figure Painting in Water Colour, Charles Reid Watson, Guptill Publication.
4. Walter T. Foster - Objective Drawing.
5. Walter T. Foster - Human Figure.
6. Walter T. Foster - Head Study.
7. Walter T. Foster - Animal Study.
8. Walter T. Foster - Landscape.
9. Applied Art Handbook - G.M. Rege, Bombay.

Some Reference Books for Theory portion of Painting, Graphics, Sculpture and Applied Art:

1. भारत की चित्रकला
राय कृष्णदास,
भारती भण्डार, लीडर प्रेस, इलाहाबाद (उ. प्र.)
2. नवीन भारतीय चित्रकला शिक्षण पद्धति
प्रो. रामचन्द्र शुक्ल,
किताब महल प्रा. लि, इलाहाबाद (उ. प्र.)
3. भारतीय चित्रांकन
डॉ. रामकुमार विश्वकर्मा,
बिशनलाल भार्गव एण्ड सन्स, कटरा, इलाहाबाद (उ. प्र.)
4. भारतीय चित्रकला का इतिहास
डॉ. अविनाश बहादुर वर्मा,
प्रकाश बुक डिपो, बरेली (उ. प्र.)
5. भारतीय कला और कलाकार
ई. कुमारिल स्वामी,
प्रकाशन विभाग, सूचना और प्रसारण मंत्रालय,
भारत सरकार, पटियाला हाउस, नई दिल्ली-110 001
6. भारतीय चित्रकला का बृहद इतिहास
वाचस्पति गैरोला,
चौखम्भा संस्कृत प्रतिष्ठान, बंगलो रोड,
जवाहर नगर, दिल्ली. 100 007
7. रूपप्रद कला के मूलाधार
डॉ. शिवकुमार शर्मा एवं डा. रामावतार अग्रवाल,
लायल बुक डिपो, निकट गवर्नमेण्ट कालिज,
मेरठ (उ.प्र.)
8. कला विलास (भारतीय कला का विकास)
डॉ आर. ए. अग्रवाल
लायल बुक डिपो, निकट गवर्नमेण्ट कालिज,
मेरठ (उ. प्र.)
9. भारतीय चित्रकला
डॉ. एस.एन. सक्सेना,
मनोरमा प्रकाशन, 299, मीरपुर कैंप,
कानपुर (उ. प्र.) 208004
10. भारतीय चित्रकला का विकास
डॉ. चिरंजीलाल झा,
लक्ष्मी कला कुटीर, नया गंज,
गाजियाबाद (उ. प्र.) 201001
11. कला के मूल तत्व
डॉ. चिरंजीलाल झा,
लक्ष्मी कला कुटीर, नया गंज,
गाजियाबाद (उ. प्र.) 201001
12. शिल्प कथा
नन्दलाल बसु,
साहित्य भवन लि., इलाहाबाद (उ. प्र.)

13. भारत का मूर्तिशिल्प डॉ. चार्ल्स एल, फाबरी, राजपाल एण्ड सन्स,
कश्मीरी गेट, दिल्ली- 110 006
14. कला और कलम
भारतीय चित्रकला का आलोचनात्मक इतिहास डॉ. गिर्राज किशोर अग्रवाल,
ललिता कला प्रकाशन, 27-ए, साकेत कालोनी,
अलीगढ़ (उ. प्र.) 202001
15. भारतीय मूर्तिकला परिचय -do-
16. आधुनिक भारतीय चित्रकला -do-
17. भारत की चित्रकला का संक्षिप्त इतिहास डॉ. लोकेशचन्द्र शर्मा
गोयल पब्लिशिंग हाउस,
सुभाष बाजार, मेरठ (उ. प्र.)
ललित कला आकादमी, रवीन्द्र भवन,
कॉपरनिक्स मार्ग, (निकट मण्डी हाउस),
नई दिल्ली 110 001 तथा
ल.क.अ. के क्षेत्रीय कार्यालयों पर भी उपलब्ध
18. रवि वर्मा, अमृता शेरगिल, रामाकिंकर
हुसैन, हेब्बर, यामिनी राय, देवी प्रसाद
राय चौधरी, पर निबंध (पत्रिका) तथा समकालीन
भारतीय कला
19. भारतीय कला डॉ. वासुदेव शरण अग्रवाल,
पृथ्वी प्रकाशन, वाराणसी (उ. प्र.) 221005
20. भारत की समकालीन कला - एक परिप्रेक्ष्य प्राबनाथ मागो, नेशनल बुक ट्रस्ट इंडिया, नई दिल्ली
21. Hindustan Masavri By Dr. Anis Farooqi
22. The Heritage of Indian Art Dr. Vasudev Sharan Agrawal
23. Studies in Indian Art Dr. Vasudev Sharan Agrawal,
Banaras Hindu University
Publication, Varanasi (U.P.)
24. Indian Painting Percy Brown, YMCA Publishing
House, Massey Hall, Jai Singh Road
(Near Parliament Street)
New Delhi-110001.
25. History of Indian and Indonesian Art A.K. Coomaraswamy,
Dover Publication, Inc., New York.
26. South Indian Bronzes C. Civaramamurti, Lalit Kala Academi,
New Delhi-I 10001.
27. Discovering Indian Sculpture,
A Brief History Dr. Charles L. Fabri, Affiliated
East-West Press Pvt. Ltd.,
C-57, Defense Colony,
New Delhi-110024.
28. Story of Indian Art S.K. Bhattacharya,
Atma Ram & Sons, Kashmiri Gate,
Delhi-I 10006.

29. Panorama of Indian Painting
Publication Division, Ministry of Information and Broadcasting Government of India, Patiala House, Tilak Marg, New Delhi-11 0001.
(Also available at P. D. Sales Emporia throughout the country).
30. Glory of Indian Miniature
Dr. Daljeet, Mahindra Publications, R-5/II, New Raj Nagar, Ghaziabad, Utttar Pradesh -201002. .
31. Indian Painting
C.Sivaramamurti, National Book Trust, India A-5, Green Park, New Delhi-110016
32. Indian Artists through the ages
R.K. Chopra, R.K.C. Publications H-49, Raghu Nagar, Pankha Road, New Delhi-II 0045.
33. Contemporary Indian Artists
Geeta Kapoor,
Vikas Publishing House, Darya Ganj, Delhi - 110002
34. Monographs on Amar Nath Sehgal.
Amrita Shergil, Abanindra Nath Tagore, D.P. Roy Chowdhury, Dhanaj Bhagat, Gaganendra Nath Tagore, K.K. Hebbar, Krishna Reddy, M.F. Husain, Rabindra Nath Tagore, Jamini Roy, P.V. Janakiram, Lalit Kala Contemporary
Lalit Kala Akademi,
Rabindra Bhawan, Copernicus Marg, (New Mandi House), New Delhi-II 000 1.
35. Monographs, Portfolios and prints of contemporary/Modern paintings and sculptures which are included in the course of study.
National Gallery of Modern Art (Deptt. of Culture, Ministry of H.R.D. Govt. of India): Jaipur House, Near India Gate, New Delhi-110003.
36. Portfolios, books and prints of Paintings and sculptures which are included in the course of study Govt. of India), Janpath,
National Museum (Deptt. of Culture, Ministry of H.R.D.) New Delhi-1 10011
37. Contemporary Art in India-A Perspective
Prof. P.N. Mago
National Book Trust of India, New Delhi-110016
38. History of Indian Painting (Volume-I to V)
Krishna Chaitanya, Abhinav Publications, Hauz khas, New Delhi

31. MUSIC
(Code Nos. 31 to 36)

The syllabus in the subject has been published separately in Senior School Curriculum Volume III.

32. DANCE
(Code Nos. 56 to 62)

The syllabus in the subject has been published separately in Senior School Curriculum Volume III.

33. HERITAGE CRAFTS (CODE NO. 070)

AIMS AND OBJECTIVES

To impart an all round and holistic education that equips the Indian youth today to face challenges of a global and rapidly changing world, while preserving their own cultural assets, traditions and values. This new subject area has been introduced for senior secondary level in schools with the following objectives :

- To understand the critical role of the crafts community and its integral relationship to the Indian society.
- To enable students to understand the relationship between economics, culture and aesthetics.
- To enable students to explore the linkages between environment, craft traditions and society through field studies.
- To develop a respect for the diversity of Indian craft traditions and to uphold the dignity of its practitioners by understanding the difficulties that they face.
- To introduce Indian culture through the crafts, so that school students appreciate the variety of skills and expressions of the Indian artist.
- To provide students a creative aesthetic experience of the unique visual and material culture of India and develop values of conservation, protection of the environment, resources and heritage of the country.
- To enable students to understand the relationship between tradition and contemporary trends, form and function, creator and consumer.
- To understand the processes of creating a craft object from start to finish.
- To equip students with the tools to extend craft traditions to wider applications through applied crafts.

SYLLABUS DESIGN: HERITAGE CRAFTS CLASS–XI (2013-14)

I. THEORY	3 Hours 70 Marks
SECTION–A	40 Marks
Unit 1 - Introduction to Craft Traditions	12 Periods
a) Learning about crafts	
b) History of craft traditions	
c) Crafts and Society	
Unit 2 - Crafts Materials	38 Periods
2.1 Clay	
a) Clay and Pottery	
b) Terracotta	
c) Clay through the Ages	
2.2 Stone	
a) Carvings in stone	
b) Sculptures through Ages	
c) Stone work	
d) Stone work and its use in contemporary architecture	

2.3	Metal	
	a) Metal work and blacksmith	
	b) Bronze casting	
	c) Lost wax process	
Unit 3 -	Crafts Processes	40 Periods
3.1	Jewellery	
	a) Jewellery for different parts of a body	
	b) Regional varieties of jewellery- its process	
	c) Jewellery through the Ages	
3.2	Natural Fibres	
	a) Types of natural fibres	
	b) Uses of natural fibres	
	c) Bamboo and Bamboo Crafts processes	
3.3	Paper crafts	
	a) Paper and paper crafts	
	b) Paper toys	
	c) Papier mâché'	
3.4	Textiles	
	a) Textile weaving	
	b) Material for textiles	
	c) Textiles technique	
	d) Embroidery Traditions in India	
Unit 4 -	Composite Crafts	25 Periods
4.1	Painting	
	a) Mural Tradition through the Ages	
	b) Styles of painting in different parts of India	
	c) Painting surfaces, techniques and materials	
4.2	Performing Traditions	
	a) Story telling	
	b) Masks	
	c) Musical instruments	
SECTION-B		20 Marks
Field Studies: Documenting/ Exploring Crafts		45 Periods
	● Anecdotal Experiential question	
	● Case Study based question	

SECTION-C

10 Marks

Question based on the Craft chosen (Clay/ Stone/ Metal/ Jewellery/ Fibre/ Textile/ Painting/ Theatre/ Paper) for practice and innovation, on individual basis.

Note: Questions in section B and C above will be based on the practical part of the syllabus. Thus, the time allocation has not been done separately.

II. PRACTICAL

30 Marks

60 Periods

(a) Field Studies: Documenting/ Exploring Crafts

- Two short projects
- One long project

(b) Applied crafts

- Learning a craft
- Innovation in Design and Processes

QUESTION PAPER DESIGN 2013-14									
HERITAGE CRAFTS					CLASS-XI				
TIME: 3 Hours					CODE NO.070				
S. No	Typology of Questions	Learning outcomes and Testing Competencies	Short Answer (MCQ) (1 Mark)	Short Answer (SA) (3 Marks)	Long Answer-I (LA-I) (5 Marks)	Long Answer-II (LA-II) (8 Marks)	Long Answer-III (LA-III) (10 Marks)	Total Marks	% Weightage
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	<ul style="list-style-type: none"> Reasoning Analytical Skills Critical Thinking Skills etc. 	1	2	1	-	-	12	17%
02	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		1	2	1	-	1	22	31%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		1	-	-	-	1	11	16%
04	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources)		1	-	1	1	-	14	20%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		1	-	-	-	1	11	16%
	TOTAL		5 × 1 = 05	4 × 3 = 12	3 × 5 = 15	1 × 8 = 08	3 × 10 = 30	70(16)	100%

Note: Section A

1. MCQ - 5 Questions of 1 Mark each
2. Short Answer I (SA I) - 4 Questions of 3 Marks each
3. Long Answer I (LA I) - 3 Questions of 5 Marks each
4. Long Answer II (LA II) - 1 Question of 8 Marks

Section B

1. Long Answer III (LA III) - 2 Questions of 10 Marks each

Section C

1. Long Answer III (LA III) - 1 Question of 10 Marks

CLASS-XII (2014-15)

I THEORY 3 Hours
70 Marks

SECTION-A 40 Marks

Unit - I Overview of the Past 35 Periods

1. Crafts in the Past
2. Colonial Rule and Crafts
3. Gandhi and self sufficiency

Unit - II Crafts Revival 45 Periods

4. Handloom and Handicraft revival
5. Crafts Community Today
6. Production and Marketing

Unit - III Crafts Revival 35 Periods

7. Crafts Bazaars
8. Craft in the Age of Tourism
9. Design and Development

SECTION-B 20 Marks

Field Studies: Documenting/ Exploring crafts 45 Periods

- Anecdotal Experiential question
- Case Study based question

SECTION-C 10 Marks

Question based on the Craft chosen (Clay/ Stone/ Metal/ Jewellery/ Fibre/ Textile/ Painting/ Theatre/ Paper) for practice and innovation, on individual basis.

Note: Questions in section B and C above will be based on the practical part of the syllabus. Thus time allocation has not been done separately.

II. PRACTICAL 30 Marks 60 Periods

(a) **Field Studies: Documenting/ Exploring Crafts**

- Two short projects
- One long project

(b) **Applied Crafts**

- Learning a craft
- Innovation in Design and Processes

(Guidelines for Section B and C as well as Practical has been provided in the Work Book: Exploring Craft Traditions of India, prepared by NCERT for classes XI and XII)

Section-wise Weightage: Class XI - XII

Areas of Learning	Marks
Theory	70
Section A (Reader)	40
(i) Living Craft Traditions of India-Past, Present and Future - Class XII	
Section B	20
Field Studies	
Section C	10
A personal response question based on the Craft chosen (Clay/Stone/Metal/ Jewellery/Fabric/Textile/Painting/Theatre/Paper)	
Practical	30
Exploring Craft Tradition of India XI-XII	
Field Studies: Exploring a Craft	10
Applied Crafts	20
- Learning a Craft	
- Innovation in design and processes	

PRACTICAL **30 Marks**

3 Hours

FIELD STUDIES: EXPLORING A CRAFT **(i) 10 Marks**

1. Project Work

In this part of the course students will be required to do two short and one **detailed** projects in each class XI and XII. These projects are essentially experiential and analytical in nature.

Each student will prepare:

Two short assignments (10-15 pages each)

In the first instance students will study their immediate environment and learn about everyday crafts. They will prepare an assignment of crafts found at home, in their town/village and local artisans crafts communities.

The teachers may discuss the areas and topics related with the topics mentioned in the following paragraph, before starting the work and they may call a crafts person or someone from the community who feels comfortable talking to the children and at the same time is well versed with the craft traditions specially of that region. Students may talk to people both producers and consumers, find out about different aspects of production and marketing or study the architecture of monuments, visit museums, study the artifacts (sculpture and painting and crafts) and work on the costumes, jewellery, the way of life, etc. The assignments can have drawings, illustrations, photographs, maps, etc. The students may choose any **two topics** from following areas for this short project:

- **Crafts in their own locality/home/state** to enable students to understand the design and function of craft traditions in their daily life.
- **Local Heritage in Museum/ monuments/ religious secular structures** to understand various craft skills involved in historic architecture/building/sculpture and painting.
- **Architecture prevalent in a region to study the variety of craft skills in contemporary building of homes, and other structures.**
- **Market/ shop/ mela/ haat** to understand market forces.

Note: Teacher to assess the two assignments out of 05 marks each and take the best out of the two for final assessment.

2. Exploring a Craft - Project Work

One long term project on Exploring a Craft

This project will necessarily be a scientific, methodical documentation of a particular craft tradition prevalent in the region (class XI), which will have the following core issues in the background, related to theory.

- **Craft Traditions**
- **Philosophy and Aesthetics**
- **Materials, Processes and Techniques**
- **Environment & Resource Management**
- **Social Structures**
- **Economy and Marketing**
- **International Examples**

Projects taken up for this subject may be divided into different stages of planning, execution and presentation. The projects may be taken up in a group of 4 to 6 students where they can work on a particular craft tradition. In class XI students may visit the crafts-persons in their own region whereas in class XII students may preferably take up crafts clusters of another region.

In the preparatory stage, students along with teachers can discuss about various crafts traditions practiced in the region, their history, distribution, etc., collect all information available through various sources including library, internet and resource persons. To avail comprehensive data on various aspects of the crafts, students may develop an interview schedule and decide on number of crafts persons to be interviewed, which all places they will be visiting, etc. Teachers must equip the students on interaction with craftspersons and other people from the community, type of language they should use, how to be polite with them and while handling their materials, etc. Students can buy some of the objects from craftspersons, take photographs films after seeking their permission, make drawings, etc., which later on they can use in presentation or submission of project report.

After the completion of documentation, students could make presentation in school assembly/class in parent- teachers' meeting.

APPLIED CRAFTS

(ii) 20 Marks

This component will consist of a-hands- on-experience of creative work with a multi-disciplinary approach:

1. Learning a Craft

Students can learn the basics of a chosen craft from a practising local artisan, such as pottery/ weaving/ drawing and work on its techniques, handling of materials and tools, experiment with colour, form, texture, rhythm, balance, etc. They can then experiment with them, know about the traditional practices in that craft, the symbolism in them and the different points of views associated with it. The schools should have all the facilities required for practicing all the processes involved in a craft including working space, materials and tools. Schools may not have a teacher who is also an expert in all these crafts and in such a case, the schools should identify resource persons/ craftspersons from the community, who can come to the school for demonstrations and students also can visit them.

Help can be sought from TRIFED, SPIC-MACY, CCRT and other such organizations which are trying to retain the cultural fabric of Indian Society.

2. Innovation in design and processes

In this stage, students will develop their creative, innovation skills. They will choose one topic and translate theory into practice based on the interest and regional needs of India, like stone craft in parts of M.P., Tamil Nadu, Orissa, etc. where stone is easily available.

- **Materials, Processes and Techniques**

Experiment with eco-friendly packaging of different crafts.

- **Environment & Resource Management**
Recycling of materials
Reducing hazards
- **Economy and Marketing**
Assisting a craftsperson in proper methods of costing and pricing
Studying consumer needs/ behavior and informing crafts person of changing market trends, etc.
- **International Examples**
Creative contemporary uses of the craft in India and abroad
- **Creating an Aesthetic Environment**

Finally it is critical that students who undertake this course have an opportunity to use what they learn. Students will be asked to practically demonstrate how they will create an aesthetic environment at school, home, and community. They can redesign their classroom with crafts they have studied; they can design a notice board for the school, or decorate the principal's office. Periodically, students can display and organize exhibitions to show the works and obtain feedback. Students can learn how their products can be creatively used in their individual and collective living.

Textbook

In all, there will be **three textbooks for classes XI and class XII**. One textbook each in both the years will be for theory, and one book giving guidelines/ addressing the schools, teachers and students about the practical components.

The theory textbooks for classes XI and XII will be a fully illustrated textbook giving photographs, sketches, maps, timelines, case studies, etc. The class XI textbook of theory will introduce children with diverse traditions of the Indian crafts. Whereas the **class XII** textbook will address the six aspects of Craft Traditions: a. Philosophy and Aesthetics, b. Materials, Processes and Techniques, c. Environment & Resource Management d. Social Structures f. Economy and marketing g. International Examples. These aspects will be studied in light of the crafts traditions referred in class XI.

A work book which will be addressing the students as well as teachers and schools for conducting different activities in practicum, like the field studies and applied crafts will provide some samples of documentation methods/ formats based on which children can develop their own formats to conduct them. This will be a book for both years. It will also suggest what facilities the schools should provide for conducting these activities, etc.

Teacher Qualifications:

MANDATORY

A Post Graduate in any of the Fine Arts, *Masters in Fine Arts (MFA)* or *Masters in Drawing or Painting*

DESIRABLE

An exposure to at least one Craft even if in an unorganised sector.

In case a teacher does not have desirable qualification as above, an undertaking should be taken so that at least a 21 days training is done with the CCRT /Sanskriti /Crafts Museum/NCERT (DEAA).

Infrastructure:

Basic space and kiln, potter wheel and other equipment required for the specific craft being offered.

Prescribed Books:

1. Reader: Living Craft Traditions of India, Textbook for Class XI
(Published by NCERT)
2. Reader: Living Craft Traditions of India, Past, Present and future - Textbook for Class XII
(Published by NCERT)
3. Exploring the Craft Traditions of India, Class XI & XII

QUESTION PAPER DESIGN 2014-15									
HERITAGE CRAFTS					CLASS-XII				
TIME: 3 Hours					CODE NO.070				
S. No	Typology of Questions	Learning outcomes and Testing Competencies	Short Answer (MCQ) (1 Mark)	Short Answer (SA) (3 Marks)	Long Answer-I (LA-I) (5 Marks)	Long Answer-II (LA-II) (8 Marks)	Long Answer-III (LA-III) (10 Marks)	Total Marks	% Weightage
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	<ul style="list-style-type: none"> Reasoning Analytical Skills Critical Thinking Skills etc. 	1	2	1	-	-	12	17%
02	Understanding- (Comprehension -to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		1	2	1	-	1	22	31%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		1	-	-	-	1	11	16%
04	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources)		1	-	1	1	-	14	20%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		1	-	-	-	1	11	16%
	TOTAL		5 × 1 = 05	4 × 3 = 12	3 × 5 = 15	1 × 8 = 08	3 × 10 = 30	70(16)	100%

- Note:** Section A
1. MCQ - 5 Questions of 1 Mark each
 2. Short Answer I (SA I) - 4 Questions of 3 Marks each
 3. Long Answer I (LA I) - 3 Questions of 5 Marks each
 4. Long Answer II (LA II) - 1 Question of 8 Marks
- Section B
1. Long Answer III (LA III) - 2 Questions of 10 Marks each
- Section C
1. Long Answer III (LA III) - 1 Question of 10 Marks

34. GRAPHIC DESIGN (CODE NO. 071)

INTRODUCTION

Graphic Design is the creative planning and execution of visual communication. One learns to create a combination of shapes and forms, words and images, in order to reproduce them on some flat surface (two dimensional - paper, cardboard, cloth, plastic, video, computer, or projection screen, on poster, billboard, or other signage) or in a three-dimensional form (fabricated or manufactured) in order to convey information to a targeted audience. All graphic designs has a purpose or function. Usually its purpose is commercial to explain aesthetically something - to express, inform and influence the thoughts and actions of its audience.

This subject introduces the student to the art intended to communicate information for advertising. The focus is on studying and using layout and design concepts used in the graphic design field. The students will employ both analog media (drawing with pencil and paper, etc.) and digital media - using up-to-date computer tools (graphics hardware and software - for drawing, painting, layout, typography, scanning, and photography).

1. **Creating Art:** Students know and apply the arts disciplines, techniques and processes to communicate the original or interpretive work.
2. **Art in Context:** Students demonstrate how elements of time and place influence the visual characteristics, content, purpose and message of words of art.
3. **Art as Inquiry:** Students demonstrate how the arts reveal universal concepts and themes. Students reflect upon and assess the characteristics and merits of their work and the work of others.

Graphic Design at senior secondary stage is an elective subject. Although there are no prerequisite qualifications for the subject the students should demonstrate basic skill and interest in the fields of art and design to opt this subject.

RATIONALE

Design is the process of selection where visual elements such as line, shape, volume, tone, texture, colour, form, format, space, and structure are used by students to express their ideas. Visual sensitivity and working knowledge of design elements would be developed by solving a series of problems and employing a variety of media and materials. The curricular area aims at enabling the students to develop their mental faculties of observation, imagination, and creation and develop skills and sensitivity towards the use of visual elements for an effective visual communication.

Design is an activity of problem solving for the well being of society and individuals. Today, in the world of information and communication everyone has to communicate and get communicated by different groups of people through a wide variety of communication systems.

Graphic design course has a great potential in providing creative solutions to communication of complex phenomena of print media such as books, magazines and newspaper, through pictographic depictions or concept visualization. It can be traditionally applied in typography, cartooning (social, political and educational), and designing posters, book-covers, letters heads, newspaper format, brochures, logo, textile prints, or even jewellery. With the advent of personal computers and design software, graphic design is being utilized in electronic media. Often referred to as interactive design, it has unlimited applications in advertisements.

The career choices connected through this course may be seem as graphic designers working in print production as newsletters, posters, brochures, etc). Graphic designers combine text and images to communicate a message: sell a product or service, inform, or entertain.

The curriculum in Graphic Design focuses on creating intelligent and powerful visual communication. Students build a strong foundation for a graphic design career by learning design techniques, visual thinking, concept development, colour, composition and typography through case studies and hands on exercises. During the

study, assignments will incorporate problem solving projects that relate to visual communication. The course includes introduction to computer as a tool to create, modify and present the visual messages creatively.

By opting Graphic Design as one of the Elective subjects at Senior Secondary level, the students will have various options to pursue their advanced studies in Graphic Design or the knowledge may be integrated with related curricular/ professional areas for vertical and horizontal mobility in their career.

COURSE OBJECTIVES

Study of Graphic Design will have a wider horizon in the field of art and will -

- Demonstrate artistic growth by executing a variety of images/ text as images, traditional and contemporary techniques that solve complex design problems using creative thinking and analytical skills.
- Develop and demonstrate the understanding and skillful use of the elements and principles of visual design (1. conceptual element, 2. visual element, 3. relational element and 4. practical or functional element).
- Gain skill to use digital tools as a powerful means of communication to create, modify and present the message.
- Study the works of contemporary artists, designers as well as the masters in the art field and discuss to enrich their vocabulary of design.
- Learn ways to apply aesthetic sensibilities into their works and explore ways to balance between formal theories with practical applications.

CORE CONTENT

The students will:

- Recognise how graphic design evolved in contemporary time.
- The concept of a layout and ways to create it.
- Practice styles of lettering/ fonts and their implications.
- Concept of a logo and methods of create it.
- The basics of two dimensional design including the elements and principles of art.
- Graphic Design and implications of colour theory.
- Role of criticism in interpreting Graphic Design.
- Career options in Graphic Design.
- Use variety of tools and techniques in developing design.

The students will design and create a variety of projects, using traditional and electronic medium. Maintain good studio organization facilities in an appropriate working condition.

GRAPHIC DESIGN CLASS-XI (2013-14)

		Time 3 Hours
A: THEORY	70 marks	180 periods
UNIT - I Foundations of Graphic Design	20 marks	40 periods
UNIT - II Graphic Design and Society	25 marks	70 periods
UNIT - III Development of Script	25 marks	70 periods

B: PRACTICAL	20 marks	60 periods
1. Sketching and Drawing	10 Marks	
2. Basic Design: Development of Aesthetic sensibility towards design	10 marks	
C: PORTFOLIO	10 marks	All year

CLASS XI: GRAPHIC DESIGN

A: THEORY (One Paper) **70 marks** **3 Hours**

SECTION A: Questions based on Reader

SECTION B: Questions based on Application of Design

UNIT - I: Foundations of Graphic Design a) Introduction to Graphic Design b) Graphic Art, Design and Graphic Design c) Elements and Principles of Graphic Design	20 marks
UNIT - II: Graphic Design and Society a) Indigenous Design and Culture b) Indigenous Graphic Design Practices	25 marks
UNIT - III: Graphic Communication Techniques a) Development of script b) Evolution in Reproduction (Reprography) c) Movable Metal Type to Digital Imaging	25 marks
B: PRACTICAL	20 marks
1. Sketching and Drawing a) Sketching of natural and man-made objects and environment b) Construction Drawing c) Representational Drawing d) Simplification Drawing	(i) 10 marks
2. Basic Design : Development of Aesthetic sensibility towards design a) 2-Dimensional Elements of Design i) Line ii) Shape iii) Form iv) Colours v) Repetition vi) Structure vii) Similarity viii) Gradation	(ii) 10 marks

<ul style="list-style-type: none"> ix) Radiation x) Irregularity xi) Contrast xii) Concentration xiii) Texture xiv) Space b) Calligraphy and Typography <ul style="list-style-type: none"> i) Anatomy ii) Type Families iii) Choosing a Font iv) Styling and Formatting v) Text as Image 	
<p>C: PORTFOLIO</p> <p>1. Sketching and Drawing</p> <p>- About 100 sketches should be done in bound sketch book for submission</p>	<p>10 marks</p>
<p>2. (i) Two - Dimensional Elements of Design</p> <ul style="list-style-type: none"> a) Two monogram designs b) 1 invitation card and 1 letter head c) 2 posters on given subjects d) 2 signage on given subject e) 2 interpretive designs based on traditional motif (in two different media) 	
<p>(ii) Calligraphy and Typography</p> <ul style="list-style-type: none"> a) 1 quotation in any chosen Typeface in any language. b) 1 slogan in any chosen Typeface in any language. c) <ul style="list-style-type: none"> ● 1 design of the initials of one's name created in reverse of letter in a manner fit for printing. ● Produce the same design in relief printing. <p style="text-align: center;">OR</p> <p>(ii) Project :-</p> <p>1 project based on a prescribed visit to an assigned place</p>	

QUESTION PAPER DESIGN 2013-14								
GRAPHIC DESIGN (CODE NO. 071)						CLASS-XI		
Max. Marks: 70								
S. No	Typology of Questions	Learning outcomes and Testing Competencies	MCQ (1 Mark)	Short Answer (SA) (3 Marks)	Long Answer-I (LA-I) (5 Marks)	Long Answer (LA-II) (8 Marks)	Total Marks	% Weightage
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	<ul style="list-style-type: none"> • Reasoning • Analytical Skills • Critical Thinking Skills etc. 	5	-	-	-	05	7%
02	Understanding- (Comprehension –to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		-	4	2	-	22	31%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		-	-	1	-	05	7%
04	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		-	-	-	1	08	11%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		-	4	2	1	30	44%
TOTAL			5x1=5	8x3=24	5x5=25	2x8=16	70(20)	100%

CLASS–XII: GRAPHIC DESIGN

Time : 3 Hours

A: THEORY (One Paper)	70 Marks	180 Periods
UNIT - I Design Processes and Practices	15 Marks	30 Periods
UNIT - II Principles and Elements of Design	30 Marks	100 Periods
UNIT - III Media and Design	25 Marks	50 Periods
B: PRACTICAL	20 Marks	60 Periods
1. Society and Articulation	5 Marks	15 Periods
2. Introduction to Design Based Software	5 Marks	15 Periods
3. Application of Design Based Software	5 Marks	15 Periods
4. Advanced Applications of Design Software	5 Marks	15 Periods
C: PORTFOLIO	10 Marks	Throughout the year

CLASS–XII: GRAPHIC DESIGN (2014-15)

A: THEORY	One Paper	3 Hours	70 Marks
SECTION A: Questions based on Reader			
SECTION B: Questions based on Application of Design			
UNIT - I Design Processes and Practices			15 Marks
1	Role of Design in Society		
	a) Functions of Design		
	b) Implications and Impact of Graphic Design		
	c) Role of Graphic Designer		
	d) Contemporary Graphic Design in India		
2	Graphic Design Processes		
	a) Methodology of Graphic Design		
UNIT - II Principles and Elements of Design			30 Marks
3	Sketching and Drawing		
	a) Introduction to Drawing : an aid in visual representation		
	b) Types of drawing		
	● Drawing from memory and imagination		
	● Drawing from observation		
	● Drawing from Dimensional information		
	c) Virtues of drawing		
4	Colour		
	a) Colours theories		

	<ul style="list-style-type: none"> b) Colour wheel c) Colour Harmonies or Colour Schemes d) Colour Symbolism 	
5	Fundamentals Visual Composition <ul style="list-style-type: none"> a) Introduction b) Principles and Elements of Composition 	
6	Typography <ul style="list-style-type: none"> a) Classification b) Anatomy of Font c) Features of a Font d) Text Formatting e) Multilingual Typography 	
7	Principles of Layout Design <ul style="list-style-type: none"> a) Theme and content b) Types of Layout c) Colours in Layout d) Copy and Type e) Design for Publication 	
UNIT - III Media and Design		25 Marks
8	Digital Imaging and Printing <ul style="list-style-type: none"> a) Types of Digital Images b) Digital image Editing c) Digital Printing 	
9	Advertising Design <ul style="list-style-type: none"> a) What is Media Planning 	
10	Campaign Design <ul style="list-style-type: none"> a) Kinds of Campaign b) Planning a Campaign c) Research & Data Collection d) Creative Aspects e) Developing a Concept f) Departments of an Advertising Agency 	
11	Integrated Methods of Advertising <ul style="list-style-type: none"> a) Kinds of Events b) Public Relations c) Media d) Visual Communication an its Impact 	

12	<p>Graphic Design for Interactive Media</p> <p>a) Basic Concepts</p> <p>b) Types of Websites</p> <p>c) The Website Development and Management Process</p> <p>d) Graphic Design Approach</p> <p>e) Designing Navigation</p>	
B: PRACTICAL		20 Marks
	<p>1. (i) Functions of Design</p> <p>(ii) Graphic Design Process</p>	
	<p>2. (i) Types of Drawing</p> <p>(ii) Colour and its Theories</p> <p>(iii) Elements of Composition</p> <p>(iv) Types of Layout and a Complete Design for Publication.</p>	
	<p>3. (i) Types of Digital Images, Editing and Printing</p> <p>(ii) Advertisement Design Planning</p> <p>(iii) Means of Campaign Designing</p> <p>(iv) Types of Visual Communication and Design a Poster/Hoarding/Book-cover, etc.</p> <p>(v) Layout of a Website Home - Page on a Chosen Field. (Institution/organization/sports/art/event, etc.)</p>	
C: PORTFOLIO WILL INCLUDE:		10 marks
	<p>a) One work from each chapter of Unit-2</p> <p style="text-align: center;">OR</p> <p>b) Field visit Report/Documentation and creating theme-based design on the field study in five different advertisement media using appropriate software</p> <p>c) One complete sketch book of at least 100 sketches</p>	

**SCHEME OF EXAMINATION
Class - XII (2014-15)**

I. THEORY PAPER	70 Marks
	Time : 3 hours
SECTION-A	40 Marks
1. Four out of five short questions based on textbook (80-100 words). (four questions of 3 marks each (4x3))	12 marks
2. Long questions: Three questions out of four based on textbook (100-120 words) (Three questions of five marks each (3x5))	15 marks
3. Definitions: Five definitions out of six based on textbook in three to five sentences. (Five definitions one mark each (1x5))	05 marks
4. Essay Type : One essay type question out of two based on textbook (150-200 words) (One essay type question of 8 marks)	08 marks
SECTION-B	30 Marks
5. Four out of five short questions on drawing a design pattern based on the given input	12 marks
6. Two questions out of three on designing a motif or a pattern based on (5+5)	10 marks
7. One question out of two on designing any of the following types (brochure/ logo/ letterhead/ book cover/ poster/ textile print/ jewellery)	08 marks
II PRACTICAL EXAMINATION :	20 marks
	Time 3 Hours.
1. Prepare a rough layout on a given topic	05 marks
2. Transform the same layout in digital format	15 marks
III Portfolio:	
One sketch book of at least 100 sketches.	10 marks

PORTFOLIO AND PROJECT WORK

The portfolio would serve as an evidence in the skill to organise and use tools and techniques effectively by learners.

- Portfolio will include**
One work based on each chapter of unit-II
 - Drawing
 - Colour
 - Design Principles

- Typography
- Layout.

OR

Project work

- (a) Field study and report writing : Museums, melas, festivals, etc.
- (b) Digital Work : Creating a theme based design of the field study in 5 different advertisement media using desired software.

2. **Sketching** : 100 sketches of people, place, architecture, objects, etc., in different drawing media.

Project Work:

Work Study: Study of works of any great/ known designer (national or international).

Note:

Yearly submission of portfolio consisting of selected works (min. no 20) produced during the year. The works should be rich in terms of material exploration and visual impact.

(Students will each develop a portfolio that reflects and intermediate to advanced level of artistic perception, expression, historic and cultural understanding, aesthetic valuing, and an ability to connect their artistic skills to many art related careers, and develop competencies in problem solving, communication, time management and resources. Students are expected to submit acceptable work at the end of academic year. If an assignment is considered unacceptable, the students will be asked to complete and resubmit their work.)

QUESTION PAPER DESIGN 2014-15								
GRAPHIC DESIGN (CODE NO. 071)						CLASS-XII		
Max. Marks: 70								
S. No	Typology of Questions	Learning outcomes and Testing Competencies	MCQ (1 Mark)	Short Answer (SA) (3 Marks)	Long Answer-I (LA-I) (5 Marks)	Long Answer (LA-II) (8 Marks)	Total Marks	% Weightage
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	<ul style="list-style-type: none"> • Reasoning • Analytical Skills • Critical Thinking Skills etc. 	5	-	-	-	05	7%
02	Understanding- (Comprehension –to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		-	4	2	-	22	31%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		-	-	1	-	05	7%
04	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		-	-	-	1	08	11%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		-	4	2	1	30	44%
TOTAL			5x1=5	8x3=24	5x5=25	2x8=16	70(20)	100%

35. MASS MEDIA STUDIES (CODE NO. 072)

Rationale

In the last two decades changes of phenomenal proportion have occurred in the mass media. The media have taken a quantum leap forward in terms of scale content and convergence. The media experience is an important part of globalization and civil society. The media have become an indispensable part of life on the national and local level. They have become an important factor in shaping young minds.

Objectives

- Introduction to the comprehensive understanding of the five principle Mass Media viz, Film, TV, Print, Radio and Internet
- Introduction to the evolution of Mass Media
- To understand how the content of mass media shapes our thoughts, vision, ethics and action
- Analysis of the ways in which content is created in media
- To understand creative and technical processes involved in filmmaking, television production, newsprint, radio and the internet
- Introduction to the organization of media and entertainment industries - the financial and commercial part
- To delineate the roles and responsibilities of creative, technical and administrative people in media
- To familiarize with the career options in media and entertainment industry
- To analyze the vital importance of mass media in the functioning of a secular, liberal, democracy like India
- To understand the convergence of mass media as the futuristic trend opening up more and more exciting career and creative opportunities

MASS MEDIA STUDIES XI-ACADEMIC ELECTIVE (072)

S.No.	Units	Marks	Periods
1.	Introduction of Mass Communication	35	30
2.	Understanding Fiction and Non-fiction		40
3.	Evolution of the Media in India	25	30
4.	Role of Advertising in Mass Communication		20
5.	Introduction to the Production Process (Idea to Product - The Process)	20	40
6.	Production Skills (Project)	10	40
7.	Portfolio Assessment(Project)	10	40
		80+20= 100	240

UNIT 1 - INTRODUCTION TO MASS COMMUNICATION

30 Periods

- Definition and functions of Mass Media and Mass Communication
- Aspects of Mass Communication

- Impact of Mass Communication on psyche and society
- Barriers to Communication
- A brief history of Mass Media

UNIT 2 - UNDERSTANDING FICTION AND NON-FICTION

40 Periods

Understanding Fiction

- Story as a self content world
- Story as a subjective experience
- Content of a story
 - Theme/subject
 - Plot, time and space
 - Characters
- Techniques of story telling
 - Description
 - Dialogue
 - View point
- Genre of a story
 - Fable, Myth, Legend, Short story

Understanding Non-fiction

Print

- News and reporting - the approaches and formats - news story, feature, article, interview

Film and TV

- Defining Non- fiction

The approaches to reality

- Recording of an event/occurrence/personality/issue
- Making a reportage of an event/occurrence/personality/issue
- Documenting of an event/occurrence/personality/issue involving research and bringing out different views

Reporting and documenting skills for Radio 103

UNIT 3-EVOLUTION OF THE MEDIA IN INDIA

30 Periods

Cinema in India

- a. Hindi Cinema
 - DG Phalke and silent era
 - Coming of sound, Studio era, Post-Independence era
- b. Satyajit Ray and non-mainstream cinema

Television in India

- Doordarshan in the first phase of local stations and black and white transmission

Site Experiment

- Colour television, AASUAD 1982-Satellite Transmission (INSAT)
- Beginning of private producers working for Doordarshan - the age news programmes like The World This Week and soap operas like Hum Log
- 1992 the entry of private channels
- The spread of channels today
- Development of print journalism in India
- Pre and post-independence development of radio in India
- Pre and post-independence evolution of the internet in India

UNIT 4 - ROLE OF ADVERTISING IN MASS COMMUNICATION

20 Periods

- The need for advertising and advertising as an engine of growth
- Types of advertising (product services, classified, public services, industrial, corporate)
- Principles of advertising and code of advertising standards

UNIT 5 - INTRODUCTION TO THE PRODUCTION PROCESS (IDEA TO PRODUCT - THE PROCESS)

40 Period

1. Film

- Pre-shooting stage
- Shooting stage
- Post shooting stage

2. TV

- Pre-shooting stage
- Shooting stage
- Post shooting stage

3. Print

- Planning
- Writing
- Editing
- Designing

4. Radio

- Planning and recording
- Editing and transmission

5. Internet

- Planning, creating and delivering

UNIT 6 - PRODUCTION SKILLS (PROJECT)

40 Periods

Fiction

- Developing an idea into a story through synopsis, treatment and screenplay
- Shooting/Recording
- Post-production

Non-Fiction

- Developing an idea into a script for a documentary through research
- Shooting/Recording
- Post-production

7. PORTFOLIO ASSESSMENT

40 Periods

QUESTION PAPER DESIGN									
Mass Media Studies			CODE NO.072				CLASS-XI (2013-14)		
TIME: 3 Hours					Max. Marks: 80				
S. NO.	Typology of Questions	Learning outcomes & testing skills	Very Short Answer (VSA) (1 Mark)	Short Answer-I (SA-I) (3 Marks)	Short Answer-II (SA-II) (4 Marks)	Long Answer (LA) (5 Marks)	Essay Type (6 Marks)	Total Marks	% Weigh-tage
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	Reasoning Analytical skills Critical skills	2	1	1	1	-	14	17%
02	Understanding- (Comprehension – to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		2	2	1	-	1	18	23%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		2	1	1	1	1	20	25%
04	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		2	1	2	-	1	19	24%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)				1(value based)	1	-	09	11%
TOTAL- 2 projects (10 marks each) 20 marks			$8 \times 1 = 8$	$5 \times 3 = 15$	$6 \times 4 = 24$	$3 \times 5 = 15$	$3 \times 6 = 18$	80(25) (project) (20)	100 %
Estimated Time (in minutes)			10 min	20 min	50 min	35 min	50 min	165 min + 15 min. for revision	

MASS MEDIA STUDIES–XII (CODE NO. 072)

S.No.	Units	Marks	Periods
1.	Understanding the Language of the Medium	35	40
2.	Evolution of the Media		30
3.	Convergence of the Media	35	40
4.	Selling/Marketing/Exhibiting a Product through Advertising		30
5.	Graphic Design and Multimedia Applications	10	20
6.	Production Skills (Project)	20	40
7.	Portfolio Assessment (Project)		40
		100	240

UNIT 1. UNDERSTANDING THE LANGUAGE OF THE MEDIUM

40Periods

Chapter I: Media Literacy

1. Introduction of Media Literacy
2. Introduction to Mass Media
3. Audience Theories
4. Media Ownership
5. Media Representation
6. Media and Violence

Chapter II: Aspects of Film Language

1. The concept of mise en scene
2. Film Analysis
 - Short film-fiction(5)
 - Short film-non fiction (5)

OR

 - Feature film

Chapter III: Content Analysis of TV Programmes

- The concept of a soap opera - Daily soap, Weekly soap
- Genres of Soap Opera, primary audience of each genre
- The Segmented nature of the audience
- Gaze of the audience, concept of a flow, continuous interruption
- Culture of Film based programmes
- Culture of Music based programmes
- Educational TV, non-fiction on TV

Chapter IV: Content Analysis of Radio Programmes

- News - the format, the language, frequency
- Talks, magazine programmes-unidirectional nature, feedback with a time phase difference
- Dramas - the unique nature of radio plays
- Interactive programmes - phone in, live interaction, music, experiences, memories as content of these programmes

Chapter V : Content Analysis of Newspapers and Periodicals

- **Newspapers -**
 - a) The Macro composition of a daily-various sections like the front page, edit page, sports page, business page.
 - b) The Micro composition of a daily-proportion of visual and text, language, highlighting.
- **Periodicals -**
 - a) The Macro composition of a periodical - various sections like the cover page, cover story, features, columns, business page.
 - b) The Micro composition of a periodical - proportion of visual and text, language, highlighting.

Chapter VI: Features of the Internet

- **E-mails -** Personal, Business Communication between Individuals and Organizations, Changing Characteristics of the same
- **Websites -** Educational sites, Entertainment sites, Information sites, Social networking sites, Business sites Blogs
- **Web Advertising**

The changing nature of communication and perception of interpersonal and social communication due to the various developing possibilities of the internet.

UNIT 2 - EVOLUTION OF THE MEDIA (GLOBAL)

30 Periods

Chapter I: The Evolution of International Cinema

The Silent Era (1895 to 1927)

- Primitives and Pioneers in UK, France and USA
- Establishment of Hollywood, D.W Griffith and Slapstick comedy
- Expressionism in Germany
- Socialist Realism in USSR

The Sound Era (1927) to the present day, transition from black and white to colours

- The British, American and European documentary movement
- Genres in Hollywood

Chapter II: The Evolution - International Television

- National and Trans-national Networks
- Live and Recorded Transmission
- Video and Cable Networks

- Satellite Communication
- Evolution of Fiction and Non-fiction Programmes
- Television as a part of the Internet

Chapter III: The Evolution of Print Media

- Journalism as a 17th and 18th century phenomenon
- Role of Industrial Revolution in the spread of print media
- Local newspapers, Chain of newspapers
- Some features of journalism in Europe and America
- Online editions

Chapter IV: The Evolution of Radio

- Technically a combination of wireless and telegraph technology
- Bell, Marconi, Jagdish Chandra Bose, Tesla created the possibilities of transmission
- From Military use to the Civil one in the 1920s
- Establishment of BBC in 1922, also federal Commission in USA
- News and commercial messages
- By 1940 a universal and round the clock companion
- 1955 onwards the invention of the transistor making radio portable
- National/Regional Network: AM, FM, Stereo Broadcast
- Radio as a part of web communication

Chapter V: Evolution of the Internet

- The internet becomes a reality in the 1970s
- Till 1991, internet is limited to the military and industrial circles and is closed to others
- Development of www in 1991 opens up internet
- The phenomenal growth after that

UNIT 3 - CONVERGENCE OF THE MEDIA

40 Periods

Chapter I: Independence and Inter-convertibility of Media

- Nature of audio-visual signals and messages
- Optical/Electronic
- Live/Recorded
- Analogue/Digital
- Nature of media
- Print-text film-optical image
- Television-electronic image
- Radio-wireless communication
- Accommodation of text, sound, image into film

- Accommodation of film into television
- Internet as the meeting point of all the mass media

Chapter II: Convergence and the New Possibilities of Communication

Earlier models of communication

- Broadcasting
- Mass communication model of a few transmitting to a vast number of receivers
- Gigantic organization
- Huge technical infrastructure
- Large scale revenue
- The changed paradigm due to the Internet
- Empowering an individual to post data on the Internet
- Information, message in one medium triggering off activity in the others
- Many sources of the same information
- Distribution of the information between individuals on an unprecedented global scale
- Rapidity of opinion generation on a local, national and global scale
- The socio- political implications of the new information order
- The strengthening of democracy

**UNIT 4 - SELLING/MARKETING/EXHIBITING A PRODUCT
THROUGH ADVERTISING**

30 Periods

The Case Study Approach

Chapter I: Profile of a Product

- Product specifications
- Targeting buyers

Chapter II: The task of Advertising

- Promotion of product
- Drive sales
- Build a brand identity
- Increase the buzz

Chapter III: The Available Media

- Print-newspapers, magazines, brochures, fliers, posters
- OOH-billboards, kiosks, tradeshow events
- Broadcast advertising - Radio, TV, digital Internet + mobile
- 'In film' promos
- Celebrity endorsements
- Cross promotions

- Merchandise
- Games (Mobile and computer)
- Covert advertising

Chapter IV: Forms of Advertising

- Product Advertising
- Institutional Advertising (Corporate)
- Social Service - PSA
- Advocacy Advertising
- Comparative Advertising
- Cooperative Advertising
- Direct Mail
- Point of Purchase Advertising
- Informational Advertising

UNIT 5 - GRAPHIC DESIGN AND MULTIMEDIA APPLICATIONS

20 Periods

Chapter I: Introduction to multimedia

Chapter II: Text

Chapter III: Still in Age

Chapter IV: Video Application

Chapter V: Sound

Chapter VI: Creating a multimedia project

UNIT 6 - PRODUCTION SKILLS

40 Periods

Project - Non-Fiction: Students will conceive, write, direct and edit a non-fiction project of 3-5 minutes duration.

Guidelines

In this, they will follow the film making process of going through the pre-production, production and post-production process. The idea will be submitted to the teacher first. It shall be discussed and approved. It is only after that, the student can undertake to do further research and writing of the script. The script shall be submitted along with the shooting schedule, the same will be approved by teacher and only after the clearance from the teacher will the shooting take place. Students will complete the project on video tape and submit it along as a video tape as well as in the DVD format with the docket containing all the paper work done by them.

- Subjects of the films should be suitable for the audience of their own age group.
- Social issues like Gender issues, Environmental issues, Education, Health, Livelihood, Rights on disability, Access, Road Safety, documentaries on Historical monuments, Art and Craft can be chosen. Initial research is very important with regard to pre-production and production. Students must understand and read about media ethics and understand the sensitivity of the issue concerned. Students must take up issues which they closely relate to in their everyday lives and are able to work on within their academic concerns.
- Themes to illustrate facets of other arts could also be chosen. Issues relating to media could also be a

domain. Students must understand their roots and cultural heritage which surrounds them. It is part of what they are. This consists of not just historical monuments; it surpasses subjects like rituals, traditional medicinal practices, folklore and anecdotes from their grandparents, about the city they live in, various performing arts and more.

- Portraits of personalities with respect to their contribution to life may also be chosen. People who have made a difference within their community, their role models, people they look up to, those who inspire them or have encouraged them, they could be their relative, teacher, a household help or anyone known to them.
- Basic Handycam video cameras and basic editing software like Adobe Premier or Windows Movie maker should suffice. Technical quality is important, but technological sophistication by itself will not carry much weight, as the purpose is to judge the overall programme making ability.
- The preparation is as important as the product and will carry half the percentage in the total assessment of the project.
- The time limit of 3-5 minutes is to be strictly observed. Anything drastically more or less in duration will negatively affect the assessment.
- These guidelines should be very clearly explained to the students and there should be no basic doubts about the approach in their minds.

7. PORTFOLIO ASSESSMENT

Portfolio Assessment and Apprenticeship

Special features of Assessment

The Portfolio will consist of a compilation of all written submissions over the duration of the course. It is the sum total of the creative work executed by the student over the year. The Portfolio will consist of all written submissions over the duration of the course. The assignments would include written project work and production output will be collected. The submission would include both the original and improved versions of assigned tasks reflective of gradual improvement.

Aims of the exercise of Portfolio are -

- To create a desire in the student to go beyond the text and classroom learning
- To inculcate in the student the spirit of research
- To offer the scope for imaginative thinking
- To develop the power of interpretation
- To imbibe the notions of subjectivity and objectivity

Objectives of the exercise of Portfolio are -

- The student begins to think independently and critically about the subject.
- The student learns to develop his/her own themes.
- The student learns to systematically gather facts and sift the data.
- The student learns to use the data in a coherent and logical manner.
- The student learns to follow one's imagination to create an original work.
- The student learns the difference between analyzing someone else's work and creating one's own.
- The student learns to develop distinct creative approaches to fiction and non-fiction.

- The student learns to conceive and execute ideas that are medium specific.
- The student learns to identify upon his/her own strengths and weaknesses.

Assessment of the Portfolio

The basic guideline for assessment of the Portfolio is to judge the student's individual growth along the aims and objectives stated above. Both quality and quantity of the work done cumulatively should receive equal consideration.

10 marks have been allotted for the Portfolio.

Apprentice Program

All students who take this course will have to mandatorily take one week intensive training at an institution which has been approved by CBSE. The week long intensive training will also have a component of project work which will be assessed by the examiners of the institution.

Guidelines for teacher training preamble - The subject Mass Media Studies is new and a broad-spectrum one. Hence there are no specialized teachers available at the inception to teach the course. The teachers, who will have the initiative to undertake the responsibility of teaching, themselves would belong to various backgrounds. So the trainers are dealing with heterogenous groups as far as the educational background of the members of the group are concerned. These are the factors that have been taken into account while planning the content and teaching strategy. These are not to be considered as limiting factors, but important details.

Content

The reader of the course would form the main reference around which the course would be structured. It will be more of participatory workshop than a lecture dominant programme.

Aims

- To explain the basic concept and key areas of the curriculum
- To demonstrate the use of available resources and to create the new ones
- To demonstrate the various approaches such as case study, analysis, research, creation of a product from an abstract idea and more
- To correlate the experience of various media as different dimensions of social life
- To bring awareness of the fact that mass media offers scope to a variety of talents and skills

Objectives

After the successful completion of the course the teachers should be able to:

- Understand the ideas behind each unit and their interrelationship
- Locate the teaching resources within the familiar areas of information
- Guide the students to creatively execute their ideas
- Make the students realize the different realities of the media
- Develop a comprehensive perspective on mass media
- Induce the students to think positively about choosing a career in mass media

Infrastructure Requirements in Schools

Computers - an ideal ratio of 1 computer for every 5 students, with the following specifications:

- PCs or I Macs (latest those purchased in 2009) with a minimum of 1GB RAM and 100GB HDD with dual/quad core processors Or Macintel processors (in the case of iMacs).

- Appropriate editing/sound softwares. These will be freely available softwares, which WWI will select and recommend to the schools. These should be available at no cost or a minimal cost, if at all.
- The computers, ideally should be on a UPS or a backup power so as to not damage them in case of power failures.
- Handycams/Hand-held video cameras (Sony HC 96 or equivalent) with an ideal ratio of 1:10 (1 camera for every 10 students).
- A screening room equipped with a television set or projector and speakers for playback of video OR screening images through a computer.

Qualificaiton for Faculty

An M.A in Mass Communication preferably with B.Ed.

QUESTION PAPER DESIGN									
Mass Media Studies			CODE NO.072				CLASS-XII (2014-15)		
TIME: 3 Hours					Max. Marks: 80				
S. NO.	Typology of Questions	Learning outcomes & testing skills	Very Short Answer (VSA) (1 Mark)	Short Answer-I (SA-I) (3 Marks)	Short Answer-II (SA-II) (4 Marks)	Long Answer (LA) (5 Marks)	Essay Type (6 Marks)	Total Marks	% Weigh-tage
01	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories; Identify, define, or recite, information)	Reasoning Analytical skills Critical skills	2	1	1	1	-	14	17%
02	Understanding- (Comprehension – to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)		2	2	1	-	1	18	23%
03	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		2	1	1	1	1	20	25%
04	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)		2	1	2	-	1	19	24%
05	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)				1(value based)	1	-	09	11%
TOTAL- 2 projects (10 marks each) 20 marks			$8 \times 1 = 8$	$5 \times 3 = 15$	$6 \times 4 = 24$	$3 \times 5 = 15$	$3 \times 6 = 18$	80(25) (project) (20)	100 %
Estimated Time (in minutes)			10 min	20 min	50 min	35 min	50 min	165 min + 15 min. for revision	

36. KNOWLEDGE TRADITIONS AND PRACTICES OF INDIA (CODE NO. 073)

Rationale

The "Knowledge Traditions and Practices of India" has been introduced as an elective subject at the Senior Secondary level w.e.f. 2012-2013 in class XI as a pilot and to be introduced in all schools w.e.f. 2013 in classes XI and XII. After ten years of general education, students branch out at the beginning of this stage and are exposed to the rigours of the various disciplines for the first time. This is the stage when they are made to start reflecting over their future life and decide a career. At this point, they also become aware of certain knowledge traditions and practices of India that are being followed in their families and society around them but few students get an opportunity to lay hands on the vast treasure of knowledge that lies hidden in the form of literature or books.

This course aims at providing a broad overview of Indian thought in a multidisciplinary and interdisciplinary mode. It would not seek to impart masses of data, but would highlight concepts and major achievements while engaging the student with a sense of exploration and discovery. It would be an introductory course so that students who take this course are prepared for a related field in higher studies in the universities. The course will cultivate critical appreciation of the thought content and provide insights relevant for promoting cognitive ability, health and well-being, good governance, aesthetic appreciation, right values and appropriate worldview. The course will therefore comprehensively deal with all-round personality development of the students and increase their knowledge about their country.

Concept of the Course

The knowledge traditions of India are continuous and cumulative. They are textual and exegetical traditions in different areas of thought and experience: philosophy, medicine, grammar, architecture, geography, literary theory, polity and political economy, logic, astronomy and mathematics, military science, metallurgy, agriculture, mining and gemmology, and shipbuilding, among others. Concepts and technical vocabularies of these traditions are still a part of the thinking and the languages of modern India.

The tradition is also non-egocentric - the 5th-century philosopher of language, Bhartrihari, states in his *Vakyapadiya*, a cardinal principle of knowledge constitution: "The intellect acquires critical acumen by familiarity with different traditions. How much does one really understand by merely following one's own reasoning only?" (Bhartrihari, *Vakyapadiya*, II.484). The traditions are therefore, intrinsically polycentric; Indian thinkers have constantly engaged in internal debate and dialogue and have also interacted with traditions outside India.

Aims and Objectives of the course:

Students will be able to:

- get familiar with Indian thought in different disciplines.
- get familiar with major Indian thinkers in different disciplines.
- get familiar with the primary texts of Indian thought through an organized study of short extracts in translation of those texts.
- develop a better appreciation and understanding of not only the Knowledge Traditions and Practices of India but also of many contemporary questions and issues that they handle in their course work in related disciplines.
- enhance self awareness and self-esteem.

Specific aims:

Students will be able to:

- get familiar with the nature of Indian texts.
- read primary texts from various sources and will be able to collect information and develop their critical abilities.
- relate the knowledge to present context.
- develop positive attitude towards Indian thoughts and traditions.
- compare and contrast views given in the units and develop interest in the authentic texts.
- internalise the given knowledge and pursue it further in their courses of studies by gathering more information about thinkers and texts.
- interpret and analyse texts of different kinds and express it in their own language.
- understand the contribution of Indian mind in various fields.
- relate ideas of various disciplines with western thought they are otherwise introduced to in their course work.
- develop a wider understanding of how all knowledge is ultimately interrelated.
- read and know the history of Indian literatures.
- pursue further study in related fields.
- paraphrase the ideas of primary text in English or Hindi.

Syllabus Outline

Each module has a Survey Article, extracts from the Primary texts, exercises and activities. All the modules are to be covered during one year of study.

- 1. Astronomy in India** **20 Periods**

The Beginnings of Indian Astronomy - The Early Historical Period-The Siddhāntic Era - The Kerala School - Other Post-Siddhāntic Developments

Primary Texts

Āryabhaṭa, Varāhamihira, Brahmagupta, Vaṭeśvara, Bhāskara, Parameśvara, Nilakaṇṭha Somayājī, Jyeṣṭhadeva, Śaṅkara Varman
- 2. Chemistry in India** **20 Periods**

Early Chemical Techniques, Atomism in *Vaiśeṣika*, Chemistry in Early Literature, The Classical Age, Laboratory and Apparatus

Primary Texts

Vātsyāyana, Nāgārjuna, Al-Bīrūnī, Vāgbhaṭa – qualities of a teacher, disciple, disqualification of a disciple, location and building of the rushshala (laboratory), working arrangements of rushshala, material and equipment, Yaśodhara Bhaṭṭa-process of distillation, apparatus, sarana samskara, sarana taila, Prafull Chandra Ray
- 3. Indian Literatures Part I & II introduction of Indian Literature-an essentially an Oral Indian Culture** **30 Periods**

Rājaśekhara-various phases of Indian Literature: Ancient Period- Vedic Period, Middle period, Apabhraṅsha, Modern Period

Primary Texts:

Bhakti Movement Āṇḍāl, Guru Gobind Singh, Guru Nānak Dev, Hāla, Ilaṅgō, Kabīr, Kālidāsa, Kṣetrayya, Mīrabai, Mirzā Ghālib, Shāh Hussain, Veda Vyāsa, Viśṇu Śarmā, Nārāyaṇa: *Pañchatantra / Hitopadeśa, Kaundinyas narrative*
- 4. Indian Philosophical Systems** **20 Periods**

Mahātmā Buddha, Ādi Śaṅkarācārya, Śrī Rāmānujācārya – concept and schools of Indian Philosophy Sāṅkhya, Yoga, Vaiśeṣika, Nyāya, Mīmāṃsā, Vedānta, Sāṅkhya

Primary Text

The central question of Indian Philosophy: Vedic thought, Cārvāka Darśana, Jaina Darśana, Bauddha Darśana, Sāṅkhya Darśana, Yoga Darśana, Nyāya Darśana, Vaiśeṣika Darśana, Mīmāṃsā Darśana, Vedānta Darśana
- 5. Indian Traditional Knowledge on Environmental Conservation** **20 periods**

Nature, flora and fauna, Sacred groves, Reference in Manu Smṛiti: Vedic period and the cow, Bishnoi and conservation, Tradition of resistance

Primary Texts

Atharva-Veda, Mahābhārata, *Lalitavistara*: the birth of the Buddha, Bhāgavata Purāṇa, Kautilya's *Arthaśāstra*

6. LIFE SCIENCES (1): Ayurveda for Life, Health and Well-being 10 periods

Definition of Ayurveda, The Principles of Ayurvedic Healing, Treating diseases to restore health

Primary Texts

The oath of Caraka, Individualizing Diet

6. LIFE SCIENCES (2): The historical evolution of medical tradition in ancient India 10 Periods

Specialization into eight branches, The tradition of surgery, Medical genetics in Ayurveda, Inoculation for smallpox, Microbiology and parasitology, Communicable diseases and epidemics, An evolving pharmacopoeia, Pluralistic approach to healthcare, Cross-cultural interactions, A dynamic literary tradition, Global resurgence of Ayurveda, Contemporary status

Primary Texts

Dead body dissection, Rhinoplasty, Genetic basis of diseases, Communicable Diseases

6. LIFE SCIENCES (3): Plant and Animal Science in Ancient India 10 periods

Antiquity and continuity, Sources, Scope, Validation, Current status, Animal Science in Ancient India, Antiquity and continuity, Sources, Scope, Current status, Biodiversity and folk traditions

Primary Texts

Plants and their Diseases, Classification sources of animal meat

7. Mathematics in India 20 Periods

First Steps, Early Historical Period, The Classical Period, The Classical Period, post-Āryabhaṭa, The Kerala School of Mathematics, Features of Indian Mathematics

Primary Texts

Yajur-Veda, Rāmāyaṇa, Baudhāyana's Śulbasūtras, Āryabhaṭa, Bhāskara, Severus Sebokht, Syria, Brahmagupta, Bhāskarācārya, Jyeṣṭhadeva

8. Metallurgy in India 20 Periods

Definition, Metallurgy before and during the Harappan Civilization, After the Harappans, Iron Metallurgy, Wootz Steel, Other Iron Pillars and Beams, Zinc, Social Context

Primary Texts

Rig-Veda, Arthaśāstra, Varāhamihira, Nāgārjuna, Vāgbhaṭa, Classification of metals: *Survarṇa* (gold) and its different types, prosperities, *Rajata* (silver), *Tāmra* (copper), *Loha* (iron), *Vaṅga* (tin), *Nāga / śīśa* (lead), *Pittala* (brass)

9. Music in India 20 Periods

Origin, Classification accompanied instrument, Bharata's *Nāṭyaśāstra*, New era, Medieval period, Modern era, Aesthetics of Indian classical music, Forms of Composition: *Dhrupada*, *thumari*, *gazzal*, *tarana*, *tappa*, *folk music*, *film music*

Primary Texts

Taittirīya Brāhmaṇa, *Yājñavalkya Smṛti*, *Viṣṇu Purāṇa*, *Skanda Purāṇa*, *Sāraṇagadevasaṅgītaratnākara*, *Saṅgītajnamu* (melody: *Salagabhairavi*), *Ragasudharasa*

10. Theatre and Drama in India

20 Periods

Its Beginnings, Classical Period, Major Indian Dramatists: Bhāsa, Kālidāsa, Bhavabhūti, Medieval Period, *Kuṭiyattam*, *Yakṣagāna*, **Bhavāī**, *Jātrā*, *Nautanikī*, *Swāṅg*, *Rāmalilā*, *Tamāśā*, *Nāchā*, *Pāṇḍavānī*, Modern Era

Primary Texts

Nāṭyaśāstra, *Viṣṇudharmottarapurāṇa*-Khaṇḍa III, Bhakti Movement, Women Bhakti Poets

Class – XII Modules

1. State, Society and Polity
2. Geography and Cosmology (Physical Perceptions of the Universe)
3. Agriculture, Trade and Commerce
4. Education
5. Language and Grammar
6. Sculpture
7. Architecture
8. Painting
9. Dance
10. Martial Arts
11. Ethical Values: Individuals and Social
12. Crafts
13. Management
14. Other Technologies

**Knowledge Traditions and Practices of India
Examination Specifications
Class - XI**

One Paper 70 + 30 = 100 Marks
Section-wise Weightage of the Paper Time: 3 Hours

Section	Areas of Assessment	Marks
A	Reading Skills	
	● Two passages from the textbook	20
B	Analytical Skills	
	● Two passages for comparing/contrasting relating to the present time.	10
	● One out of three long answer type questions	15
C	Thinking Skills	
	● Five out of six short answer questions	15
	● Ten objective type questions based on Multiple Choice Answers	10
D	Research based Project/Portfolio Assessment + viva voce	20 + 10 = 30

**SECTION - A
READING SKILLS - 20 MARKS**

No. of periods: 60

- Q. 1 Two passages from the units with a variety of questions on different levels of comprehension, i.e., to test literal, interpretative and inferential skills. The total range of two passages would be about 700 to 800 words. 20 marks

**SECTION - B
ANALYTICAL SKILLS - 25 MARKS**

No. of periods: 60

- Q. 2 Two passages extracted from different units for comparing and contrasting and relating the ideas contained - to the present time. 10 marks
- The length of both the passages together should be about 600 words.
- Q. 3 One out of two long answer type questions based on the knowledge of the content to test the insights gained and whether the knowledge has been internalised. 15 marks

**SECTION - C
THINKING SKILLS - 25 MARKS**

No. of periods: 60

- Q. 4 Five out of six short answer type questions based on the survey sections in the modules. 5x3 = 15 marks
- (Word limit 30-40 words)
- Q. 5 Ten objective type MCQs to test global and local understanding of the text. 10 marks

SECTION - D
RESEARCH BASED PROJECT/ PORTFOLIO ASSESSMENT + VIVA VOCE

20 marks+ 10 marks = 30 marks

No. of periods: 40

The textbook has inbuilt suggestions and activities for the students to prepare a portfolio or undertake work on a research based project. The purpose is to make students exhibit their efforts and achievements in one or more areas. It is expected that schools organise visits to the traditional seats of learning, historical places, cultural hubs and authentic areas. The project will be assessed through a viva voce also which carries 10 marks out of 30.

Students will be expected to compile and collect material for the project/portfolio which would be assessed on the following points:

- **Presentation:** efforts put in, meaningful material with aesthetic sense.
- **Variety of content:** a wide variety of content in the form of audio visual media, extracts from journals, art work, conference updates, photographs, writing samples, maps, charts, extracts of interview and reading logs etc.
- **Organisation of material collected has been presented with cogency and coherence.**
- **Clarity of understanding and good judgement to test internalization of knowledge.**
- **Viva voce**

Prescribed Books:

A textbook on Knowledge Traditions and Practices of India Part - I published by CBSE 2012-13.

Knowledge Traditions and Practices of India
Examination Specifications
Class - XII

One Paper

70+30 = 100 Marks

Section-wise Weightage of the Paper

Time : 3 hours

Section	Areas of Assessment	Marks
A	Reading Skills <ul style="list-style-type: none"> ● Two passages from the textbook 	20
B	Analytical Skills <ul style="list-style-type: none"> ● Two passages for comparing/ contrasting relating to the present time. ● One out of three long answer type questions. 	10 15
C	Thinking Skills <ul style="list-style-type: none"> ● Five out of six Short Answer Questions ● Ten objective type questions based on Multiple Choice Answers 	15 10
D	Research based Project/ Portfolio Assessment + viva voce	20+10= 30

SECTION - A
READING SKILLS - 20 MARKS

No. of periods: 60

- Q. 1 Two passages from the units with a variety of questions on different levels of comprehension i.e. to test literal, interpretative and inferential skills. The total range of two passages would be about 700 to 800 words.

20 marks

SECTION - B
ANALYTICAL SKILLS - 25 MARKS

No. of periods: 60

- Q. 2 Two passages extracted from different units for comparing and contrasting and relating the ideas contained - to the present time. 10 marks

The length of both the passages together should be about 600 words.

- Q. 3 One out of two long answer type questions based on the knowledge of the content to test the insights gained and whether the knowledge has been internalised. 15 marks

SECTION - C
THINKING SKILLS - 25 MARKS

No. of periods: 60

- Q. 4 Five out of six short answer type questions based on the survey sections in the modules.

(Word limit 30-40 words)

5x3 = 15 marks

- Q. 5 Ten objective type MCQs to test global and local understanding of the text.

10 marks

SECTION - D
RESEARCH BASED PROJECT/PORTFOLIO ASSESSMENT - VIVA VOCE

20 marks + 10 marks = 30 marks

No. of periods: 40

The textbook has inbuilt suggestions and activities for the students to prepare a portfolio or undertake work on a research based project. The purpose is to make students exhibit their efforts and achievements in one or more areas. It is expected that schools organise visits to the traditional seats of learning, historical places, cultural hubs and authentic areas. The project will be assessed through a viva voce also which carries 10 marks out of 30.

Students will be expected to compile and collect material for the project/portfolio which would be assessed on the following points:

- **Presentation:** efforts put in, meaningful material with aesthetic sense.
- **Variety of content:** a wide variety of content in the form of audio visual media, extracts from journals, art work, conference updates, photographs, writing samples, maps, charts, extracts of interview and reading logs, etc.
- **Organisation of material collected has been presented with cogency and coherence**
- **Clarity of understanding and good judgement to test internalization of knowledge.**
- **Viva voce**

Prescribed Books:

A textbook on Knowledge Traditions and Practices of India Part - II, by CBSE 2012-13.

37. LEGAL STUDIES (Code No. 074)

Rationale

The Latin maxim *ignorantia juris neminem excusat*, in plain, which reads as ‘ignorance of law is not an excuse’. This is one of the age old principles followed under the Roman Law and even in our own Common Law. If every person of discretion is to know what law is, an effort to teach law outside the remit of a professional law school may have significant social benefits.

Law is a subject which has been traditionally taught in Universities for almost eight centuries. Learning law outside the settings of a professional law school has a number of perceived benefits. Some familiarity with law enhances one’s understanding of public affairs and an awareness of one’s entitlements and duties as a citizen. It may also be helpful in eliminating some of the mistaken notions about law and some of the inveterate prejudices about law, lawyers and the legal system as such. Another advantage is that an understanding of law can undoubtedly encourage talented students to pursue a career in law—an objective which is laudable in its own right.

The pitfalls of learning law outside the settings of a professional school are rooted in two key assumptions: (1) law is too vast and complicated to be taught in a non-professional setting; (2) the lack of professional trainers and experienced teachers could lead to incorrect appreciation and understanding of law. If an understanding of law is mis-formed or ill-formed as some academicians think, it may require greater efforts to unlearn whatever was learnt earlier. Both these criticisms have attracted detailed scrutiny, but at least a few countries have introduced law at the High School level.

The experience of countries that have introduced law has been by and large optimistic. The Central Board of Secondary Education is introducing Legal Studies at the Class XI level. The proposal is to introduce one module in Class XI and a second module in Class XII.

Objectives

- To provide a background of the evolution of the Indian legal system in a short and concise form.
- To focus on the applicability of *justice, equity and good conscience* and more importantly the development of Common Law system in India.
- To provide exposure on various systems of law such as Common Law, Civil Law, Hindu Law, Islamic Law etc.
- To develop an understanding of the essential features of the Indian Constitution, including the role and importance of Fundamental Rights, Separation of Powers, Structure and operation of Courts, concept of precedent in judicial functioning, the process of legislation, basic principles of statutory interpretation, etc

- To deal with principles of practical utility such as the concept of Rule of Law, principles of justice, differences between criminal and civil cases, the concept of crime and the fundamental theories of punishment, rights available to the accused at various stages of the criminal investigative process, or the key components of Human Rights, etc.
- To understand the fundamental concept and subject matter of property, contract and tort.
- To understand the rudimentary aspects of contract law such as formation of contract, terms and conditions, discharge, etc.
- To enable students to form an understanding of rights and duties and various categories of liability principles which form the bedrock for an understanding of Law.

Class XI (2013 - 14)

One Paper

Time 3hrs.

Marks 100

	Units	Periods	Marks
1.	Theory and Nature of Political Institutions	40	20
2.	Nature and sources of law	45	20
3.	Historical Evolution of Indian Legal System	45	20
4.	Civil and Criminal Courts and Process	45	20
5.	Family Justice System	45	20
	Total	220	100

Course Contents:

1. Theory and Nature of Political Institutions Concept of State/Nation Organs of Government - Legislative, Executive and Judiciary Separation of Powers – Parliamentary Sovereignty and Judicial Independence Constitutional Framework of India	40 Periods
2. Nature and Sources of Law Legislation – process, delegated and subordinate legislation Case Law – <i>Stare decisis</i> , precedents within the hierarchy of courts Authoritative Sources Custom Law Reform	45 Periods

3. Historical Evolution of Indian Legal System Ancient Indian Law English Law in India Administration of Justice in British India Charter of 1861 and subsequent Charters Establishment of High Courts and the Federal Court Drafting of the Indian Constitution Ancient Indian Law in Modern Legal Framework	45 Periods
4. Civil and Criminal Courts and Process The Civil Court Structure The Criminal Court Structure The Civil Process The Criminal Process – investigation and prosecution	45 Periods
5. Family Justice System Institutional Framework Marriage and Divorce Children Domestic Violence	45 Periods

Class XII (2014 – 15)

One Paper

Time 3hrs.

Marks 100

Contents		Periods	Marks
1.	Judiciary	35	15
2.	Topics in Law	35	15
3.	Arbitration, Tribunal Adjudication and Alternate Dispute Resolution	35	15
4.	Human Rights in India	35	15
5.	Legal Profession in India	35	15
6.	Legal Services	35	15
7.	International Context	10	10
Total		220	100

Course Contents:

<p>1. Judiciary Constitution, Roles and Impartiality Structure, Hierarchy of Courts, and Legal Offices in India Appointments, Trainings, Retirement and Removal of Judges Judicial Review</p>	<p>35 Periods</p>
<p>2. Topics in Law Property Contracts Torts Crimes Administrative Law</p>	<p>35 Periods</p>
<p>3. Arbitration, Tribunal Adjudication and Alternate Dispute Resolution Adversarial and Inquisitorial System Arbitration Administrative Tribunals Ombudsman Mediation and Conciliation Lok Adalats Lokpal and Lokayukt</p>	<p>35 Periods</p>

4. Human Rights in India Human Rights Laws – Constitution, Statutes Complaint Mechanisms and Human Rights Commissions	35 Periods
5. Legal Profession in India History of Legal profession in India Role and types of functions of judges and lawyers Barristers, Solicitors and Advocates Changes Affected by Indian Advocates Act, 1961	35 Periods
6. Legal Services Legal Services Boards Funding	35 Periods
7. International Context Introduction to International Law Sources of International Law International Institutions International Human Rights	10 Periods

38. Human Rights and Gender Studies

Code No.: 075

Rationale

Today economic integration and advancement in communications have brought all parts of the world closer together, human rights are increasingly recognized as a unifying moral force that transcends national boundaries and empowers ordinary people everywhere to demand that their governments be account able for the protection and promotion of their human rights. The mandate for human rights education is unequivocal: you have a human right to know your rights. According to NCF 2005, - *The concept of human rights has a universal frame of reference. It is imperative that children are introduced to universal values in a manner appropriate for their age. Reference to day-to-day issues, e.g. the problem of getting water, can be discussed so that young students become aware of issues related to human dignity and rights.* The Preamble to the Universal Declaration of Human Rights (UDHR) exhorts "every individual and every organ of society" to "strive by teaching and education to promote respect for these rights and freedoms." Article 30 of the UDHR declares that one goal of education should be "the strengthening of respect for human rights and fundamental freedoms."

The education systems need to reflect commitment to human rights. The specific objective that are desired to be achieved are:

- to create awareness regarding law and the administration of justice
- to create basic awareness about the need for equality of opportunity in ability to use public services including education and health
- to learn about equality of opportunity in the access to justice according to different parameters such as gender, age, diversity of background etc.
- to create awareness regarding civic and social rights and responsibilities
- to create awareness regarding consumer rights (right to know, right to redress, right to information, right to public services free of corruption)
- to create awareness regarding violence
- to create awareness regarding identity (rights of a child, parent, right to language, culture and religion)

The teaching of gender issues encompasses a wide range of questions, which are related to the underlying concepts of gender as they are evolved in various academic disciplines, epistemological approaches and institutional setting of modern educational systems on all levels. The question of how gender works in the educational system will be the subject of the course. The aims of a possible perspective in teaching gender are that gender always contains a socio-political and an academic aspect. Teaching gender also involves the potentials and the problems of gender being a universal individual experience, personal or social in the institutional setting.

This course is intended to make students aware of the ways in which gender is “taken for granted” and how gender is learned, the implications of gender for our lives, and prospects for change insofar as men and women are able to combine and/or reject elements of traditional masculinity and femininity. The course will look at gender within the context of different social institutions (e.g. the family, the workplace, education, etc.) and look at ways in which gender roles are maintained by these institutions, and/or effectively learned through socialization. Specific learning objectives are to:

- have an understanding of the history of gender and the division of labour by sex;
- attempt to consider which human behaviours are biologically motivated and which are a product of cultural differences;
- have a better understanding of oneself and the society in which one operates;
- understand the institutionalization of gender of politics, economics, language, family, and socialization;
- understand the concepts of gender stereotypes and sexism as a form of discrimination.
- generate and experiment with ideas by using technologies to express themselves as citizens, consumers and imaginative beings
- develop personal skills that are transferable to a range of work options and life paths including self-discipline, problem solving, project management and the ability to work individually and collaboratively to achieve goals

Syllabus Outline

Class XI

One Paper

Time 3 hours

100 Marks

S.No	Units	Periods	Marks
1	HR- Introduction to Human Rights	20	5
2	HR- Essential Rights for Human Development	60	20
3	HR- Redressal Mechanisms	20	10
4	GS- Introduction To Gender Studies	20	5
5	GS- Challenging Gender Stereotyping	50	15
6	GS- Studying Redressal Mechanisms	20	15
7	Case Study/ Research Based Project/ Portfolio Assessment + Viva Voice	30	20 + 10 = 30
Total		220	100

Course Content

Section -1 Human Rights

Unit 1 : Introduction to Human Rights

- The historical perspective – interrogating the need for human rights (with illustrative examples)
- Duties and Rights – Respecting the Rights of others
 - Civic and Political Rights
 - Economic, Social and Cultural Rights
- Looking at the Constitution of India

Case Study: Gandhian perspective on Human Rights.

Unit 2:

Chapter 1: Essential Rights for Human Development

- Right to Education (with special reference to Education of the girl child)
- Right to Health (with special reference to the health of the girl child)
- Human Rights and HIV AIDS
- Rights of the Disabled and other Vulnerable groups
- Right to Food and Shelter

Case Study: An equal right to live – infanticide and female foeticide leading to lopsided -ratio in India.

- The Right to Information

Case Study: Specific cases where RTI has helped to benefit the Consumer.

Chapter 2: Human Rights in Conflict and Post Conflict Situations

- The Rights of those displaced by war, of political refugees or asylum-seekers.
- Rehabilitation of children caught in war zone, women traumatized in war and child-terrorists.

Case Study: Accounts of children disabled due to violence in wars or war like situation.

UNIT 3: REDRESSAL MECHANISMS

- judicial and
 - non-judicial
- } in the areas of education, health and consumer rights

Case Study: Specific cases where the redressal has helped to benefit the system positively.

Section -2 Gender Studies

Unit 1: Introduction to Gender Studies

Chapter 1: What is Gender Studies: an Introduction and Basic Concepts- Sex Vs. Gender, Gender as a Social Construct, Gender (Gender Relations), Patriarchy, Feminism, Femininity, Masculinity, Gender Discrimination and Gender Empowerment, Gender Equality.

Chapter 2: An Introduction to Gender Related Issues:- Girl Child, Women & Work, Women & Health, Women & Media, Women & Violence, Women & Law.

(Illustrative examples through films and literature. eg Ambai's short story The Squirrel etc.)

Case Study: Specific studies related to contemporary issues such as infanticide, girl child education, early marriage etc.

Unit 2: Challenging Gender Stereotyping

- In Social Roles and Societal Prejudices.
- In Popular Culture, Literature and Language
- Towards a Gender Sensitised and a Gender Responsive Society.

Unit 3: Studying Redressal Mechanisms

- judicial and
 - non-judicial
- } in the areas of education, health and work

Case Study: Specific cases where the redressal has helped to benefit the system positively.

Case Study/ Research Based Project/ Portfolio Assessment + Viva Voice

No. of periods: 30

20 marks + 10 marks = 30 marks

The purpose to prepare a portfolio or undertake work on a research based project or undertake a case study is to make students exhibit their efforts and achievements in one or more areas. It is expected that schools provide opportunities to students to participate, discuss, deliberate and investigate contemporary issues on relevant topics. **The project will be assessed through a viva voce also which carries 10 marks out of 30.**

Students will be expected to compile and collect material for the project/case study/portfolio which would be assessed on the following points:

- **Presentation:** efforts put in, meaningful material with aesthetic sense.
- **Variety of content:** a wide variety of content in the form of audio visual media, extracts from journals, art work, conference updates, photographs, writing samples, maps, charts, extracts of interview and reading logs etc.

- Organisation of material collected has been presented with cogency and coherence.
- Clarity of understanding and good judgement to test internalization of knowledge.
- *Viva voce*

Class XII

One Paper

Time 3 hours

100 Marks

S.No	Units	Periods	Marks
1	HR- Advanced Introduction To Human Rights	20	5
2	HR- Rights for Human Development	70	20
3	HR- Legal and Statutory Remediation and Support	20	10
4	GS- Advanced Introduction To Gender Studies	20	5
5	GS-Gender Mainstreaming: The Indian Scenario	40	15
6	GS- Legal and Statutory Redressal and Support	20	15
7	Case Study/ Research Based Project/ Portfolio Assessment + Viva Voice	30	20+10=30
Total		220	100

Course Content

Section -1 Human Rights

Unit 1: Advanced Introduction to Human Rights

- International Human Rights Conventions and Agencies
- Human Rights and India: Myths versus Realities

Case Study: Specific studies related to contemporary issues

Unit 2: Rights for Human Development

Chapter1: Equality of Opportunity

- Rights of the Differently Abled
- Rights of children with special needs
- Rights of the vulnerable (includes):
 - those affiliated by autism
 - the destitute; displaced women and children

- those orphaned or separated from their family due to man-made or natural disasters
- women or child affected by trafficking
- the elderly etc.
- The Role of the Government, voluntary groups and NGOs in affirmative action
- Studying the laws arising out violation of Rights related to the equality of opportunity.

Case Study: WTO and Human Rights.

Chapter 2: Human Rights and the use of Natural Resources

- Land and Water- conservation and the future

Case Study: the war for water.

Chapter 3: Human Rights and the Environment

- The Right to Rehabilitation of those displaced
- Role of women and the environment

Case Study: Narmada BachaoAndolan

Chipko movement

The Tribals and their lot, when the state took away their natural way of life

Unit 3: Legal and Statutory Remediation and Support

Delving deeper into the workings of redressal mechanisms in the realms of environment, RTI, constitutional amendments etc.

Case Study:Legislative Cases

Section -2 Gender Studies

Unit 1: Advance Introduction to Gender Studies

- The Relevance and Need For Gender Studies- Gender Studies through the historical lens.
- Perspectives and Positions of Gender Studies in the West and in India with particular reference to the contemporary times.

Unit 2: Gender Mainstreaming: The Indian Scenario

- Role of Education, Media and Society.
- Gender and Development- Social and Economical
- Investigating Abuse, Sexual Harassment and Crime against Women in Domestic and Public Spaces.
- Women Empowerment: Movements, Rights, Laws and Mandates.

Case Study: Reservation for women in Parliament

Unit 3: Legal and Statutory Redressal and Support

- Delving deeper into the workings of redressal mechanisms in the realms of personal law, labour law, constitutional amendments etc. Discussing about Statutory Bodies.

Case Study: Legislative Cases

Case Study/ Research Based Project/ Portfolio Assessment + Viva Voice

No. of periods: 30

20 marks + 10 marks = 30 marks

The purpose to prepare a portfolio or undertake work on a research based project or undertake a case study is to make students exhibit their efforts and achievements in one or more areas. It is expected that schools provide opportunities to students to participate, discuss, deliberate and investigate contemporary issues on relevant topics. **The project will be assessed through a *viva voce* also which carries 10 marks out of 30.**

Students will be expected to compile and collect material for the project/case study/portfolio which would be assessed on the following points:

- **Presentation:** efforts put in, meaningful material with aesthetic sense.
- **Variety of content:** a wide variety of content in the form of audio visual media, extracts from journals, art work, conference updates, photographs, writing samples, maps, charts, extracts of interview and reading logs etc.
- **Organisation of material collected has been presented with cogency and coherence.**
- **Clarity of understanding and good judgement to test internalization of knowledge.**
- *Viva voce*

Prescribed Books

- Class XI- A course book on Human Rights and Gender Studies Part – I, CBSE.
- Class XII- A course book on Human Rights and Gender Studies Part – II. CBSE.

Note:

1. More Case Studies may be added to the Units
2. The units will be enriched with (a) audio & video material (b) references
3. The existing case studies may be edited/omitted if the content demands so.

39. N.C.C. (CODE 076)

UNITY AND DISCIPLINE

NATIONAL CADET CORPS (N.C.C.)

AS AN ADDITIONAL / ELECTIVE SUBJECT IN CBSE

SCHOOLS

TRAINING SYLLABUS

39. NATIONAL CADET CORPS (CODE 076)

AS AN ELECTIVE SUBJECT IN SCHOOLS

SYLLABUS (2013-14)

INTRODUCTION

“It is Easy to Train and Mould the Youth than to Repair and Recast the Adult”

1. The training curriculum of the NCC is primarily focused towards character building, inculcating leadership qualities and skill enhancement through structured academic syllabi, practical training and opportunity of exposure/interaction beyond a cadet's immediate environment and thereby enabling them for a brighter and progressive future.
2. **The Aim of NCC is as listed below:-**
 - (a) To develop character, comradeship, discipline, secular outlook, spirit of adventure and the ideals of selfless service amongst the youth of the country.
 - (b) To create a human resource of organized, trained and motivated youth, to provide leadership in all walks of life and always available for the service of the nation.
 - (c) To provide a suitable environment to motivate the youth to take up a career in the Armed Forces.
3. **Conduct of Training:** The NCC training curriculum is conducted as under:-
 - (a) **Institutional Training.** Conducted in respective schools/ colleges by Associate NCC Officers (ANO), Permanent Instructional (PI) staff as part of the school curriculum.
 - (b) **Annual Training Camps (ATC).** To provide practical outdoor training, each NCC cadet attends 10 days camp in the second year of junior and senior division. These camps are conducted by respective NCC units.
 - (c) **Centrally Organized Camps(COC).** These camps are conducted at all India level, as National Integration Camps, attended by cadets from all states.
 - (d) **Adventure Training.** To inculcate a spirit of adventure and team work, NCC cadets undergo various adventure activities such as para jumps, para sailing, trekking, mountaineering and sailing expeditions.
 - (e) **Attachment Camps.** To give the cadets exposure to interact with Regular Army, Navy and Air Force units, attachment camps are conducted, where cadets are attached with these units. To motivate cadets to join the Armed Forces attachment of cadets with Indian Military Academy is also conducted.

- (f) **Youth Exchange Programme (YEP).** Selected cadets also get an opportunity to visit various foreign countries as part of YEP. In one year approximately 100 cadets visit 10 -11 countries.
- (g) **Social Service Activities.** The cadets also undertake various social service activities, by conduct of rallies to bring awareness and participate in various relief programmes/activities whenever called for.
4. **Trainers** – To conduct and implement the NCC training curriculum, there are three tiers of trainers.
- (a) **First Tier:** It comprises of regular defence officers of the rank of Colour equitant rank in Air Force and Navy, Whole Time Lady Officers (WTLO) and Civilian Gliding Instructors (CGI). They are responsible for coordination and supervision of training and conduct of camps.
- (b) **Second Tier:** Professors and teachers nominated by respective schools and colleges and trained by NCC at its NCC Officers Training Academy and on completion of Pre-Commission Course, commissioned as Associated NCC Officer (ANO) form the most important link between the cadets and NCC. They conduct most of the theory classes of non specialized subjects. Besides the Pre Commission training they attend refresher courses.
- (c) **Third Tier:** The Junior Commissioned Officers (JCO) and Non-Commissioned Officers (NCO) from the three services and Girl Cadet Instructors (GCI) and Ship Model Instructors (SMI) conduct the specialized training of the cadets.
5. **Eligibility for Enrolments as Cadet.**
- (a) Should be a citizen of India or a subject of Nepal.
- (b) Should be on the roll of the school or college which has an NCC Unit or part thereof.
- (c) The cadet should be within the age as mentioned below:-
- (i) Junior Division – Not less than 13 years and below 18 years and 6 months.
- (ii) Senior Division - Should be below the age of 26 years.
6. **NCC Syllabus.** The syllabus includes common subjects for all three wings and specialized subjects with respect to Army, Air Force and Navy. The common subjects comprise of approximately 70% and specialized service is 30 % of the curriculum. Detailed Syllabus is as follows:-

S. No.	Subject	No of Periods			
		First Year	Second Year	Third Year	Total
Senior Division Wing					
(i)	Common Subjects	66	72	72	210
(ii)	Specialised Subjects	24	33	33	90

	TOTAL	90	105	105	300
Junior Division/Wing					
(a)	Common Subjects	85	85	--NA--	170
(b)	Specialised Subject	35	35		70
	Total	120	120		240

7. In addition to this syllabus, cadets attend one Annual Training Camp in the second year of junior and senior division to be eligible to appear in Part A and Part B certificate examination.
8. Cadets willing to pursue for Part C Certificate will have to attend third year senior division in the college.

Evaluation System.

9. NCC presently conducts three certificate examinations, these evaluations are conducted as a written paper for theory and practical in the second year of junior division for Part 'A' and in the second and third year of senior division for Part 'B' and 'C'. The setting of papers and evaluations for Part 'A' and 'B' examinations are done by a board of officers at NCC Group Head Quarters headed by an officer of the rank of Brigadier and Part 'C' Examination at NCC state Directorate level headed by a officer of the rank of Major General.
10. Recommended evaluation pattern for NCC as an additional / elective subject in the schools affiliated with CBSE is as follows:-
 - (a) Internal Examinations for class IX (JD) and class XI (SD) be conducted by respective ANO's and PI staff under the supervision of respective Commanding Officers of NCC unit. Marks included in the cadets' report card by concerned school.
 - (b) Part 'A' examination paper be set at state Directorate level and evaluated by Board of Officers at Group Headquarters. Copy of the result in respect of CBSE schools be forwarded to CBSE Board as performance evaluation of class X cadet.
 - (c) Part 'B' examination paper be set at HQ DG NCC level and evaluated by Board of Officers at Group Headquarters. Copy of the result in respect of CBSE schools be forwarded to CBSE Board as performance evaluation of class XII cadet. The result sheet in addition to the NCC cadet number will also have CBSE roll number. The marks obtained be included in the CBSE Board certificate and 'C' Certificate be issued by concerned State Directorate.
 - (d) Part 'A' and 'B' exams to be conducted in the month of February, before the commencement of the main exams of the students. Respective exams to be conducted on a same date all over India. The schedule of examination to be approved by HQ, DG, NCC and forwarded to CBSE for inclusion in examination schedule.

11. **Study Material**

(a) **Textbooks**

- (i) Cadet Hand Book (Common Subjects), Published by DG NCC.
- (ii) Cadet Hand Book (Specialized Subjects), Published by DG NCC.
- (iii) ANO Precis

(b) **Reference Books**

- (i) Grooming Tomorrow's Leaders, Published by DG, NCC.
- (ii) Youth in Action, Published by DG, NCC.
- (iii) The Cadet, Annual Journal of the NCC.
- (iv) Precis Issued by respective Service Headquarters on specialized subject available to PI Staff as reference material.

12. Detailed syllabus with respect to Junior Division for class 9 and 10 , Senior Division class 11 and 12 listed in Part One to Part Three of the document.

- (a) **Part One** - Junior Division Syllabus for class IX and X.
- (b) **Part Two** - Senior Division Syllabus for class XI and XII.
- (c) **Part Three** - Annual Training Camp Syllabus for class X (JD)and class XII (SD).

PART-II (SENIOR DIVISION)

SYLLABUS FOR CLASS XI AND XII

Rationale

The National Cadet Corps (NCC) came into existence on 16 July 1948 under an act of Parliament. Its motto “Unity and Discipline” has guided the NCC in its long standing effort to mould young volunteers into disciplined and responsible young citizens of India. Over the years, in response to the evolving environment, the NCC’s initial military orientation has been augmented by including aspects of social service and adventure training.

India is on a high growth trajectory. The future belongs to its youth which comprises 55% of the population. If we are to fully realize our potential we must develop training infrastructure that can instil vigour in the young and bolster their confidence whilst retaining a sense of purpose, honour and patriotic service. The NCC ideal “Empowerment of Youth”, reflects our commitment to work for a healthy, prosperous and strong India.

Objectives

- Train volunteer youth to become confident, committed and competent leaders in all walks of life.
- Enhance awareness levels of cadets to become empowered and responsible citizens of the country.
- Provide opportunities and encourage cadets to enrich their knowledge, develop communication skills and build character.
- Conduct social and community development programmes, to educate and make constructive contributions towards society.
- Undertake adventure activities to hone leadership qualities and risk taking abilities.
- Provide a platform to launch ‘Good Will Ambassadors’ to project the image of the country overseas.
- Conduct military training to develop awareness to develop awareness about Armed Forces, leadership skills and military values and thus, provide an environment to motivate cadets to join the Armed Forces.

CLASS XI (Block Syllabus)

S. No	Unit	Marks	Periods
Part 1 : Common Subjects			
1	The NCC	10	03
2	National Integration and Awareness		06
3	Drill	27	16
4	Weapon Training		12
5	Personality Development and Leadership	14	10
6	Disaster Management		03

7	Social Awareness and Community Development	}	19	05
8	Health and Hygiene			05
9	Adventure Training			02
10	Environment Awareness and Conservation			02
11	Obstacle Training			02
	Total		70	66
Part 2 A : Special Subjects (Army)				
1	Armed Forces	}	19	04
2	Map reading			07
3	Field Craft and Battle Craft			05
4	Introduction to Information of Weapon Equipment	}	11	02
5	Military History			03
6	Communication			03
	Total		30	24
Part 2 B : Special Subjects (Navy)				
1	Naval Orientation	}	14	08
2	Naval Communication			03
3	Seamanship	}	16	01
4	Rigging			03
5	Boat Work			04
6	Ship and Boat Modelling			02
7	Search and Rescue			01
8	Swimming			02
	Total		30	24
Part 2 C : Special Subjects (Air Force)				
1	General Service Knowledge	}	09	02
2	Principle of Flight			03
3	Airmanship	}	21	06
4	Aero-Engines			01
5	Air Frame			02
6	Instruments			02
7	Aircraft Particulars			02
8	Aero modelling			06
9	Flying (Shared with Principle of Flight)			-
	Total		30	24

COMMON SUBJECTS (Detailed Syllabus)

Total Marks: 70

Total Periods: 66

Unit 1: The NCC

03 Periods

Aim: To acquaint cadets with the aims and objectives of NCC

Scope: Introduction, aims, organization and general information about NCC.

- Aims and Objectives of NCC.
- Organisation, Training and NCC Song
- Incentives of Joining NCC

Unit 2: National Integration and Awareness

06 Periods

Aim: To inculcate sense of patriotism, secular values and motivate cadets to contribute towards nation building through national unity and social cohesion.

Scope: The concepts of national interests, objectives and integration, unity in diversity and cultural heritage of India.

- Religions, Culture, Traditions and Customs of India
- National Integration: Importance and Necessity (2 Each)
- Freedom Struggle and Nationalist Movement in India

Unit 3: Drill

16 Periods

Aim: To inculcate a sense of discipline, improve bearing, smartness, turnout and to develop the quality of immediate and implicit obedience of orders.

Scope: All important basic aspects of drill including ceremonial drill, drill with arms and words of command.

Drill without Arms

- General and Words of Command
- Attention, Stand at Ease and Stand Easy, turning and inclining at the halt
- Sizing, forming up in three ranks and numbering, open and close order march and dressing
- Saluting at the halt, getting on parade, dismissing and falling out
- Marching, length of pace and time of marching in quick time and halt, slow march and halt
- Saluting on the march
- Formation of squad and squad drill

Drill with Arms

- Attention, Stand at Ease and Stand Easy 2 periods
- Getting on parade with rifle and dressing at the order
- Dismissing and falling out
- Ground/take up arms
- Present from the order and vice-versa
- Gun salute, Salami Shashtra 2 periods

Unit 4: Weapon Training 12 Periods

Aim: To give elementary knowledge about rifles.

Scope: Basic Knowledge about rifle and firing.

- Characteristics of a rifle/ rifle ammunition and its fire power
- Stripping, assembling, care and cleaning and sight setting of .22 rifle
- Stripping, assembling, care and cleaning of 7.62mm SLR
- Loading, cocking and unloading
- The lying position, holding and aiming
- Trigger operation and firing a shot
- Range precautions and safety precautions
- Short range firing, aiming and alteration of sight 5 Periods

Unit 5: Personality Development and Leadership 10 Periods

Aim: To develop an all-round dynamic personality with adequate leadership traits to deal / contribute effectively in all walks of life.

Scope: Basic subjects of leadership with emphasis on self awareness, life/soft skills, time management and character building.

- Introduction to personality development
- Factors influencing/shaping personality : physical, social, psychological and philosophical 2 Periods
- Self Awareness – know yourself/insight 2 Periods
- Change your mindset
- Inter personal relationship and communication
- Communication skills : group discussions/lectures 2 Periods

- Leadership traits
- Types of leadership

Unit 6: Disaster Management **03 Periods**

Aim: To train Cadets to assist Civil Administration in performance of selective duties during disasters.

Scope: Basic information about civil defence organization and its duties, maintenance of essential services and providing assistance to civil administration in various types of emergencies during national disasters.

- Civil Defence Organisation and its duties/ NDMA
- Types of emergencies/natural disasters
- Assistance during natural/other calamities : Flood/cyclone/earthquake/accident

Unit 7: Social Awareness and Community Development **05 Periods**

Aim: To teach cadets the values and skills involved in providing voluntary social service.

Scope: Understanding of social service and its needs, knowledge about the weaker sections of our society and their requirements, about NGOs and contribution of youth towards social welfare.

- Basics of social service, weaker sections of our society and their needs
- Social/ Rural Development Projects: MNREGA, SGSY, NSAP, etc.
- Contribution of youth towards social welfare
- Civic responsibilities
- Causes and prevention of HIV/AIDS, role of youth

Unit 8: Health and Hygiene **05 Periods**

Aim: To instil respect and responsibility towards personal health and hygiene.

Scope: Basic information of the human body, maintenance of health, hygiene, sanitation, disease and an elementary knowledge of First Aid and Nursing.

- Structure and functioning of the human body
- Hygiene and sanitation (personal and food hygiene) 2 Periods
- Infectious and contagious diseases and its prevention 2 Periods

Unit 9: Adventure Training **02 Periods**

Aim: To inculcate a sense of adventure and develop confidence, courage and determination.

Scope: To expose cadets to various adventure activities.

- Slithering 2 Periods

Unit 10: Environment Awareness and Conservation **02 Periods**

Aim: To sensitise the cadets on natural resource conservation and protection of environment.

Scope: Basic understanding of environment in general and waste management in particular, energy conservation, pollution control and wildlife conservation in particular.

- Natural resources – conservation and management
- Water conservation and rain water harvesting

Unit 11: Obstacle training **02 Periods**

Aim: To make cadets capable of crossing a standard obstacle course so as to inculcate team spirit and self confidence.

Scope: Training on a standard obstacle course.

- Obstacle course **2 periods**

SPECIALISED SUBJECTS (ARMY)

Total Marks: 30

Total Periods: 24

Unit 1: Armed Forces **04 Periods**

Aim: To acquaint cadets with the Armed Forces

Scope: Introductory and general information about the Armed Forces

- Basic organization of Armed Forces
- Organisation of the Army **2 Periods**
- Badges and Ranks

Unit 2: Map Reading **07 Periods**

Aim: To teach cadets elementary map reading

Scope: Basic understanding of map sheets and map reading instruments and development of capability to use them to carry out simple map reading

- Introduction to types of maps and conventional signs.
- Scales and grid system
- Topographical forms and technical terms
- Relief, contours and gradients
- Cardinal points and types of North

- Types of bearings and use of service protractor
- Prismatic compass and its use and GPS

Unit 3: Field Craft and Battle Craft **05 Periods**

Aim: To teach cadets elementary field craft and battle craft

Scope: Basic field craft and battle craft

- Introduction
- Judging distance
- Description of ground
- Recognition, description and indication of land marks and targets **2 periods**

Unit 4: Introduction to Infantry Weapons and Equipment **02 Periods**

Aim: To introduce cadets to Infantry Weapons

Scope: Introduction to characteristics and capabilities of Infantry Weapons

- Characteristics of 7.62mm SLR rifle, ammunition, fire power, Stripping, assembling and cleaning **2 Periods**

Unit 5: Military History **03 Periods**

Aim: To provide knowledge of renowned Military Generals, PVCs and Indo-Pak Wars

Scope: Introduction to biographies, famous Indian battles and gallantry awards

- Biographies of renowned generals (Carriappa/Manekshaw)
- Indian Army war heroes **2 periods**

Unit 6: Communication **03 Periods**

Aim: To introduce cadets to latest trends in the field of communications

Scope: Types of communications and future trends

- Types of communication
- Characteristics of wireless technology (mobile, Wi Fi, etc.)

SPECIALISED SUBJECT (NAVY)

Total Marks : 30

Total Periods: 24

Unit 1: Naval Orientation and service subjects **8 Periods**

Aim: To impart basic knowledge about Navy

Scope: Basic knowledge, history, current organisation and role of different branches

- History of the Navy – pre and post independence, gallantry award winners
- Organisation of the Navy, NHQ, commands and fleets
- Types of warships and their role.
- Organisation of Army and Air Force
- Ranks of officers and sailors and their equivalent in other services

Unit 2: Naval Communication **3 Periods**

Aim: To impart basic knowledge about naval communication

Scope: To impart basic knowledge about naval communication organization, semaphore and wearing of flags.

- Introduction to modern naval communication, purpose and principles **2 Periods**
- Semaphore

Unit 3: Seamanship **1 Period**

Aim: To impart basic knowledge about navigation

Scope: Basic navigation tactics and methods

- Parts of Anchor, cable and its identification

Unit 4: Rigging **3 Periods**

Aim: To impart basic knowledge about ropes, rigging and shackles

Scope: Basic rope work and introduction to ropes, bends and hitches

- Types of ropes and breaking strength – stowing, maintenance and securing.
- Practical bends and hitches
- Introduction to shackles

Unit 5: Boat Work **4 Periods**

Aim: To impart basic knowledge about boats and its parts and steering of boats

Scope: Introduction to boats and its parts including steering of boats and boat pulling

- Parts of a boat and parts of an oar
- Instructions on boat pulling
- Steering of boats under oars

Unit 6: Ship and boat modelling **2 Periods**

Aim: To impart basic knowledge about ship modelling to cadets

Scope: To impart basic knowledge about ship construction and boat modelling

- Principles of Ship Modelling
- Maintenance and care of tools

Unit 7: Search and Rescue **1 Period**

Aim: To impart basic knowledge about search and rescue.

Scope: To impart knowledge about SAR organization and role of Coast Guard.

- SAR Organisation in the Indian Ocean.

Unit 8: Swimming **2 Periods**

Aim: Each cadet must be able to swim and float

Scope: To achieve proficiency in swimming to minimum standards

- Floating for 3 minutes and freestyle swimming for 50 meters

SPECIALISED SUBJECTS (AIR FORCE)

Total Marks: 30

Total Periods: 24

Unit 1: General Service Knowledge **2 Periods**

Aim: To impart basic knowledge of IAF

Scope: History and Organisation of IAF

- Development of Aviation.
- History of IAF

Unit 2: Principles of Flight **3 Periods**

Aim: To introduce principles of flight

Scope: To impart knowledge about basic principles on which aviation is based

- Introduction
- Laws of Motion
- Glossary of Terms

Unit 3: Airmanship **6 Periods**

Aim: To introduce the concept of airmanship

Scope: Airfield layout, Rules of the air, ATC procedures and basics of aviation medicine.

- Introduction
- Airfield Layout
- Rules of the Air
- Circuit Procedure
- ATC/RT Procedure
- Aviation Medicine

Unit 4: Aero Engines **1 Periods**

Aim: To impart basic knowledge of aero engines

Scope: Introduction to aero engines

Unit 5: Airframes **2 Periods**

Aim: To introduce basic structure of an aircraft

Scope: Introduction to various aircraft controls and landing gear

- Aircraft Controls
- Landing Gear

Unit 6: Instruments **2 Periods**

Aim: To provide knowledge of aircraft instruments

Scope: To teach basics about flight instruments

- Basic flight instruments

Unit 7: Aircraft Particulars **2 Periods**

Aim: To provide knowledge of aircraft instruments

Scope: Knowledge about the aircraft to be flown including checks and procedures

- Aircraft particular type specific

Unit 8: Aero-modelling **6 Periods**

Aim: To provide knowledge about aero modelling

Scope: History of aero modelling, materials used in different types of models

- History of aero-modelling

- Materials used in aero-modelling
- Types of aero-models
- Building /Flying of aero-models

Unit 9: Flying

3 Periods

- **Aim:** To impart flying training and air experience to cadets
- **Scope:** Effects of flight controls and weather
- Pre-flight briefing, checks, test
- Start up, taxi, and take off, circuit and landing
- Forced landing techniques

Class XII (Syllabus)

S. No.	Unit	Marks	Periods
Part 1 : Common Subjects			
1	National Integration and Awareness	06	06
2	Drill	18	19
3	Weapon Training	10	10
4	Personality Development and Leadership	14	15
5	Disaster Management	03	03
6	Social Awareness and Community Development	05	05
7	Health and Hygiene	04	04
8	Adventure Training	06	06
9	Environment Awareness and Conservation	02	02
10	Obstacle Training	02	02
	Total	70	72
Part 2 A : Special Subjects (Army)			
1	Armed Forces	04	04
2	Map reading	06	07
3	Field Craft and Battle Craft	06	07
4	Introduction to information of Weapons and Equipment	04	04
5	Military History	05	05

6	Communication	05	05
	Total	30	33
Part 2 B : Special Subjects (Navy)			
1	Naval Orientation	05	06
2	Naval War Fare	04	04
3	Naval combination	04	04
4	Navigation	05	06
5	Sea manship	01	01
6	Boat Work	04	05
7	Fire Fighting, Flooding and Damage Control	02	02
8	Ship and Boat Modeling	03	03
9	Swimming	02	02
	Total	30	33
Part 2 C : Special Subjects (Air Force)			
1	General Service Knowledge	2	02
2	Air Campaigns	2	02
3	Aircraft Recognition	3	04
4	Principles of Flight	4	04
5	Airmanship	2	02
6	Navigation	3	03
7	Meteorology	1	01
8	Aero Engines	3	04
9	Air frames	2	02
10	Instruments	3	03
11	Aero modelling	5	06
	Total	30	33

COMMON SUBJECTS (Detailed Syllabus)

Total Marks: 70

Total Periods: 72

Unit 1: National Integration and Awareness

06 Periods

Aim: To inculcate sense of patriotism, secular values and motivate cadets to contribute towards nation building through national unity and social cohesion.

Scope: The concepts of national interests, objectives and integration, unity in diversity and cultural heritage of India.

- Freedom Struggle and Nationalist Movement in India
- National Interests, Objectives, Threats and Opportunities
- Problems/Challenges of National Integration
- Unity in Diversity

Unit 2: Drill

19 Periods

Aim: To inculcate a sense of discipline, improve bearing, smartness, turnout and to develop the quality of immediate and implicit obedience of orders.

Scope: All important basic aspects of drill including ceremonial drill, drill with arms and words of command.

Drill without Arms

- Side pace, pace forward and to the rear
- Turning on the march and wheeling
- Saluting on the march
- Marking time, forward march and halt in quick time
- Changing step
- Formation of squad and squad drill

Drill with Arms

- Getting on parade with rifle and dressing at the order
- Dismissing and falling out
- Gun salute, Salami Shashtra
- Squad drill
- Short/long trail from the order and vice-versa
- Examine arms

Ceremonial Drill

- Guard Mounting
- Guard of Honour
- Platoon/Company drill

Unit 3: Weapon Training **10 Periods**

Aim: To give elementary knowledge about rifles

Scope: Basic Knowledge about rifle and firing

- The lying position, holding and aiming
- Trigger operation and firing a shot
- Range precautions and safety precautions
- Theory of group and snap shooting
- Short range firing, aiming and alteration of sight

6 Periods

Unit 4: Personality Development and Leadership **15 Periods**

Aim: To develop an all-round dynamic personality with adequate leadership traits to deal / contribute effectively in all walks of life.

Scope: Basic subjects of leadership with emphasis on self awareness, life/soft skills, time management and character building.

- Self awareness – know yourself/insight
- Inter personal relationship and communication
- Communication skills : group discussions/lecturettes
- Time management
- Effects of leadership with historical examples
- Interview skills
- Conflict motives – resolution
- Sociability : social skills
- Values / code of ethics

Unit 5: Disaster Management **03 Periods**

Aim: To train cadets to assist civil administration in performance of selective duties during disasters.

Scope: Basic information about civil defence organization and its duties, maintenance of essential services and providing assistance to civil administration in various types of emergencies during national disasters.

- Fire services and fire fighting
- Assistance during natural/ other calamities: Flood/cyclone earthquake/accident, etc.

Unit 6: Social Awareness and Community Development **05 Periods**

Aim: To teach cadets the values and skills involved in providing voluntary Social Service.

Scope: Understanding of social service and its needs, knowledge about the weaker sections of our society and their requirements, about NGOs and contribution of youth towards social welfare.

- NGOs – Role and contribution
- Drug abuse and trafficking
- Corruption
- Social evils viz. dowry/female foeticide/child abuse and trafficking, etc.
- Traffic control organisation and anti-drunken driving

Unit 7: Health and Hygiene **04 Periods**

Aim: To instil respect and responsibility towards personal health and hygiene.

Scope: Basic information of the human body, maintenance of health, hygiene, sanitation, disease and an elementary knowledge of first aid and nursing.

- Hygiene and sanitation (personal and food hygiene)
- Basics of home nursing and first aid in common medical emergencies
- Wounds and fractures

Unit 8: Adventure Training **06 Periods**

Aim: To inculcate a sense of adventure and develop confidence, courage and determination.

Scope: To expose cadets to various adventure activities.

- Para sailing
- Rock climbing

Unit 9: Environment Awareness and Conservation **02 Periods**

Aim: To sensitise the cadets on natural resource conservation and protection of environment.

Scope: Basic understanding of environment in general and waste management in particular, energy conservation, pollution control and wildlife conservation in particular.

- Waste management
- Pollution control : Water, air, noise and soil

Unit 10: Obstacle training

02 Periods

Aim: To make cadets capable of crossing a standard obstacle course so as to inculcate team spirit and self confidence.

Scope: Training on a standard obstacle course.

- Obstacle course

2 periods

SPECIALISED SUBJECTS (ARMY)

Total Marks: 30

Total Periods: 33

Unit 1: Armed Forces

04 Periods

Aim: To acquaint cadets with the Armed Forces

Scope: Introductory and general information about the Armed Forces

- Task and role of fighting arms
- Modes of entry into army
- Honours and awards

Unit 2: Map Reading

08 Periods

Aim: To teach cadets elementary map reading

Scope: Basic understanding of map sheets and map reading instruments and development of capability to use them to carry out simple map reading

- Relief, contours and gradients
- Cardinal points and types of North
- Types of bearings and use of service protractor
- Setting a map, finding North and own position
- Map to ground and ground to map

Unit 3: Field Craft and Battle Craft

07 Periods

Aim: To teach cadets elementary field craft and battle craft

Scope: Basic field craft and battle craft

- Judging distance observation, camouflage and concealment
- Field signals
- Types of knots and lashings

Unit 4: Introduction to Infantry Weapons and Equipment **04 Periods**

Aim: To introduce cadets to infantry weapons

Scope: Introduction to characteristics and capabilities of infantry weapons

- Characteristics of 5.56 INSAS rifle, ammunition, fire power, stripping, assembling and cleaning
- Organisation of infantry battalion

Unit 5: Military History **05 Periods**

Aim: To provide knowledge of renowned Military Generals, PVCs and Indo-Pak Wars

Scope: Introduction to biographies, famous Indian battles and gallantry awards

- Indian Army War Heroes
- Study of Indo Pak wars of 1965, 1971 and Kargil
- War movies

Unit 6: Communication **05 Periods**

Aim: To introduce cadets to latest trends in the field of communications

Scope: Types of communications and future trends

- Characteristics of walkie – talkie
- Basic RT procedure

SPECIALISED SUBJECTS (NAVY)

Marks: 30

Periods: 33

Unit 1: Naval Orientation and Service Subjects **06 Periods**

Aim: To impart basic knowledge about Navy

Scope: Basic knowledge, history, current organisation and role of different branches.

- Organisation of Ships and onboard organization
- Naval customs and traditions
- Modes of entry into the Indian Navy
- Branches of Navy and their functions
- Naval campaigns

Unit 2: Naval Warfare and its Components **04 Periods**

Aim: To impart basic knowledge about Naval Warfare

Scope: Overview of fleet operations to include aviation, submarine operations and missiles.

- Introduction to anti-submarine warfare
- Elementary knowledge of gunnery and missiles

Unit 3: Naval Communication **04 Periods**

Aim: To impart basic knowledge about Naval communication

Scope: To impart basic knowledge about naval communication organization, semaphore and wearing of flags.

- Introduction to Semaphore
- Phonetic Alphabets
- Radio Telephony Procedure

Unit 4: Navigation **06 Periods**

Aim: To impart basic knowledge about navigation

Scope: Basic navigation tactics and methods and equipment used for navigation.

- Navigation of ships – basic requirements
- Types of compass – gyro and magnetic, types of North
- Simple chart work
- Brief characteristics of its tides and its effects on ships
- Introduction to Astronomy

Unit 5: Seamanship **01 Period**

Aim: To impart basic knowledge about navigation

Scope: Basic navigation tactics and methods.

- Types of anchor, purpose and holding ground.

Unit 6: Boat Work **5 Periods**

Aim: To impart basic knowledge about boats and its parts and steering of boats.

Scope: Introduction to boats and its parts including steering of boats and boat pulling

- Demonstrate rigging of a whaler and enterprise boat and parts of a sail
- Instructions in enterprise class boat including elementary sailing rules
- Types of power boats used in the navy

Unit 7: Fire Fighting, flooding and damage control **02 Periods**

Aim: Introduction to fire fighting, flooding and damage control

Scope: Impart basic knowledge about fire fighting, flooding and damage control of a ship

- Causes of damage, flooding and damage control

Unit 8: Ship and boat modeling **03 Periods**

Aim: To impart basic knowledge about ship modeling to cadets.

Scope: To impart basic knowledge about ship construction and boat modeling.

- Types of models
- Introduction of ship model competition
- Care and handling of power tools

Unit 9: Swimming **02 Periods**

Aim: Each cadet must be able to swim and float.

Scope: To achieve proficiency in swimming to minimum standards

- Floating for 3 minutes and freestyle swimming for 50 meters.

SPECIALISED SUBJECTS (AIR FORCE)

Total Marks: 30

Total Periods: 33

Unit 1: General Service Knowledge **02 Periods**

Aim: To impart basic knowledge of IAF

Scope: History and organisation of IAF

- Organisation of Air Force
- Branches of Air Force

Unit 2: Air Campaigns **02 Periods**

Aim: To introduce Air Campaigns of Air Force

Scope: An overview of important campaigns

- Indo Pak War 1971
- OP Safed Sagar

Unit 3: Aircraft Recognition **04 Periods**

Aim: To introduce various aircrafts of the Air Force

Scope: Types, roles, variants of aircraft of the IAF

- Fighters
- Transports
- Helicopters
- Foreign Aircraft

Unit 4: Principles of Flight **04 Periods**

Aim: To introduce principles of flight

Scope: To impart knowledge about basic principles on which aviation is based

- Bernauli's theorem and Venturi Effect
- Aerofoil
- Forces on an aircraft
- Lift and drag

Unit 5: Airmanship **02 Periods**

Aim: To introduce the concept of airmanship

Scope: Airfield layout, Rules of the Air, ATC Procedures and basics of aviation medicine.

- ATC/RT Procedure
- Aviation Medicine

Unit 6: Navigation **03 Periods**

Aim: To give basic knowledge of Air navigation

Scope: Use of maps and fundamentals of map reading from the air

- Requirement of navigation
- Glossary of terms

Unit 7: Meteorology **01 Periods**

Aim: To emphasise the need for knowledge of meteorology in aviation.

Scope: Importance, various phenomena of weather and its effects on aviation

- Importance of met in aviation

Unit 8: Aero engines **04 Periods**

Aim: To impart basic knowledge of aero engines.

Scope: Types of aero engines and their types

- Types of Engines
- Piston Engines
- Jet Engines
- Turboprop Engines

Unit 9: Airframes **02 Periods**

Aim: To introduce basic structure of an aircraft

Scope: Introduction to various aircraft controls and landing gear.

- Fuselage
- Main and Tail Plane

Unit 10: Instruments **03 Periods**

Aim: To provide knowledge of aircraft instruments

Scope: To teach introduction to Radars

Unit 11: Aero-modelling **06 Periods**

Aim: To provide knowledge about aero modelling

Scope: Materials used in different types of models

- Building /Flying of aero-models

PART-III

ANNUAL TRAINING CAMP

JUNIOR AND SENIOR DIVISION

Rationale

- The Annual Training Camp is an exciting and essential element of NCC. Activities at the camp will help students develop qualities like social service, team spirit, challenge, leadership, discipline, self confidence, widen horizon, develop ambition to do creative work, enhance personal and social development, learn how to overcome adversity, civil defence and self defence, and other new and exciting experiences.
- Camp will make the students become more aware that they are part of a greater ecosystem and are not as bound by social customs and norms. In essence students will be true to themselves and more able to see others as people regardless of class, colour and creed.
- Camp activities will lead students to self-reliance, self-confidence, national spirit and leadership, and will enhance the NCC aims of developing character, comradeship, discipline, secular outlook, spirit of adventure and the ideals of selfless service amongst the youth of the country.
- Camp will let students live in the camp with a social environment and help teachers observe and understand their students' development in terms of personal aspirations, psychological behaviours and social skills. It will also allow students to appreciate their environment and natural surroundings and provide opportunities for students to be independent and exercise self-discipline.
- Annual Training Camp is the culmination of NCC training instils and stimulate youths urge for excellence and inculcate spirit of adventure and outdoor activities.

Objectives

- Attendance of ATC is a mandatory requirement before the cadet is eligible for A and B Certificates in case JD/JW and SD/SW respectively.
- ATC is conducted for duration of 10 days in the second year of JD/JW and SD/SW to provide outdoor practical training.
- General activities covered during the ATC are as under :-
 - Physical fitness to include PT, Yoga, Games, Obstacle training.
 - Drill
 - Weapon training and firing.
 - Map Reading
 - Field Craft and Battle Craft.
 - Personality Development.
 - National Integration and Social Awareness.

- Cultural Activities.
- Lectures on Civil Affairs, Social Awareness and Community Development, Health and Hygiene and Environment Issues.
- Cadets will be tested for practical training during the camp as under:-
 - Drill
 - Weapon Training
 - Firing
 - Obstacle Training
 - Map Reading
 - Field Craft and Battle Craft
- ATC will be conducted under the aegis of the unit affiliated to the School/College.
- ATC will be conducted during the period from August to February by the ANO and Cadets keeping in view the availability of cadets as per their academic curricular.

CLASS XII: Syllabus
ANNUAL TRAINING CAMP : SENIOR DIVISION (NAVY)

S. NO.	UNIT	MARKS	PERIODS
1.	Physical Training , Games and Obstacle Training	09	16
2.	Drill		18
3.	Wt and Firing	12	12
4.	Naval Orientation		1
5.	Naval Communication		4
6.	Navigation		2
7.	Seamanship	09	7
8.	Ship and Boat Modeling		4
9.	Swimming		4
10.	Military History		8
11.	Personality Development		10
12.	National Integration, Civil Affairs, Environment, Social Awareness and Community Development, Health and Hygiene		16
13.	TEST	30	10
	TOTAL	30	112

ANNUAL TRAINING CAMP (Detailed Syllabus)

Periods 112
Total Marks 30

Unit 1:	Physical Training and Games	16 Periods
	<ul style="list-style-type: none">• Physical Training• Yoga• Games	
Unit 2:	Drill	18 Periods
	<ul style="list-style-type: none">• Words of Command• Drill with Arms• Individual Drill• Squad Drill• Ceremonial Drill	
Unit 3:	Weapon Training	12 Periods
	<ul style="list-style-type: none">• Characteristics of .22 Rifle,• Stripping, Assembling• Loading/Unloading and Bolt Manipulation• Lying Position and Hold• Aiming, Range and Targets• Trigger Control and Firing a Shot• Range Procedure and Safety Precautions• Characteristics of 7.62mm SLR And 5.56mm INSAS• Characteristics of 7.62mm SLR, Ammunition• Firepower, Stripping Assembling and Cleaning• Characteristics of 5.56mm INSAS Rifle, Ammunition• Firepower Stripping Assembling and Cleaning• Firing .22 Rifle	

Unit 4: Naval Orientation **01 Period**

- Naval Campaign (Battle Of Atlantic)
- Pearl Harbour, Falkland War/Fleet
- Review/Pfr/Ifr)

Unit: 5 Naval Communication **04 Periods**

- Semaphore, Introduction of Position of Letters and Prosigns
- Reading of Messages
- Transmission of Messages
- Radio Telephony Procedure

Unit 6: Navigation **02 Periods**

- Navigation of Ship - Basic
- Requirements- (Charts and Compass)
- Map Reading
- Knot and Nautical Mile, Latand Long, Types of Maps and Contours, Simple Chart Work
- Plotting Ship Track, Types of Chartsand Information on Charts

Unit 7: Seamanship **07 Periods**

- Parts of Anchor and Cable, their Identification
- Types of Anchor, Purpose and Holding Ground
- Practical Bends and Hitches : Introduction to Shackles, Hooks, Blocks and Derricks
- Coiling Down and Splicing of Rope
- Parts of a Boat and Parts of an Oar
- Instructions on Boat Pulling - Pulling Orders
- Steering of Boats Under Oars, Practical
- Demonstrate Rigging a Whaler and Enterprise Boat - Parts of Sail and Sailing Terms
- Instructions in Enterprise Class Boat including
- Theory of Sailing, Elementary Sailing Rules
- Instructions in Sailing Whaler - Types of Sail

Unit 8:	Ship and Boat Modeling	04 Periods
	<ul style="list-style-type: none">• Maintenance and Care of Tools• Cleaning and Oiling of Tools, Types of Models, Care and Handling of Power Tools Used, Maintenance and Purpose of Tools	
Unit 9:	Swimming	04 Period
	<ul style="list-style-type: none">• Floating for 3 minutes and free style swimming for 50 meters	
Unit10:	Military History	08 Periods
	<ul style="list-style-type: none">• Biographies of Military Leaders• Famous Battles	
Unit 11:	Personality Development	10 Periods
	<ul style="list-style-type: none">• Motivation• Discipline and Duty of a Good Citizen• Leadership Traits• Preparation for Interview	
Unit 12:	National Integration, Civil Affairs Environment, Social Awareness and Community Development, Health and Hygiene	16 Periods
	<ul style="list-style-type: none">• Unity in Diversity• National Integration and its Importance• Contribution of Youth in National Building	
	Civil Affairs	
	<ul style="list-style-type: none">• Disaster Management• Fire Fighting• Vigilance Awareness• Civil Defence Organisation and its Duties• Types of Emergencies / Natural Disaster• Role of NCC in aid to Civic Administration	
	Environment	
	<ul style="list-style-type: none">• Conservation of Environment and Ecology• Pollution and its Control• Wildlife Conservation	

Social Awareness and Community Development

- Drug Abuse and Trafficking, HIV and AIDS
- Cancer Awareness, Adult Education
- Traffic Control
- Evils - Female Feticide, Child Abuse, Dowry

Health and Hygiene

- First Aid In Common Medical Emergencies
- Hygiene and Sanitation
- Preventable Diseases
- Dressing of Wounds, Physical and Mental Health

Unit 13: Test

10 Periods

CLASS XII
ANNUAL TRAINING CAMP: SENIOR DIVISION (AIR FORCE)
(Block Syllabus)

S. No.	UNIT	MARKS	PERIODS
1	Physical Training, Games	08	12
2	Drill		10
3	Wt and Firing	22	10
4	Flying		28
5	Visit Air Force Station		06
6	Military History		12
7	Personality Development		18
8	National Integration, Civil Affairs, Enjoyment, Social Awareness Community Development, Health and Hygiene		16
	TOTAL	30	112

ANNUAL TRAINING CAMP
(Detailed Syllabus)

Total Marks 30

Periods 112

Unit 1: Physical Training and Games

12 Periods

- Physical Training
- Yoga
- Games

Unit 2: Drill

10 Periods

- Words of Command
- Drill with Arms
- Individual Drill
- Squad Drill
- Ceremonial Drill

Unit 3: Weapon Training

10 Periods

- Characteristics of .22 Rifle, Stripping, Assembling
- Loading/Unloading and Bolt Manipulation

- Lying Position And Hold
- Aiming, Range and Targets
- Trigger Control and Firing a Shot
- Range Procedure and Safety Precautions
- Firing .22 Rifle
- Firing 12 bore Skeet

Unit 4: Flying 28 Periods

- Introduction to Flying
- Air Experience
- Checks and Procedures
- Emergency Handling
- Circuit and Landing
- Forced Landing Techniques

Unit 5: Visit to Airforce Station 06 Periods

- Exposure to all Types of Aircrafts
- Visit Flying Squadron
- Visit Air Traffic Control Tower
- Visit Meteorology Section
- Visit Airfield Area

Unit 6: Military History 12 Periods

- Biographies of Military Leaders
- Indian Battles
- Indian Army War Heroes
- War Movie

Unit 7: Personality Development 18 Periods

- Factors Influencing/Shaping Personality-Physical, Social, Psychological and Philosophical
- Self Awareness and Critical and Creative Thinking
- Communication Skills-Group Discussion
- Importance of Team Work
- Character Building

- Leadership Traits
- Interview Skills
- Time Management

Unit 8: National Integration and Social Awareness

06 Periods

National Integration

- Unity In Diversity
- National Integration and its Importance
- Contribution of Youth In National Building

Civil Affairs

- Disaster Management
- Fire Services and Fire Fighting
- Civil Defence Organisation and its Duties
- Setting Up of Relief Camp During Disaster Management
- Collection and Distribution of Aid Material
- Assistance During Natural Calamities
- Traffic Control During Disaster Under Police Supervision

Environment Awareness

- Conservation of Environment and Ecology
- Pollution and its Control
- HIV and Aids-Causes and Prevention
- Adult Education
- Traffic Control Organisation
- Rural Development Programmes
- Civic Responsibilities
- Corruption
- Social Evils
- Child Abuse and Trafficking
- Female Foeticide

Health and Hygiene

- First Aid in Common Medical Emergencies
- Hygiene and Sanitation
- Preventable Diseases

ELIGIBILITY CONDITIONS FOR CERTIFICATE EXAMINATIONS

'A' CERTIFICATE

1. All NCC cadets in Junior Division on successful completion of their two years training and having passed Part 'A' examination conducted by respective NCC units are issued NCC 'A' Certificate. The certificate examination comprises a written and practical test. Cadets eligible to appear in the certificate examination must fulfill the under mentioned conditions:
 - (a) The cadet should be on the roll of NCC unit/ sub unit.
 - (b) The cadet should have attended a minimum of 75% of total training periods laid down in the syllabus for the first and second years of Junior Division/ Wing, NCC (All Wings).
 - (c) Attended one Annual Training Camp of JD/JW.
 - (d) Break in the NCC training of the cadet prior to his appearing in the examination should not exceed more than 12 months at one time, to count his previous training period. In case the break exceeds 12 months and the cadet has been on the unit rolls for a minimum of two years before his discharge and had attended 75% of the total period during his NCC service he will need another 45 periods in the year he is appearing for the examination.

'B' CERTIFICATE

2. All NCC cadets in Senior Division on successful completion of their two years training and having passed Part 'B' examination conducted by respect NCC units are issued NCC 'B' Certificate. The certificate examination comprises a written and practical test. Cadets eligible to appear in the certificate examination must fulfill the under mentioned conditions:-
 - (a) The cadet must have attended a minimum of 75% of total training period laid down in the syllabus for the first and second years for Senior Division/ Wing NCC (All Wings).
 - (b) Break in the NCC service of the cadet SD/SW prior to appearing in the exam should not exceed more than 18 months at one time, after his discharge to count his service for certificate 'B' examination.
 - (c) Must have attended one Annual Training Camp of Senior Division.
 - (d) Cadets possessing 'A' certificate are awarded 10 bonus marks.
3. Sample of the certificate issued to cadets by the NCC is enclosed as appendix.

NOTICE

1. NCC as an Elective Subject will be available to those schools where NCC is already existing. It will be available as per existing strength.
2. Schools desirous of applying for allotment of NCC must apply to the nearest NCC Unit and not to CBSE. NCC will be allotted as per seniority as per provisions of NCC Act and Rules, 1948.

PROCEDURE FOR ALLOTMENT OF NCC TO SCHOOL/ COLLEGE

1. Any school or college which is desirous of having an NCC unit/ sub unit in their institution has to apply for the same through the nearest NCC unit covering the given geographical area. The application format is as per appendix 'A' att.
2. The terms and conditions for raising a senior division coy/ junior division troop are listed at paragraph 9 to 12 of the application form.
3. Since the number of vacancies authorized to each NCC unit are fixed, the allotment will depend on availability of vacancies. Otherwise the institution will be placed on waiting list of the given NCC unit and allotted as per waiting list seniority.
4. The approval for allotment of NCC to institutions is approved at state NCC Directorate for in tern allotments. Out of turn allotment is approved only by DG NCC, only in exceptional cases.

APPLICATION FORM FOR RAISING OF SENIOR DIVISION NCC SUB UNIT/ JUNIOR DIVISION TROOP

(ARMY WING)

1. (a) Name of Institution :
(b) Funded by : Central Govt/State Govt aided/Self financing
2. Department of Education under :
Whom functioning.
3. Number of NCC unit/ Coys Troop(if any) :
Already functioning in the institution
4. Name of NCC unit to which affiliated :
(if applicable)
5. Nearest NCC unit/ sub unit (if known) :
6. Number of NCC units/Coys/Troops :
Desired to be raised/ allocated (and its
Cadet strength)
7. Total number of student in the college/ :
School.

For Senior Division	Boys	Girls	Total
11 th /Ist Year			
12 th / IIInd Year			
IIIrd Year			
Total			
For Junior Division			
8 th Class			
9 th Class			
10 th Class			
Total			

8. Names(s) of Lecturer(s)/Teachers(s) :
 Recommended for pre-commissioned
 Training in case NCC unit/Coy/Troop
 Is raised/ allocated. State educational
 Qualifications and Appointment.

2

Conditions for raising a Senior Division NCC Unit/ Coy or Junior Division Troop NCC:-

9. A Unit/Coy/Troop or part thereof of the Senior/Junior Division is raised in a College/School subject to the following conditions:-
- (a) The college/school shall provide from among the members of its staff NCC officers for the unit/ coy/ troops at the scales prescribed in Peace Establishment.
 - (b) The college/school shall give an undertaking that it can enroll and maintain up to strength of unit/ coy/ troop or part thereof, which may be allotted to it.
 - (c) The college/school shall provide for the unit/ coy/ troop or part thereof, which may be allotted to it, a storeroom for the storage of clothing and equipment and an office room for the unit/ coy/ troop office.
 - (d) The college/school shall provide a suitable miniature rifle range or arrange to obtain the use of such a miniature rifle range.
 - (e) The college/school shall be in a position to supplement from its own funds the financial grants made by the State Government for the unit/ coy / troop or part thereof which may be allotted to it.

(f) The college/ school shall be in a position to provide the services of a lascar as per authorization of Peace Establishment for smooth conduct of NCC activities (For Self financing institutions).

10. Provided that the State Government may, in any case, relax wholly or in part the provision of clause (e) or if it is satisfied that the requisite facilities are provided by schools located in the same place the provisions of clause (c) and (d).

11. **Declaration by Head of Institution**

(a) I hereby declare that the raising of a troop in my College/ School will be subject to the conditions stipulated in Rule 3 (in respect of Senior Division) and in Rule 4 (in respect o Junior Division) of the NCC Act and Rules (Boys) and Rule 3 of NCC Act and Rules (Girls Division) and I will not request for withdrawal of NCC before ten years.

(b) I further declare that the College/ School will ensure the following:-

(i) Enrolment of cadets to the maximum required strength and to maintain the same consistently during the training session.

(ii) Regular attendance of cadets on parade up to the required percentage lay down.

(iii) Regular attendance in camps of NCC Cadets and NCC Officer(s) of the College/ School.

(iv) Maintenance of proper discipline of NCC Officers and NCC Cadets.

(v) Safeguards to ensure NCC cadets of any Institution return all NCC stores, equipment and clothing issued to them for training before they withdraw/ leave, the institution or give up NCC.

(vi) Accommodation as required will be provided for office storeroom and strong room.

(vii) Arrangement for medical examination of cadets will be made.

12. In the events of any unsatisfactory performance as regards the points Referred to in Para 11 above the NCC unit/ coy/ troop will be liable to be disbanded or re-allotted/ transferred to another College/ School at the discretion and decision of the Deputy Director General of NCC.

Place: Signature of the Head of Institution

Date : (Name in Block Letters)

13. Recommendation of the OC Unit to which the proposed Unit/ Coy/ Troop is to be affiliated. Confirming that the financial commitments vide SNCCO 1/S/65 have been accepted by the Institution and Sponsor.

Place : Signature

Date : (Name in Block Letters)

14. Recommendation of the NCC Group Commander.

Place : Signature

Date : (Name in Block Letters)

15. Specific recommendation of the Deputy Director General of NCC.

Covering pr5ospects of response to cadet to take training facilities radius of action/ distances, availability of official and domestic accommodation, administrative feasibility.

Place : Signature

Date : (Name in Block Letters)

16. Recommendations of State Government/ Sponsor.

The financial commitment as laid down in the Model Budget in respect of the State Government/ Sponsor's responsibility is accepted as amended from time to time.

Place : Signature

Date (Competent State Government Official/
Concerned Ministry Official/ Sponsor)

NOTE: In the event of a Private Institution this commitment will be accepted by the Head of the Private Institution.

40. THEATRE STUDIES

Code No.: 078

Rationale

All children play. Throughout the world, in all cultures, children play. Throughout recorded history, children have played. In playing, children learn instinctively; they do not need a teacher. Children's natural capacities and capabilities in playing are what the drama/theatre teachers in schools exploit and extend in their programmes of study. Just as prehistoric communal rituals and celebrations are the roots of contemporary theatre, so early childhood play is the root that the teacher nurtures and helps to bring flower in the teenagers' independent creative work in theatre studies: as actor, director, writer, designer, technician and critic. It is a journey that moves from illiteracy and oral traditions to the literacy and sophisticated communications of modernity; to the understanding that theatre studies open up a wide choice of worthy career options.

In a sense, theatre's syllabus can be put in one word- life. There is no aspect of life, no topic that theatre will not attempt to come to terms with and render creatively. In fact, it becomes the site for many other 'subjects' to be brought together, enabling students to see the links and connections between different areas of knowledge. Theatre is participatory and democratic in its methodologies, requiring teachers too to participate in its activities along with the children and to foster a more intimate relationship with them than a regular classroom teacher usually has. There are no easy answers to many of the problems that are confronted in a drama class, and students are expected to hold and express a variety of opinions on any given topic, and to seek their own solutions to problems.

SYLLABUS

CLASS XI

S. No	Unit	Marks	Periods
1	Introduction to Theatre	15	5
2	Dramatic Forms and Styles		5
3	Theatre Architecture		5
4	History of Indian Theatre	35	15
5	Indian Folk and Street Theatre		20
6	Survey of Asian Theatre		10
7	History of Western Theatre		20
8	Indian Theatre to Films	20	20
9	Application of Theatre in Academics		20
	PROJECT WORK& ACTIVITIES	30	120
	Total	100	240

Unit 1 : Introduction to Theatre **05 Periods**

- Theory: What is theatre? Why is theatre relevant to life today?
- Theory: Components of theatre – space, time, audience, performance
- Activity: Reading and analysis of a one-act play for theme, plot, structure and characterisation
- Activity: Acting exercises for body and movement
- Activity: Acting exercises for voice and speech
- Activity: Creating a performance of a story based on student’s own experiences
- Activity: Student journals and video record of activities

Unit 2 : Dramatic Forms and Styles **05 Periods**

- Theory: Forms and Styles of Theatre - Comedy and Tragedy; Solo performance, Mime, Melodrama, Musical theatre, Realism, Symbolism, Ballet and Dance, Street theatre, Folk theatre, etc.
- Activity: Viewing films or videos to identify and discuss theatrical styles
- Activity: Student journals and video record of activities

Unit 3 : Theatre Architecture **05 Periods**

- Theory: Space and storytelling
- Theory: Survey of historical and contemporary theatre architecture
- Activity: Identify spaces in school and surroundings similar to particular theatre architectural styles

Unit 4 : History of Indian Theatre **15 Periods**

- Theory: Rituals and myths from regions of India
- Theory: The Natya Shastra, Nav Ras and foundation of Indian theatre
- Theory: Sanskrit Writers and Plays –Uru Bhangram, Mattavilas
- Theory: Classical Indian Theatre – Kathakali, Yakshgaan
- Activity: Expressing the Nav Ras
- Activity: Identify and perform a ritual from the student’s home region
- Activity: Student journals and video record of activities

Unit 5 : Indian Folk and Street Theatre

- Theory: Regional folk theatre – Jatra (Bengal & Odisha), Tamaasha (Maharashtra), Swang (Haryana), Nautanki (U.P.), Chau (Manipur), Bhand Pather (Kashmir), Bhavai (Gujarat), Dashavatar (Goa), Krishnattam (Kerala), Mobile Theatre (Aasam), Surbhi (Andhra Pradesh)

- Theory: Influence of Folk Theatre on Street Theatre
- Theory: Street Theatre as agitational propaganda and social education
- Theory: Role of theatre in the Indian freedom struggle,
- Activity: Create and perform street theatre plays based on current issues
 - Collaborative playwriting
 - Using music and vernacular language
 - Engaging and influencing an audience
- Activity: Student journals and video record of activities

Unit 6 : Survey of Asian Theatre **10 Periods**

- Theory: Japanese - Noh and Kabuki
- Theory: Chinese -Beijing Opera
- Theory: Indonesian Wayang Kulit – influence of Indian culture
- Activity: Viewing Asian theatre live or on video
- Activity: Student journals and video record of activities

Unit 7 : History of Western Theatre **20 Periods**

- Theory: Classical Greek and Roman Drama – Sophocles and Aeschylus
- Theory: Shakespeare and Elizabethan Drama
- Theory: Italian Commedia Dell’Arte and French Farce
- Activity: Reading plays and performances of a short scene or monologue
- Activity: Student journals and video record of activities

Unit 8 : Indian Theatre to Films **20 Periods**

- Theory: Parsi theatre as basis for Hindi films
- Theory: Sanskrit and classical stories and characters in Indian films
- Activity: Reading a Parsi play and scene script from related film
- Activity: Make an Indian film scene from Parsi, Sanskrit or folk theatre story
- Activity: Student journals and video record of activities

Unit 9 : Application of Theatre in Academics **20 Periods**

- Activity: Creating a play script from textbook of any academic subject
- Activity: Making the audience understand an academic subject differently
- Activity: Collaborative writing, preparation and performance

- Activity: Student journals and video record of activities

PROJECT WORK & ACTIVITIES

- Portfolio of activities
 - Student's journal including videos
 - Attend theatre performances and write reviews
 - Write a paper on a playwright, director or actor
 - Research careers in theatre and film
- Practical (Choose one)
 - Study and performance of a folk form in the immediate cultural region
 - Create a short play to perform for younger children
 - Character study project in play or video form
 - Choose a play from a list of 4 and answer a series of detailed questions on theme, plot, structure, characterisation and other aspects

**SYLLABUS
CLASS XII**

S. No	Unit	Marks	Periods
1	Modern Indian Theatre	25	15
2	Modern Western Theatre		15
3	Developing and Documenting the Research Project	15	10
4	Survey of Acting Theory and Practise		20
5	Theatre Production – Acting and Directing	30	20
6	Theatre Production – Theatre Architecture & Production Design		20
7	Theatre Production – Management and Performance		20
	Individual Research Project	30	120
	Total	100	240

Unit 1 : Modern Indian Theatre 15 Periods

- Theory: Survey of major modern and contemporary styles and works in Hindi / English
 - Rabindranath Tagore, Bhartendu Harishchandra
 - Vijay Tendulkar, Mohan Rakesh, Dharmveer Bharti, Badal Sarkhar, Shankar Shesh, Girish Karnad, Chandrashekhar Kambar
- Theory: Review of Indian theatre organisations – NSD, Sangeet Natak Academy, zonal cultural centres
- Theory: Practitioners of modern Indian Theatre
- Activity: Critical analysis of any one play of the above
- Activity: Collaborative scene work from selected scripts

Unit 2 : Modern Western Theatre 15 Periods

- Theory: Survey of major contemporary style and works in English or English translation
 - Chekov, Ibsen, Strindberg, Shaw, O’Neill, Ionesco, Beckett, Pinter, Stoppard
- Activity: Critical analysis of any one play of the above
- Activity: Acting - collaborative scene work from selected scripts

Unit 3 : Developing and Documenting the Research Project 10 Periods

- Examples of research projects in different aspects of theatre
- Choosing the scope of the individual project
- Using media and sources for the project

Unit 4 : Survey of Acting Theory and Practice **20 Periods**

- Theory: Reading from Stanislavsky, Brecht, Meisner, Strasberg, Adler
- Activity: Acting exercises and improvisations
- Activity: Acting exercises for expression
- Activity: Acting improvisations

Unit 5 : Theatre Production – Acting and Directing **20 Periods**

- Theory: Readings on play production
- Activity: Choosing a play – considering language, style, characters, story
- Activity: Casting a play
- Activity: Actors’ workshop for the chosen play
- Activity: Student journals and video record of activities

Unit 6 : Theatre Production - Production Design **20 Periods**

- Theory: History of theatre architecture
- Theory: Readings on production design – color theory, sets, costumes, lighting, sound design
- Activity: designing sets, costumes, lighting and sound for the chosen play
- Activity: rehearsals of the chosen play incorporating production design
- Activity: Student journals and video record of activities

Unit 7 : Theatre Production – Management and Performance **20 Periods**

- Theory: Readings on Theatre management and marketing
- Activity: Organising the venue for the chosen play
- Activity: Rehearsals of the chosen play
- Activity: Multiple performances of the chosen play
- Activity: Student journals and video record of activities

Individual Research Project **120 Periods**

- Written and/or multimedia project involving one aspect of theatre or film
- May be comparative or interpretive
- May also be creative, i.e., writing a full-length play, devising a solo performance based on texts, designing costumes based on research, etc.
- Project includes a demonstration based on the research

MINIMUM QUALIFICATION FOR TEACHERS

Theatre Studies

A) Masters Degree in Theatre as subject.

OR

Masters Degree in any stream with 1 year Diploma in Theatre from a recognised University.

OR

Graduation in any stream with 3 years Diploma from National School of Drama/ Any Government recognised Institute.

OR

Graduation in any stream with 2 years Diploma in TIE from NSD.

OR

Graduation in any stream with 6 years experience in T. I. E. Co. of NSD.

Part – IV

Training Policy in

Central Board of Secondary Education

It is generally acknowledged that promoting teacher quality is a key element in improving school education in any country. It is a proven fact, now, that systematic in-service teacher training improves the quality of school education programs and promotes students' development. So systematic in-service training, over and above teacher's formal education and experience, is a predictor of educational program quality. Without a doubt, one of the primary goals of the training policy of the CBSE is to have a "highly qualified teacher work force in every classroom. The CBSE has been engaged in in-service training of teachers and principals as a part of its mandate for the last decade. These are conducted throughout the country to support continuous professional development of the teachers and the principals.

CBSE has decided to set up the National Institute for Continuous Professional Development at Gurgaon with centres at Kochi, Chandigarh/Panchkula/Mohali, Shahjahanpur, Kolkata, Pune and Kakinanda to impart effective and continual training to the Principals, teachers, parents and other stakeholders in a planned and systematic manner, to acquire and sharpen capabilities required to perform various functions associated with their present and expected future roles.

CBSE: A Policy Perspective in Teacher Training

1. **Preamble:** The quality of education plays a pivotal role in the process of development of nations. Hence quality concerns in school education are the priorities of CBSE. It is committed to make provisions for in-service training programmes with selection and training of mentors for training of teachers, principals and other stakeholders of education system especially the parents.
2. **Vision Statement:** Teacher Education must become more sensitive to the emerging demands from the school system. CBSE capacity building of teachers enables a teacher to play varied and distinctive role as a curriculum designer, developer of instructional materials, organiser of learning centric activities drafting good test items and assessing learners holistically.
3. **Mission Statement:** CBSE teacher development aims at creating situations where all teachers are able to get the best possible professional preparation and support for updating their pedagogical skills which result in good quality and motivated teachers for all levels of education. They in turn will assist all students and peers in the country with relevant and effective learning.
4. **Target Groups:**
 - All teachers will be provided training to equip them with the competencies required for their current job. Such trainings will be imparted at regular intervals in the course of their career i.e. Continuous Professional Development programmes.
 - In-service training will also be given to the principals of the schools affiliated with the Board.
 - Parent Advocates will reach out to parents as a voluntary group who can share the reforms initiated by CBSE with other parents.
5. **Training Concerns:** Teachers constitute a very important part of any education system, all efforts for enhancing the quality of education should focus on teachers and head teachers or principals.

The in-service training programmes for teachers would therefore, focus on developing the following.

- Acquainting them with emerging issues in school education such as Continuous and Comprehensive Evaluation; Formative Assessment and School Based Assessment in the wake of examination reforms;
 - Readiness to use technology tools effectively in the classroom;
 - Effective pedagogic techniques to make the teaching learning process more effective and joyful;
 - Life Skills;
 - Active communication skills;
 - Leadership capacities;
 - Competencies to deal with the needs of the learners and the society effectively;
 - Sensitizing teachers towards the needs of special children.
6. **Training of Master Trainers:** The success of any training programme not only depends upon proper planning but also on the quality of the trainers. So the trainers need to be identified with care as they need to be highly motivated and committed. The trainers must be familiar with the content of the curriculum and the pedagogy. They should be capable of using new technology because there are new developments in the field of training techniques and particularly in the use of technology in enabling and facilitating training for large number of people. There is an urgency to identify the current international best practices in training skills and techniques and develop a cadre of trainers in such skills / techniques.

In addition to its in-house trainers and resource persons, the Board taken up the responsibility of training the Master Trainers to give training to the teachers of CBSE schools.

The Master trainers from all over India will be selected after proper scrutiny and will be given training. As far as possible, the Master Trainers will be selected from each and every region so that whenever there is a training programme, the Master Trainers belonging to that particular region will be taken up for the empowerment programmes. This will be a cost effective measure.

7. **The Conceptual Framework:** Teacher Professional Development refers to the wide range of learning activities which teachers engage in to improve their professional practice and to enhance student learning. This definition includes In-service Training, Continuing Professional Development and Teacher Learning.
- **In-service Training** typically refers to the training engaged in by teachers in response to curriculum change. It is generally of short term duration with the emphasis on knowledge content and methodologies specific to areas of the curriculum. The CBSE with its focus on School based reforms in the areas of assessment, evaluation and ICT needs to have these programmes in large numbers.
 - **Continuing Professional Development** includes the vocational training implicit in in-service training but the focus is on supporting the personal, professional and social dimensions of the

teacher's role as it changes during the lifetime of a teacher's career. It is the process by which teachers (like other professionals) reflect upon their competencies, maintain them up to date, and develop them further. The Board needs to build on this with more certification to help it to move from one level to another

- **Teacher Learning** is the concept underpinning Continuing Professional Development which emphasises the teacher as a lifelong learner whose capacity to engage in critical reflection and to improve ones own knowledge base is at the centre of teacher professionalism.

8. **The Rationale:** Levin (1962) mentioned that retraining of in-service teachers works like a toxin that helps to protect the body from different diseases.

Therefore, in-service education of the teachers is undoubtedly the most crucial and critical component of any school improvement programme. The need for continual in-service education of teachers is based on well founded rationale. The need for the professional development of the teachers in India is particularly significant for a number of reasons:

- 8.1 The education sector in India has expanded and changed a lot. Every other day something new comes up in the field of education because of researches and new experiences in content and pedagogy. So the teachers need to be exposed to these new trends through in-service training programmes.
- 8.2 The schools exist in the community and the role of the community in school system has increased manifold. The teachers have to learn to live in harmony with the community for their mutual benefit. They need to own a responsibility towards society and work along with community members to make this world a better place to live in and produce good citizens in the country.
- 8.3 New developments in informatics have necessitated the need of new thinking in the field of education because it has given new points for training and learning. Teachers need to be equipped with competence to use ICT for their own professional development through training programmes.
- 8.4 India is a land of diversity. The CBSE reflects this diversity in spirit and form. So students belong to different social, cultural, linguistic, ethnic and racial groups. The teachers need to be sensitized towards the needs of children belonging to different groups and also for fostering national integration and instilling constitutional values.
- 8.5 Today teachers do encounter many paradoxes: globalization vs. individualization; school asticvs. non scholastic subjects; autocratic teaching strategies vs. education for vocation; values education vs. values in practice etc. These paradoxes lead to indecisiveness and confusion. Teachers need mentoring and empowerment on a continual basis.

- 8.6 Prof. D.S. Kothari, Chairman of Indian Education Commission (1964-66) rightly observed that by the time the students graduate and get degrees, the knowledge obtained by them would have become obsolete. This has become a stark reality. Mostly there is a gap between the completion of the course and actual employment of the teachers. By the time, teachers get into actual curriculum transacting situation, their knowledge becomes obsolete. In-service programmes have to be formulated in such a way that the teachers are able to refresh their knowledge and get access to new knowledge and information in the field of education. CBSE endeavours to work on INSET and CPD on a continuous basis.
- 8.7 There is a growing feeling that teacher education is not effective in turning out efficient teachers. The in-service training programmes have to be effective so as to have quality teachers as both equity access and quality are essential. An initial course of teacher education can no longer be sufficient to prepare a teacher for a career spanning 30-40 years as the global world is changing extremely fast with ICT driving the change. The way out of this problem is the Continuous Professional Development of teachers.
- 8.8 There is a thrust on integrated multidisciplinary curriculum which CBSE has been encouraging. The teachers are unable to cope up with the demands of this new paradigm shift. There is an urgent need to remove this content deficiency on the part of the teachers and CBSE training cell has been actively considering this to form a part of the training in this decade.
- 8.9 The National Curriculum Framework (NCF 2005) places the crucial responsibility of implementing the perspective of enhancing the ability of learners to learn from their activities and experiences in day to day life on the teachers and recommends in-service training programmes for teachers. The CBSE in 2011-2012 initiated empanelment of agencies for training of teachers and head teachers through proper process. After the pilot phase the agencies have now started to carry out training in different areas (2013-14) across the schools in schools affiliated to CBSE.
- 8.10 The objectives of training are stage specific i.e. they are different for primary class, middle and secondary class teachers, from one level to the other s/he needs proper orientation to cope up with the changed perspectives across these levels.
- 8.11 There is increasing violence and polarisation within children, which is being caused by increasing stress in society. Education has a crucial role to play in promoting values of peace based on equal respect of self and others. The NCF 2005 and subsequent syllabi and materials are attempting to do this as well. Teachers need to understand the issues and incorporate them in their teaching. Continuing with its efforts in the area of Values Education and in light of the NCERT Values Framework, CBSE has developed a 'Values Education Kit' and introduced 'Values Based Questions' that can help bring Education for Values in schools. CBSE is also in the process of developing Gender Sensitivity Manual and Cards to sensitize students towards gender related issues. These Manual and Cards aim at creating a gender receptive society which in due course should become more and more responsive towards gender issues.

- 8.12 There has been much research and innovation in the field of education. These research insights and innovations need to be incorporated in curriculum practices but has not materialized so far due to non-availability of appropriate dissemination mechanism and lack of access to these findings. Teachers need to be oriented regarding these researches and innovations.
- 8.13 Education aims at the all-round development of the children. This includes even the physical development of the child. The NCF 2005 stressed that the special efforts are needed to ensure that girls receive as much attention as boys in health and physical education programmes from the pre-school stage upwards. The RTE Act (2009) has also emphasized the all-round development of the child. So it is necessary for the teachers to take care of the physical development of the children and the teachers need training in delivering physical education in schools. The Board has developed the Physical Education Card (PEC) across various levels in age appropriate ways. The CBSE as well as empanelled agencies are conducting these trainings.
- 8.14 Concepts like Constructivism, Comprehensive and Continuous Evaluation, competency based teaching, team teaching, grades in place of marks are being introduced in school education. Teachers need orientation regarding all these concepts.
- 8.15 Many new concerns have emerged in education like Population Education, Environmental Education, AIDs Education, Consumer Education, Computer Literacy, Legal Literacy, and Life Skills Education. Teachers require orientation in these areas also so as to enrich their classes.
- 8.16 Right to Education Act 2009 has come into force with effect from 1st April 2010. Various provisions of the Act directly affect the life of a teacher within the curriculum as well as outside the curriculum. Teachers need to be aware of the various provisions of the Act to discharge their duties in consonance with the spirit of the Act.
- 8.17 The child with disabilities is excluded from the schools as the teachers are not well versed with the needs of such a child and also does not know how to make learning possible for them.

According to Right to Education Act 2009, children with disabilities will also be educated in the mainstream schools. So the teachers need to be sensitized towards the needs of such children.

- 8.18 The draft documentation of NCFTE 2009 emphasises that the training of teachers is a major area of concern at present as both pre-service and in-service training of school teachers is extremely inadequate.
9. **Dynamics of In-service Education:** Need analysis of in-service education has revealed three basic approaches to in-service education which are sufficiently distinctive to merit characterization as paradigms. A brief description of each paradigm will help us to understand in-service education.

- 9.1 **The growth paradigm:** Growth paradigm begins with the postulates that teaching is a complex and multifaceted activity about which there is more to know than can ever be known by one person. Learning to teach is a lifelong process. Special efforts on the part of school authorities are needed to encourage teachers for professional growth.
- 9.2 **Change paradigm:** Education system keeps on changing as it is a sub system of society which is ever changing. The core assumption of the change paradigm is that the education system needs redirection from time to time in accordance with economic, cultural, social and technological change. INSET activities should be geared to study and incorporate changes in the school system.
- 9.3 **The problem solving paradigm:** Teaching and learning is a difficult and complex process and circumstances are constantly changing, so the problem solving paradigm assumes that problems will invariably arise in individual schools and classrooms. Since teachers are most closely connected with the content in which these problems arise, only they can diagnose these problems. INSET programmes should be organized to study solutions to these problems. Problem solving paradigm acts as a framework to encourage the teachers to think creatively. INSET offers opportunities to share their experiences and learn as they experiment.

10. Assumptions of Training Programme

The Training Programme will be based on the following assumptions that are believed to be true and from which conclusions will be drawn in formulating the training policy.

- Teacher education is not effective in turning out efficient teachers and has not been able to keep pace with the changes taking place in other spheres of our national life.
- Teaching, today, has become complex and challenging. These challenges emerge from the explosion of knowledge; advances in pedagogical science; changes in basic concepts in psychology, sociology, economics and political ideologies; changes in school curricula; changing learning behaviours of pupils, etc. To meet these emerging challenges, teachers need to update their knowledge and skills on a continuing basis and learn to adjust to changing conditions of schools. This in turn accentuates the need for in-service training of teachers.
- Today ICT and 'e-learning' have become important concepts in school education. It has become a trend to have computers or multimedia in schools. So the teachers need to equip themselves with the competence to use ICT for their own professional growth.
- NCF 2005 places different demands and expectations on the teachers i.e. it requires a teacher to be facilitator of children's learning; curriculum designer; developer of instructional materials; organizer of learning activities and an evaluator. All these demands need to be addressed by both pre-service initial and continuing teacher education. (in-service)

- To achieve the quality concerns in education, in-service training programme need to be strengthened.
- As per NCF 2005, in-service education can play a significant role in the professional growth of teachers and function as an agent for change in school related practices. It helps teachers gain confidence by engaging with their practices and reaffirming their experiences.

11. **Training Needs of Teachers:** The training needs of teachers refer to the gap between the current status and required level of knowledge, skill and competencies in a particular area or discipline. The training needs emerge from growth in knowledge; innovative researches; enabling information technology; acts and policies and innovations in education philosophy and psychology.

Identification of Training Needs

Before planning and organising a training programme for teachers, the “Needs Assessment Survey” should be conducted so as to identify the training needs of the teachers. Needs analysis should be a decentralized exercise. The Regional Offices with their academic staff may identify the needs of the teachers in their particular regions. The data regarding the training needs of the teachers will be obtained using variety of tools such as:

- Questionnaires
- Case studies
- Field surveys
- Observation of classroom teaching
- Appraisal reports
- Discussions
- Interview
- Questionnaires
- Survey
- Maintaining school records, etc.

The needs identified at the Regional Offices will be collated and prioritised at Academic Unit of CBSE currently at Shiksha Sadan,, 17 Rouse Avenue, Institutional Area, New Delhi - 110002.

Common needs of all teachers

- Content enrichment
- Pedagogical development
- Contextual strategies
- Assessment competencies

- Awareness of emerging issues in education:
 - Life Skills education
 - Use of technology in classroom
 - Human rights with a focus on child rights
 - Population education
 - Values education
 - AIDS education
 - Disaster management
 - Gender awareness and sensitization
 - Emotional and stress management
 - Citizenship education
 - Peace education
 - Child inspired education
 - Inclusive education
 - Guidance and counselling
 - Twenty first century skills
 - Educational journalism
- Research needs:
 - Keeping observational records
 - Action research
 - Analysis of school textbooks

As education system is an ever evolving area, this list of needs is neither complete nor exhaustive.

12. Guiding Principles of an Effective In-service Training Programme

- The in-service training programme should aim at comprehensive training design for different categories of teachers such as in-service teachers, pre-service teachers, co-ordinators, paper setters, head examiners and principals.
- The training programme should aim at the empowerment of regular teachers and also professional development so as to help them move up vertically.
- The training programme should be different for different categories of teachers as their needs are different.

- In-service training programme should aim at renewing and updating the knowledge of the teachers about teaching methodologies and the subject content.
- The training programme should aim at developing the managerial and leadership skills of the principals.
- The in-service training programmes must be based on the felt needs of the target groups because one size cannot fit all.
- In-service training programmes need to create 'spaces' for teachers so that they can share their ideas and experiences which is of utmost importance in their professional development.
- The content of the training programme should be such so that the teachers are able to relate it with their own experiences and find opportunities to reflect on these experiences.
- In-service training programme should be designed keeping in view the aims and objectives of the programme. This is a must for the successful completion of the training programme and achieving its objectives.
- The in-service training programme needs to keep the community in loop for achieving its aims.
- The training programmes must find acceptance of their aims with the concerned target groups.
- Latest technology and techniques should be adopted for the in-service training programmes.
- Interaction should form the basis of the training programme even if electronic media is being used.
- Various routes towards the teacher's continuous professional development need to be sought.
- Teachers, for whom the in-service training learning programme are meant, already possess a working professional identity and have varied experiences related to learners and over all training process. So it is a must to acknowledge and respect their knowledge and professional identity while attempting to alter practice or simply providing knowledge.
- Proper planning based on extensive interactions with the teachers and principals over a period of time needs to be done before starting any training programme.
- Quick fix strategies are not enough to bring about changes in the practice of teaching but that should be accompanied with proper framework / theory on the process of learning and aims of education.
- In-service training programme should be based on research inputs.
- It should aim at bringing about qualitative improvement in the school education system.

13. Objectives of In-service Training Programme

- To produce effective and motivated teachers to deliver quality education.
- To provide continuous professional growth opportunities to keep teachers abreast of ongoing changes in their field and provide vertical mobility in a structured manner.
- To organize in-service training programmes periodically for teachers and principals.
- To train teachers to carry out action research to improve school practices. This in turn will encourage the teachers to be 'reflective' and 'thoughtful' about school practices.
- To enable teachers to work in close collaboration with parents and community and to mobilise community support for the school.
- To make teachers responsive to the demands of inclusive education.
- To build capacities of teachers to evolve knowledge, understanding and professional skills to deal with diverse learning contents.
- To give orientation in child centred pedagogies so as to address the needs and interests of the children.
- To prepare teachers for their roles as facilitators of learning; and also as curriculum designers; instructional material developers; organizer of learning activities and an evaluator.
- To develop counselling skills amongst teachers so that they can address the socio-emotional, personal and physical problems of students.
- To sensitize teachers to the various strands of Health and Physical Education, Life Skills Education and Values Education.
- To give training to teachers in citizenship education in terms of human rights and gender awareness.
- To prepare modules for training of teachers and principals.
- To orient and sensitize teachers to distinguish between enabling ICT softwares and to equip them with competence to use ICT for their professional growth.
- To help teachers to create a balance between work and home through stress management and time management workshops.
- To orient teachers to different strategies of classroom management so that they refrain completely from inflicting corporal punishment.

- To encourage teachers to develop self study skills and critical inquiry skills.
- To encourage teachers to work in teams and groups to ensure collaborative learning.
- To sensitize teachers towards the problems of learners.
- To develop sensitivity amongst teachers towards commitment to justice and zeal for social reconstruction.
- To foster the ability amongst teachers to work with children creatively to generate innovative ideas, theories, products and thereby add to the frontiers of knowledge.
- To orient teachers with the different tools of assessment to carry out continuous and comprehensive evaluation effectively.
- To enable the teachers to understand the assumptions underlying existing educational policy curricula and syllabi.
- To enable teachers to integrate values in all subjects and activities.
- To enable teachers to be sensitive to environment related issues and concerns.
- To collaborate with different public and private agencies to carry out in-service training programmes effectively and on large scale.
- To organize parent advocacy programs to implement the educational reforms.

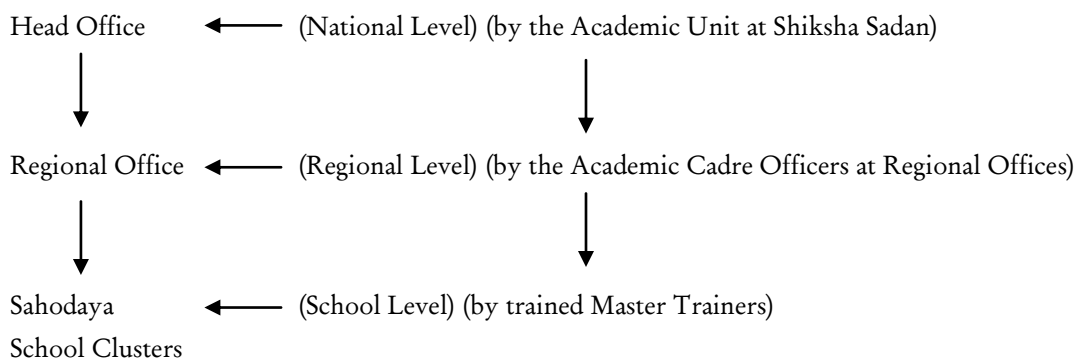
14. In-Service Teacher Education Models:

Some of the models which can be of help in carrying out in-service training programme are:

Face to Face Model: It is an extensively used model where a resource institution offers in-service programme using direct face-to-face approach. This model can work well when the number of participants is around 30-40. The strategies which can be adopted in this model to impart training are: lecture-cum-discussion; project related case studies; library work; peer sessions; workshop and other small group techniques.

It has the advantage of having direct and sustained interaction between participants and the resource persons. However this model cannot be used when the number of trainees is large.

Cascade Model: This model is useful when the number of trainees is large. It is cost effective and flexible model of training. This model uses two or three tier system. As far as training of teachers of CBSE schools is concerned, we can have three tier system of this model i.e.



Transfer of learning will take place from one level to the other level.

In the three tier system, the first tier i.e. cadre of trainers are trained who, in turn, train master trainers in their regions. These master trainers will then train the school teachers. Large number of teachers can be trained in a relatively short period of time. But this model is vulnerable to the limitations that dilution of knowledge and information takes place as it passes on from first tier to the third tier. So its success depends upon the quality of the trainers.

Media Supported Distance Education Model:

The advantage of this model is that the objectives of the training can be achieved without teachers being dislodged from their place of work. It has been possible with the advances in the field of ICT. The programmes are conducted using electronic media. The CBSE is planning to bring in self-learning Training Modules through the Center for Assessment Evaluation and Research (CAER).

Reflective Teacher Observations Model:

Classroom observation of in-service teacher trainees is a part of this model. To avoid anxiety on the part of the teachers, collaborative classroom observation with constructive feedback is the benchmark of this model. Observation can encourage teacher trainees to reflect upon their training and make such reflection a permanent part of their training regimen. The work of observation can be effectively carried out by the trained mentors or the principals.

More models of training can be generated keeping in view the local needs as well as the needs of the teachers.

15. Collaboration with Other Agencies:

CBSE will be open to collaborate with other agencies such as NUEPA, NCERT, NCTE, CTEs, IASEs, IITs, IIMs, IISCs, DOPT, NGOs, CIE, SCERT; Teacher Education Organisations like AIAER, CTE; international organisations like AERO, IDEA; IOE; Alternative Schools and empanelled agencies.

The Services of retired professionals will also be sought.

16. Trainee Selection and Duration of Training Programme

It will be mandatory for every teacher to undergo training if we actually want to bring a change in the attitude of the teachers. The in-service training programmes will not be carried out at a stretch or for a long duration. These training programmes will be conducted at frequent intervals for 1-2 days.

This will not affect the regular working of the schools.

17. Training Division

The Training Division at Delhi office of CBSE (Shiksha Sadan, 17, Rouse Avenue, Institutional Area, New Delhi-02) will act as a nodal agency of training.

It will be responsible for:

- Implementation of the training policy and other reforms being brought in from time to time.
- Issuing appropriate guidelines to facilitate the implementation of the training policy and other changes brought out by CBSE.
- Strengthening Trainer Development Programme to provide wider coverage.
- Creation of a 'Resource Pool' of empowered head teachers and teachers.
- Coordinating with the Regional offices and the faculty of the academic cadre posted for conducting Training Programmes.
- Preparing training modules on various aspects of training.
- Preparing a calendar of training programmes for every session.
- Monitoring the training programme through Mentors and Observers.
- Keeping a track of latest as well as international trends in the in-service training of teachers and assimilating those in its training programme keeping in view the Indian context;
- Constantly upgrading the skills of the Master Trainers in the new emerging techniques and methodologies of training as well as in emerging trends in education;
- Constantly reviewing the training modules and modifying it according to the needs of the teachers and the community;
- Carrying out evaluation studies to assess the impact of training programmes on the overall personality of teachers and largely on the school education system.

18. Role of Regional Offices-Academic Faculty

There are eight Regional Offices of CBSE at Ajmer, Allahabad, Bhubaneswar, Chennai, Delhi, Guwahati, Panchkula and Patna.

The Regional Offices will be responsible for:

- Updating the database of schools and teachers and maintaining it accurately;

- Maintaining database of trainings state wise/district wise/school wise;
- Conducting training programmes;
- Coordinating with the schools regarding the training programmes as well as attempting a need analysis in every term;
- Coordinating with the nodal agency for carrying out the training programmes smoothly and their follow-up;
- Assessing the needs of the teachers in their own regions;
- Assessing the training programmes and preparing a report of the same to be sent to the Training Division at Rouse Avenue;
- Setting up of a Resource Centre for the teachers at the regional level;
- Assisting schools in the appointment of counsellors who in turn can empower all teachers in counselling skills;
- Bring out publication for the professional growth of teachers;
- Collaborating with SIEs, CTEs, other educational bodies as well as private organisations for conducting the training programmes;
- Collaborating with agencies empanelled with the Board from time to time.

19. Development of Training Material / Modules

Training material will be developed by the CBSE after reviewing already prepared material by the Board. The training modules/materials developed by other organisations will also be reviewed. These will be made available to the team members responsible for the development of training materials/modules. Quality study material for self learning will be developed too.

It will be difficult to standardise the training modules/material as the needs of the teachers are different at different levels and because of geographic constraints.

Training material/modules will be developed for:

- Core Competencies
- Professional/specialised competencies
- Continuous and Comprehensive Evaluation(CCE)
- Diagnostic testing and remedial teaching
- Mentoring and Monitoring
- Assessment

20. Venue

Venue for the training of teachers will be a good school with adequate physical facilities in terms of auditorium, availability of rooms; drinking water, furniture; electricity, projector etc. The Academic Unit

at Rouse Avenue already has a list of prospective venues prepared after receiving online inputs from schools.

21. Modes of Organising In-service Training Programmes and Training Techniques

In-service training programmes may be organised through three modes:

- I. Face to Face Interaction Mode
- II. Online / Distance Mode
- III. Online / Distance-cum-contact Mode

I. Face to Face Interaction Mode:

In this mode, the resource persons and the participants sit face to face. Strong advantage is two way communication thus providing opportunities for social interaction between resource persons and the participants.

Techniques to be utilised are:

• Seminar	• Demonstration
• Workshop	• Group Work/Pair Work
• Symposium	• Field Trip
• Panel Discussion	• Teacher Networking Groups/Discussion Forums
• Conference	• Interactive lectures supported by multimedia
• Lecture-cum-discussions	• Brainstorming

II. Distance Mode / Online:

Howsoever effective the in-service education programmes may be, the fact remains that the students suffer a loss when teachers attend these programmes during working days. Besides, it is inconvenient to go to a far off place to attend the programme. Such limitations may be overcome if distance online mode is used for organising the training programme.

Techniques to be utilised are:

• Self learning modules/materials	• Tele-learning
• Podcasting	• Radio Lessons
• Online interactions through webinars	• Lessons through EDUSAT

III. Distance-cum-Contact Mode:

This mode has the features of face-to-face interaction mode and distance mode. It is made possible with advances in the field of ICT. The objectives of the training can be achieved without teachers being dislodged from their place of work.

Techniques to be utilised are:

• Audio Conferencing	• Online Discussion Forums
• Tele-Conferencing	• e Twinning
• Webinars	• Peer Network

22. Evaluation of In-service Training Programme

The training programme will be incomplete without the post conduct phase i.e. feedback and follow up.

Feedback of the teachers could be obtained at the end of the training programme about various aspects of training transaction. But this is not effective to assess the real outcomes of the training programmes.

So follow up programmes is must to ensure the transfer of learning on the part of the teachers. The impact of the training programme can be assessed by observing changes in classroom and learning outcomes of the students. The gaps can be addressed in the subsequent programmes.

23. Policy for Training the Teachers

- CBSE will establish a training division in all its Regional Offices to cater to the needs of the teachers in the schools affiliated with the Board.
- The training programmes will not be carried out at a stretch but flexibility will be followed.
- In-service training programmes will be organised for the teachers serving in schools affiliated to CBSE and located outside the country.
- Teachers will be trained in guidance and counselling course at regular intervals so that they are able to fulfil the needs of the special children.
- Training in Continuous and Comprehensive Evaluation, Physical and Health Education, Life Skills Education, Inclusive Education will be given to the teachers.
- Modern techniques along with the traditional ones will be harnessed for providing in-service training.
- Given the size of clientele and vastness of geographical area to be covered distance-cum-contact mode of giving in-service training will be preferred.
- Comprehensive need based training programmes will be organised.

- All training initiatives will be planned, programmed and recorded. The results will be reviewed to determine how training methods can be improved and how maximum benefits can be obtained from resources devoted to in-service training.
- The nodal agency of training programme will provide advice and assistance on training activities and it will be responsible for administrative and operative coordination of the training programme.
- The training programmes will be evaluated to assess the results of the programme. The results will be measured against pre-determined objectives.
- CBSE will start online discussion forums for the teachers and principals as well as encourage face-to-face teacher networking groups.
- Opportunities will be provided to the teachers to gain exposure on latest innovations and trends in education through transactional mobility.
- Field studies and research will be conducted for assessing the needs of the teachers.
- CBSE will try to assimilate technology in its training programmes to enable learning anywhere anytime for the teachers/principals (e.g. through podcasts, webinars, online discussion forums).
- A cadre of trainers in different skills as well as a cadre of domain specific trainers will be developed.
- CBSE will try to rope in NGOs, retired professionals and other private agencies to give in-service training to the teachers.
- Teachers will be given training in emotional and spiritual well being by roping in organisations like 'Art of Living' and 'Living Treasure'.
- Proper time will be given to the teachers to implement the ideas gained from the training programme.
- Proper coordination will be maintained with NCERT, SCERT and other organisations, so that there is no overlapping of training programmes.
- CBSE will try to move towards a system of permanent opportunities for the professional development of teachers.
- Major emphasis will be given to the training of Secondary and Senior Secondary class teachers.
- Post training seminars will also be conducted to get proper feedback from the teachers.

24. In-Service Training of Principals

Principals play a key role in making a school succeed. CBSE will serve as an anchor for such heads of institutions. Principals' abilities are central to the task of building schools that promote powerful teaching and learning for all students.

Today the role of principal has grown to include a staggering array of professional tasks and competencies. Principals are expected to be educational visionaries, instructional and curriculum leaders, assessment experts, disciplinarians, community builders, public relations and communication experts,

budget analysts, facility managers, administrators as well as guardians of various legal contractual and policy mandates and initiatives.

Therefore, in-service training of the principals is undoubtedly the most crucial and critical component of any school improvement programme. It has to be viewed as central to the success of the entire schooling process.

The heads of schools need to be oriented in:

- The legal and professional framework of school management and key management tasks such as strategic planning including overall policy and aims and the school's development plan;
- Communication and decision making structures and roles, including team building and development;
- The curriculum teaching methods, testing and examinations;
- The management of financial and material resources;
- External relations, including working with parents, the State and Central Government Education authority;
- Monitoring and evaluation of effectiveness;
- The management of change and development;
- Self development as a leader;
- Leadership skills and competencies.

25. Policy for Training of Principals

- A continuous programme of training of principals will be planned and implemented whenever it is deemed expedient.
- Training programmes will be organised for all principals at regular intervals.
- Principals will be deputed for programmes conducted by Institutes of National and International importance in educational management.
- Need based courses will be organised for principals in Academics, Administration and financial matters.
- Principals will be encouraged to participate in the workshops/conferences/seminars etc. organized by institutes like IIMs, NUEPA, NCERT and other Government agencies.
- Principals will be trained in disciplinary preceding either in-house or in collaboration with ISTM, New Delhi.
- Principal's Annual Conference will be conducted every year where the principals from different schools will participate and voice their feelings and concerns and share their success stories of Training programmes. Moreover, the future plans will also be discussed.

- They will be encouraged to undergo overseas study trips.
- The services of the retired principals will be sought to train the present principals.
- Workshops will be organized to train the Principals for Mentoring and Monitoring; Accreditation, Continuous and Comprehensive Evaluation and Strategic Leaderships and many more areas.

26. Honorarium

The payment of honorarium to the venue directors, resource persons, support staff and guest speakers will be regulated as per the norms of CBSE.

Conclusion

Society demands more schools and teachers than ever before. It expects them to provide broader access to high quality teaching, for an increasingly diverse student body with specific needs. In a rapidly changing world, demands on teachers change. To stay ahead, in-service training and professional development must take place on a regular basis so that teachers are “reflective practitioners” in their classrooms and schools become ‘learning organisations’. If we are concerned about the professional development of the nation’s growing number of teachers and the quality of the services they deliver to our young children, then we must invest our resources in training. The Board believes in interesting, practical and flexible training programs and will offer opportunities for the professional development of the teachers and the parents that will have a long term impact on the school education system in our country.

रजिस्ट्री सं० डी० एल-(एन)०४/०००७/२००३-०९

Registered No. DL-(N)04/0007/2003-09



भारत का राजपत्र
The Gazette of India

EXTRAORDINARY

Part II – Section I

PUBLISHED BY AUTHORITY

[No. 39]

NEW DELHI, THURSDAY, AUGUST 27, 2009/BHADRA 5, 1931

Separate paging is given to this Part in order that it may be filed as a separate compilation

MINISTRY OF LAW AND JUSTICE

(Legislative Department)

New Delhi, the 27th August, 2009/Bhadra 5, 1931 (Saka)

The following Act of Parliament received the assent of the President on the 26th August, 2009, and is hereby published for general information:-

THE RIGHT OF CHILDREN TO FREE AND COMPULSORY
EDUCATION ACT, 2009

No- 35 of 2009

[26th August, 2009.]

An Act to provide for free and compulsory education to all children of the
age of six to fourteen years.

Be it enacted by Parliament in the Sixtieth Year of the Republic of India as follows:—

CHAPTER I

PRELIMINARY

- (1) This Act may be called the Right of Children to Free and Compulsory Education Act, 2009.
- (2) It shall extend to the whole of India except the State of Jammu and Kashmir.
- (3) It shall come into force on such date as the Central Government may, by notification in the Official Gazette, appoint.

Short title
extent and
Commence-
ment

Definitions

2. In this Act, unless the context otherwise requires, -

(a) "appropriate Government" means-

- (i) in relation to a school established, owned or controlled by the Central Government, or the administrator of the Union territory, having no legislature, the Central Government;
- (ii) in relation to a school, other than the school referred to in sub-clause (1), established within the territory of—
 - (A) a State, the State Government;
 - (B) a Union territory having legislature, the Government of that Union territory;

(b) "capitation fee" means any kind of donation or contribution or payment other than the fee notified by the school

(c) "child" means a male or Female child of the age of six to fourteen years;

(d) "child belonging to disadvantaged group" means a child belonging to the Scheduled caste, the Scheduled Tribe, the socially and educationally backward class or such other group having disadvantage owing to social, cultural, economical, Geographical, linguistic, gender or such other factor, as may be specified by the appropriate Government, by notification;

(e) "child belonging to weaker section" means a child belonging to such parent or guardian whose annual income is lower than the minimum limit specified by the appropriate Government, by notification;

(f) "elementary education" means the education from first class to eighth class;

(g) "guardian", in relation to a child, means a person having the care and custody of that child and includes a natural guardian or guardian appointed or declared by a court or a statute;

(h) "local authority" means a Municipal Corporation or Municipal Council or Zila Parishad or Naga: Panchayat or Panchayat, by whatever name called, and includes such other authority or body having administrative control over the school or empowered by or under any law for the time being in force to function as a local authority in any city, town or village;

(i) "National Commission for Protection of Child Rights" means the National Commission for Protection of Child Rights constituted under section 3 of the Commissions for Protection of Child Rights Act, 2005;

(j) "Notification" means a notification published in the official Gazette;

(k) "parent" means either the natural or step or adoptive father or mother of a child; .

(l) "prescribed" means prescribed by rules made under this Act;

(m) "Schedule" means the Schedule annexed to this Act;

(n) "school" means any recognised School imparting elementary education and includes;

- (i) school established, owned or controlled by the appropriate Government or a local authority;
- (ii) an aided school receiving aid or grants to meet whole or part of its expenses from the appropriate Government or the local authority;
- (iii) a school belonging to specified category; and
- (iv) an unaided school not receiving any kind of aid or grants to meet its expenses from the appropriate Government or the local authority;

(o) "screening procedure" means the method of selection for admission of a child, in preference over another, other than a random method;

4 of 2006

- (p) "specified category", in relation to a school, means a school known as Kendriya Vidyalaya, Navodaya Vidyalaya, Sainik School or any other school having a distinct character which may be specified, by notification, by the appropriate Government;
- (q) "State Commission for Protection of Child Rights" means the State Commission for Protection of Child Rights constituted under section 3 of the Commission for Protection of Child Rights Act, 2005.

CHAPTER II

RIGHT TO FREE AND COMPULSORY EDUCATION

3. (1) Every child of the age of six to fourteen years shall have a right to free and compulsory education in a neighbourhood school till completion of elementary education. Right of Child to free and compulsory
- (2) For the purpose of sub-section (1), no child shall be liable to pay any kind of fee or charges or expenses which may prevent him or her from pursuing and completing the elementary education:
- Provided that a child suffering from disability, as defined in clause (i) of section 2 of the Persons With Disabilities (Equal Opportunities, Protection and Full Participation) Act, 1996, shall have the right to pursue free and compulsory elementary education in accordance with the provisions of Chapter V of the said Act.
4. Where a child above six years of age has not been admitted in any school or though admitted, could not complete his or her elementary education, then, he or she shall be admitted in a class appropriate to his or her age; Special Provisions for children not admitted to or who have not completed, elementary education
- Provided that where a child is directly admitted in a class appropriate to his or her age, then, he or she shall, in order to be at par with others have a right to receive special training, in such manner, and within such time-limits, as may be prescribed:
- Provided further that a child so admitted to elementary education shall be entitled to free education till completion of elementary education even fourteen years.
5. (1) Where in a school, there is no provision for completion of elementary education; a child shall have a right to seek transfer to any other school, excluding the school specified in sub-clauses (iii) and (iv) of clause (n) of section 2, for completing his or her elementary education. Right of Transfer of other school
- (2) Where a child is required to move from one school to another, either within a State or outside, for any reason whatsoever, such child shall have a right to seek transfer to any other school, excluding the school specified in sub-clauses (iii) and (iv) of clause (n) of section 2, for completing his or her elementary education.
- (3) For seeking admission in such other school, the Head-teacher or in-charge of the school where such child was last admitted, shall immediately issue the Transfer certificate:
- Provided that delay in producing transfer certificate shall not be a ground for either delaying or denying admission in such other school:
- Provided that the Head-teacher or in-charge of the school delaying issuance of transfer certificate shall be liable for disciplinary action under the service rules applicable to him or her

CHAPTER III

DUTIES OF APPROPRIATE GOVERNMENT, LOCAL AUTHORITY AND PARENTS

6. For carrying out the provisions of this Act, the appropriate Government and the local authority shall establish, within such area or limits of neighbourhood, as may be prescribed, a school, where it is not so established, within a period of three years from the commencement of this Act.
7. (1) The Central Government and the State Government shall have concurrent responsibility for providing funds for carrying out the provisions of this Act.
 (2) The Central Government shall prepare the estimates of capital and recurring expenditure for the implementation of the provisions of the Act.
 (3) The Central Government shall provide to the State Governments, as grants-in-aid of revenues' such percentage of expenditure referred to in subsection (2) as it may determine, from time to time, in consultation with the State Governments.
 (4) The Central Government may make a request to the President to make a reference to the Finance Commission under sub-clause (d) of clause (3) of article 280 to examine the need for additional resources to be provided to any State Government so that the said State Government may provide its share of funds for carrying out the provisions of the Act.
 (5) Notwithstanding anything contained in sub-section (4), the State Government shall, taking into consideration the sums provided by the Central Government to a State Government under sub-section (3), and its other resources be responsible to provide Funds for implementation of the provisions of the Act.
 (6) The Central Government shall-
 (a) develop a framework of national curriculum with the help of academic authority specified under section 29;
 (b) develop and enforce standards for training of teachers;
 (c) provide technical support and resources to the State Government for promoting innovations, researches, planning and capacity building.
8. The appropriate Government shall-
 (a) provide free and compulsory elementary education to every child:

Provided that where a child is admitted by his or her parents or guardian, as the case may be, in a school other than a school established, owned, controlled or substantially financed by funds provided directly or indirectly by the appropriate Government or a local authority, such child or his or her parents or guardian, as the case may be, shall not be entitled to make a claim for reimbursement of expenditure incurred on elementary education of the child in such other school.

Explanation – The term "compulsory education" means obligation of the appropriate Government to-

- (i) provide free elementary education to every child of the age of six to fourteen years; and
 (ii) ensure compulsory admission, attendance and completion of elementary education by every child of the age of six to fourteen years;
- (b) ensure availability of a neighbourhood school as in section 6;
 (c) ensure that the child belonging to weaker section and the child belonging to disadvantaged group are not discriminated against and prevented from pursuing and completing elementary education on any grounds;
 (d) provide infrastructure including school building, teaching staff and learning equipment;
 (e) provide special training facility specified in section 4;
 (f) ensure and monitor admission, attendance and completion of elementary education by every child;

Sharing of financial and other responsibilities

Duties of appropriate Government

Duty of appropriate Government and local authority to establish school

- (g) ensure good quality elementary education conforming to the standards and norms specified in the Schedule; ensure timely prescribing of curriculum and courses of study for elementary education; and
- (h) provide training facility for teachers.
9. Every local authority shall-
- (a) provide free and compulsory elementary education to every child:

Duties of local authority

Provided that where a child is admitted by his or her parents or guardian, as the case may be, in a school other than a school established, owned, controlled or substantially financed by funds provided directly or indirectly by the appropriate Government or a local authority, such child or his or her parents or guardian, as the case may be, shall not be entitled to make a claim for reimbursement of expenditure incurred on elementary education of the child in such other school;

- (b) ensure availability of a neighbourhood school as specified in section 6;
- (c) ensure that the child belonging to weaker section and the child belonging to disadvantaged group are not discriminated against and prevented from pursuing and completing elementary education on any grounds;
- (d) maintain records of children up to the age of fourteen years residing within its jurisdiction, in such manner as may be prescribed;
- (e) ensure and monitor admission, attendance and completion of elementary education by every child residing within its jurisdiction;
- (f) provide infrastructure including school building, teaching staff and learning material;
- (g) provide special training facility specified in section 4;
- (h) ensure good quality elementary education conforming to the standards and norms specified in the Schedule;
- (i) ensure timely prescribing of curriculum and courses of study for elementary education;
- (j) provide training facility for teachers;
- (k) ensure admission of children of migrant families;
- (l) monitor functioning of schools within its jurisdiction; and
- (m) decide the academic calendar.

10. It shall be the duty of every parent or guardian to admit or cause to be admitted his or her child or ward, as the case may be, to an elementary education in the neighbourhood school.

Duties of parents and guardian.

11. With a view to prepare children above the age of three years for elementary education and to provide early childhood care and education for all children until they complete the age of six years, the appropriate Government may make necessary arrangements for providing free pre-school education for such children.

Appropriate Government to provide for pre-school education.

CHAPTER IV

RESPONSIBILITIES OF SCHOOLS AND TEACHERS

12. (1) For the purposes of this Act, a school,-
- (a) specified in sub-clause (i) of clause (n) of section 2 shall provide Free and compulsory elementary education to all children admitted therein;
- (b) specified in sub-clause (ii) of clause (n) of section 2 shall provide free and compulsory elementary education to such proportion of children admitted therein as its annual recurring aid or grants so received bears to its annual recurring expenses, subject to a minimum of twenty-five per cent.;
- (c) specified in sub-clauses (iii) and (iv) of clause (n) of section 2 shall admit in class I, to the extent of at least twenty-five per cent. of the strength of that class, children belonging to weaker section and disadvantaged group in the

Extent of school's responsibility for free and compulsory education

neighbourhood and provide free and compulsory elementary education till its completion:

Provided further that where a school specified in clause (n) of section 2

Imparts pre-school education, the provisions of clauses (a) to (c) shall apply for admission to such pre-school education.

(2.) The school specified in sub-clause (iv) of clause (n) of section 2 providing free and compulsory elementary education as specified in clause (c) of sub-section (1) shall be reimbursed expenditure so incurred by it to the extent of per-child-expenditure incurred by the State, or the actual amount charged from the child, whichever is less, in such manner as may be prescribed:

Provided that such reimbursement shall not exceed per-child-expenditure incurred by a school specified in sub-clause (i) of clause (n) of section 2:

Provided further that where such school is already under obligation to provide free education to a specified number of children on 'account of it having received any land, building, equipment or other facilities, either free of cost or at a concessional rate, 'such school shall not be entitled for reimbursement to the extent of such obligation.

(3) Every school shall provide such information as may be required by the appropriate Government or the local authority, as the case may be.

No capitation fee and screening procedure for admission

13. (1) No school or person shall, while admitting a child, collect any capitation fee and subject the child or his or her parents or guardian to any screening procedure.

(2) Any school or person, if in contravention of the provisions of subsection (1),-

(a) receives capitation fee, shall be punishable with fine which may extend to ten times the capitation fee charged;

(b) Subjects a child to screening procedure shall be punishable with fine which may extend to twenty-five thousand rupees for the first contravention and thousand rupees for each subsequent contravention.

Proof of age for admission

14. (1) For the purposes of admission to elementary education, the age of a child shall be determined on the basis of the birth certificate issued in accordance with the provisions Births, Deaths and Marriages Registration Act, 1886 or on the basis of such other document, as may be prescribed.

(2) No child shall be denied admission in a school for lack of age proof.

No denial of admission.

15. A child shall be admitted in a school at the commencement of the academic year or within such extended period as may be prescribed:

Provided that no child shall be denied admission if such admission is sought subsequent to the extended period:

Provided further that any child admitted the extended period shall complete his studies in such manner as may be prescribed by the appropriate Government.

Prohibition of holding back and expulsion

16. No child admitted in a school shall be held back in any class or expelled from school till the completion of elementary education.

Prohibition of physical punishment and mental harassment to child.

17. (1) No child shall be subjected to physical punishment or mental harassment.

(2) Whoever contravenes the provisions of sub-section (1) shall be liable to disciplinary action under the service rules applicable to such person.

18. (1) No school, other than a school established, owned or controlled by the appropriate Government of the local authority, shall, after the commencement of this Act, be established or function, without obtaining a certificate of recognition from such authority, by making an application in such form and manner, as may be prescribed.

No School to be established without obtaining certificate of recognition

(2) The authority prescribed under sub-section (1) shall issue the certificate of recognition in such form, within such period, in such manner, and subject to such conditions, as may be prescribed:

6 of 1886.

Provided that no such recognition shall be granted to a school unless it fulfils norms and standards specified under section 19.

(3) On the contravention of the conditions of recognition, the prescribed authority shall, by an order in writing, withdraw recognition:

Provided that such order shall contain a direction as to which of the neighbourhood school, the children studying in the de recognised school shall be admitted:

Provided further that no recognition shall be so withdrawn without giving an opportunity of being heard to such school, in such manner, as may be prescribed.

(4) With effect from the date of withdrawal (if the recognition under sub-section (3), no such school shall continue to function. -

(5) Any person who establishes or runs a school without obtaining certificate of recognition, or continues to run a school withdrawal of recognition, shall be liable to fine which may extend to one lakh rupees and in case of continuing contraventions, to a fine of ten thousand rupees for each day during Which such contravention continues.

19. (1) No school shall be established, or recognised, under section 18. unless it fulfils the norms and standards specified in the Schedule.

(2) Where a school established before the commencement of this Act does not fulfil the norms and standards specified in the Schedule. it shall take steps to fulfil such norms and standards at its own expenses, within a period years from the date of such commencement.

(3) Where a school fails to fulfil the norms and standards within the period specified under sub-section (2), the authority prescribed under sub-section (1) of section 18 shall withdraw recognition granted to such school in the manner specified under sub-section (3) thereof.

(4) With effect from the date of withdrawal of recognition under sub-section (3), no school shall continue to function.

(5) Any person who continues to run a school the recognition is withdrawn. Shall be liable to fine which may extend to one lakh rupees and in case of continuing contraventions, to a fine often thousand rupees for each day during which such contravention continues.

20. The Central Government may, by notification, amend the Schedule by adding to, or omitting any norms and standards. Power to amend Schedule.

21. (1) A school, other than a school specified sub-clause (iv) of clause (n) of section 2, shall constitute a School Management Committee consisting of the elected representatives of the local authority, parents or guardians of children admitted in such school and teachers: School Management committee

Provided that at least three-fourth of members of such Committee shall be parents or guardians:

Provided further that proportionate representation shall be given to the parents or guardians of children belonging to disadvantaged group and weaker section:

Provided also that fifty per cent. of Members of such Committee shall be women.

(2) The School Management Committee shall perform the following functions. .

(a) monitor the working of the school;

(b) prepare and recommend school development plan;

(c) monitor the utilisation of the grants received from the appropriate Government or local authority or any other source; and

(d) perform such other functions as may be prescribed.

22. (1) Every School Management Committee, constituted under sub-section (1) of section 21 shall prepare a School Development Plan, in such manner as may be prescribed. School Development Plan

(2) The School Development Plan so prepared under sub-section (1) shall be the basis for the plans and grants to be made by the appropriate Government or local authority, as the case may be

Qualifications for appointment and terms and conditions of service of teachers	<p>23. (1) Any person possessing such minimum qualifications, as laid down by an academic authority, authorised by the Central Government, by notification shall be eligible for appointment as a teacher.</p> <p>(2) Where a State does not have adequate institutions offering courses or training in teacher education, or teachers possessing minimum qualifications as laid down under sub-section (1) are not available in sufficient numbers, the Central Government may, if it deems necessary, by notification, relax the minimum qualifications required for appointment as a teacher, for such period, not exceeding five years, as may be specified in that notification:</p> <p>Provided that a teacher who at the commencement of this Act, does not possess minimum qualifications as laid down under sub-section (1), shall acquire such minimum qualifications within a period of five years.</p>
Duties of teachers and redressal of grievances	<p>(3) The salary and allowances payable to, and the terms and conditions of service of, teachers shall be such as may be prescribed.</p> <p>24. (1) A teacher appointed under sub-section (1) of section 23 shall perform the following duties, namely:-</p> <p>(a) Maintain regularity and punctuality in attending school;</p> <p>(b) Conduct and complete the curriculum in accordance with the provisions of sub-section (2) of section 29;</p> <p>(c) Complete entire curriculum within the specified time;</p> <p>(d) assess the learning ability of each child and accordingly supplement additional instructions. if any, as required:</p> <p>(e) Hold regular meetings with parents and guardians and apprise them about the regularity in attendance, ability to learn, progress made in learning and any other relevant information about the child; and</p> <p>(f) Perform such other duties as may be prescribed.</p> <p>(2) A teacher committing default in performance of duties specified in sub-section (1), shall be liable to disciplinary action under the service rules applicable to him or her:</p> <p>Provided that before-taking such disciplinary action, reasonable opportunity of being heard shall be afforded to such teacher.</p>
Pupil-Teacher Ratio	<p>(3) The grievances, if any, of the teacher shall be re-dressed in such manner as may be prescribed.</p> <p>25. (1) within six months from the date of commencement of this Act, the appropriate Government and the local authority shall ensure that the Pupil-Teacher Ratio, as specified in the Schedule, is maintained in each school.</p>
Filling up vacancies of teachers	<p>(2) For the purpose of maintaining the Pupil-Teacher Ratio under sub-section (1), no teacher posted in a school shall be made to serve in any other school or office or deployed for any non-educational purpose, other than those specified in section 27.</p>
Prohibition of deployment of teachers for non-educational purpose	<p>26. The appointing authority, in relation to a school established, owned, controlled or substantially financed by funds provided directly or indirectly by the appropriate Government or by a local authority, shall ensure that vacancy of teacher in a school under its control shall not exceed ten per cent of the total sanctioned strength.</p> <p>27. No teacher shall be deployed for any non-educational purpose other than the decennial population census, disaster relief duties or duties relating to election to the local authority or the State Legislatures or Parliament, as the case may be.</p>
Prohibition of private tuition by teacher	<p>28. No teacher shall engage himself or herself in private tuition or private teaching activity.</p>

CHAPTER V

CURRICULUM AND COMPETITION OF ELEMENTARY EDUCATION

29. (1) the curriculum and the evaluation procedure for elementary education shall be laid down by an academic authority to be specified by the appropriate Government, by notification. Curriculum and evaluation procedure

(2) The academic authority, while laying down the curriculum and the evaluation procedure under sub-section (1), shall take into consideration the following, namely:—

- (a) Conformity with the values enshrined in the Constitution;
- (b) all round development of the child;
- (c) building up child's knowledge, potentiality and talent;
- (d) development of physical-and mental abilities to the fullest extent;
- (e) learning through activities. discovery and exploration in a child friendly and child-centered manner;
- (f) Medium of instructions shall, as far as practicable, be in child's mother tongue;
- (g) making :he child free of fear, trauma and anxiety and helping the child to express views freely;
- (h) comprehensive and continuous evaluation of child's understanding of knowledge and his or her ability to apply the same.

30. (1) No child shall be required to pans any Board examination till completion of elementary education. Examination and completion certificate.

(2) Every child completing his elementary education shall be awarded a certificate, in such form and in such manner. as may be prescribed.

CHAPTER VI

PROTECTION OF RIGHT OF CHILDREN

31 (1) The National Commission for Protection of Child Rights constituted under section on 3, or. as the case may he, the State Commission for Protection of Child Rights constituted under section 17, the Commissions for Protection of Child Rights Act, 2005, shall, in addition to the functions assigned to them under that Act, also perform the following functions, namely:- Monitoring of child's right to education.

- (a) examine and review the safeguards for rights provided by or under this Act and recommend measures for their effective implementation;
- (b) Inquire into complaints, relating to Child's right to free and compulsory education; and.
- (c) Take necessary steps as provided under sections 15 and 24 of the said Commissions for Protection of Child Rights Act.

(2) The said Commissions shall, while inquiring into any matters relating lo child's right to free and compulsory education under clause (c) of sub-section (1). have the same powers as assigned to them respectively under sections 14 and 24 of the said Commissions for Protection of Child Rights Act.

(3) Where the State Commission for Protection of Child Rights has not been constituted in a State, the appropriate Government may, for the purpose of performing the functions specified in clauses (a) to (c) of sub-section (1), constitute such authority, in such manner and subject to such terms and conditions' as may be prescribed.

32. (1) Notwithstanding anything contained in section 31, any person having any grievance relating to the right of a child under this Act may make a written complaint to the local authority having jurisdiction. Redressal of grievances

(2) receiving the complaint under subsection (1). the local authority shall decide the matter within a period of three months after affording a reasonable opportunity of being heard to the parties Concerned.

(3) Any person aggrieved by the decision of the local authority may prefer an appeal to the State Commission for Protection of Child Rights or the authority prescribed under sub-section (3) of section 31, as the case may be.

(4) The appeal preferred under sub-section (3) shall be decided by State Commission for Protection of Child Rights or the authority prescribed under sub-section (3) of Section 31, as the case may be, as provided under clause (c) of sub-section (1) of section 31.

Constitution of National Advisory Council.

33. (1) The Central Government shall constitute, by notification, a National Council, consisting of such number of Members, not exceeding as the Central Government may deem necessary, to be appointed from amongst persons having; knowledge and practical experience in the of elementary education and child development.

(2) The functions of the National Advisory Council shall be to advise the Central Government on implementation of the provisions of the Act in an effective manner.

(3) The allowances and other terms and conditions of the appointment of the National Advisory Council shall be such as may be prescribed.

Constitution of State Advisory Council.

34. (1) The State Government shall constitute, by notification, a State Council consisting of such number of Members, not exceeding as fifteen, as the state Government may deem necessary, to be appointed from amongst persons having knowledge and practical experience in the field of elementary education and child development.

(2) The functions of the State Advisory council shall be to advise the State Government on implementation of the provisions of the Act in an effective.

(3) The allowances and other terms and conditions of appointment of Members of the State Advisory Council shall be such as may be prescribed.

CHAPTER V11 MISCELLANEOUS

Power of issue directions

35. (1) The Central Government may issue such guidelines to the appropriate Government or, as the case may be, the local authority, as it deems fit for the purpose of implementation the provisions of this Act.

(2) The appropriate Government may issue guidelines and give such directions, as it deems fit, to the local authority or the School Management Committee regarding implementation of the provisions of this Act.

(3) The local authority may issue guidelines and give such directions, as it deems fit, to the School Management Committee; regarding implementation of the provisions of this Act.

Previous sanction for prosecution

36. No prosecution for offences punishable under sub-section (2) of section 13, sub-section (5) of section 18 and sub-section (5) of section 19 shall be instituted except with the previous sanction of an officer authorised in this behalf, by the appropriate Government, by notification.

Protection of action taken in good faith

37. No suit or other legal proceeding shall lie against the Central Government, the State Government, the National Commission for Protection of Child Rights, the State Commission for Protection of Child Rights, the local authority, the School Management Committee or any person, in respect of anything which is in good faith done or intended to be done, in pursuance of this Act, or any rules or order made thereunder.

Power of appropriate Government to make rules

38. (1) the appropriate Government may, by notification, make rules, for carrying out the provisions of this Act.

(2) In particular, and without prejudice to the generality of the foregoing powers, such rules may provide for all or any of the following matters, namely: -

(a) the manner of giving special training and the time-limit thereof, under first proviso to section 4:

- (b) the area or limits for establishment of a neighbourhood school, under section 6;
- (c) the manner of maintenance of records of children up to the age of fourteen years' under clause (d) of section 9;
- (d) the manner and extent of reimbursement of expenditure, under sub-section (2) of section 12;
- (e) any other document for determining the age of child under sub-section (1) of 14;
- (f) the extended period for admission and the manner of completing study if admitted after the extended period, under section 15;
- (g) the authority, the form and manner of making application for certificate of recognition under sub-section (1) of section 18;
- (h) the form, the period, the manner and the conditions for issuing Certificate of recognition, under sub-section (2) of section 18; -
- (i) the manner of giving opportunity of hearing under second proviso to sub-section (3) of section 18;
- (j) the other functions to be performed by School Management Committee under clause (d) of sub-section (2) of section 21;
- (k) the manner of preparing School Development Plan under sub-section (1) of section 22; -
- (l) the salary and allowances payable to, and the terms and conditions of service of teacher, under sub-section (3) of section 23;
- (m) the duties to be performed by the teacher under clause (f) of sub-section (1) of section 24;
- (n) the manner of redressing grievances of teachers under sub-section (3) of section 24; -
- (o) the form and manner awarding certificate for completion of elementary education under sub-section (2) of section 30;
- (p) the authoring, the manner of its constitution and the terms and conditions therefore, under sub-section (3) of section 31;
- (q) the allowances and other terms and conditions of appointment of Members of the National Advisory Council under sub-section (3) of section 33;
- (r) the allowances and other terms and conditions of appointment of Members of the State Advisory Council under sub-section (3) of section 34

(3) Every rule made under this Act and every notification issued under sections 20 and 23 by the Central Government shall be laid, as soon as may be after it is made, before each House of Parliament, while it is in session, for a total period of thirty days which may be comprised in one session or in two or more successive sessions, and if, before the expiry of the session immediately following the session or the successive sessions aforesaid, both agree in making any modification in the rule or notification or both Houses agree that the rule or notification should not be made, the rule or notification shall thereafter have effect only in such modified form or be of no effect, as the case may be; so, however, that any such modification or annulment shall be without prejudice to the validity of anything previously done under that rule or notification.

(4) Every rule or notification made by the State Government under this Act shall be laid, as soon as may be after it is made; before the State Legislatures.

THE SCHEDULE

(See sections 19 and 25)

NORMS AND STANDARDS FOR A SCHOOL

Sl No.	Item	Norms and Standards
1.	Number of teachers:	
(a)	For first class to fifth class	<p>Admitted children</p> <p>Up to Sixty</p> <p>Between sixty-one to ninety</p> <p>Between Ninety-one to one hundred and twenty</p> <p>Between One hundred and twenty-one to two hundred</p> <p>Above One hundred and fifty children</p> <p>Above two hundred children</p> <p>Number of teacher</p> <p>Two</p> <p>Three</p> <p>Four</p> <p>Five</p> <p>Five plus one Head-Teacher</p> <p>Pupil-teacher Ratio (excluding Head-teacher) shall not exceed forty</p>
(b)	For sixth class to eighth class	<p>(1) At least one teacher per class so that there shall be at least one teacher each</p> <p>For-</p> <p>(i) Science and Mathematics;</p> <p>(ii) Social Studies;</p> <p>(iii) Languages.</p> <p>(2) At least one teacher for every thirty-five children.</p> <p>(3) where admission of children is above One hundred-</p> <p>(i) A full time head-teacher;</p> <p>(ii) Part time instructor for -</p> <p>(A) Art Education;</p> <p>(B) Health and Physical Education;</p> <p>(C) Work Education.</p>
2.	Building	<p>All-weather building consisting of-</p> <p>(i) At least one class-room for every teacher and an office-cum-store-cum-Head teacher's room</p> <p>(ii) Barrier free access</p> <p>(iii) separate toilets for boys and girls;</p> <p>(iv) safe and adequate drinking water facility to all children;</p> <p>(v) a kitchen where mid-day meal is cooked in the school;</p> <p>(vi) Playground;</p>

Sl. No.	Item	Norms and Standards
		(vii) arrangements for securing the school building by boundary wall or fencing.
3.	Minimum number of working days/instructional hours in an academic year	(i) Two hundred working days for first class to fifth class; (ii) Two hundred and twenty working days for sixth class to eighth class; (iii) Eight hundred instructional hours per academic year for first class to fifth class; (iv) One thousand instructional hours per academic year for sixth class to eighth class
4.	Minimum number of working hours per week for the teacher	forty-five teaching including preparation hours.
5.	Teaching learning equipment	Shall be provided to each class as required.
6.	Library	There shall be a library in each school providing newspaper magazines and books on all subjects, including story-hooks
7.	Play material, games and sports equipment	Shall be provided to each class as required.

T.K. VISWANATHAN.

Secretary of the Govt. of India

Education Officer/President/ Manager/Secretary/Chairman of Trust/Society,

Name.....

Principal

Name.....

Notes:

1. Every application must be accompanied with the prescribed fee for each additional subject proposed to be introduced. The amount be remitted through crossed demand draft payable to the Secretary, Central Board of Secondary Education, New Delhi or in cash. The details of fees are as under.

i)	Independent Schools within the country,	₹ 1000/-
ii)	Govt./aided/KVS/JNV'S	₹ 700/-
iii)	Overseas independent Schools	₹ 2000/-
2. Application for introduction of additional subject(s) should reach the Board's office not later than 30th June of the year preceding in which the subject is proposed to be introduced.

FOR BOARD'S PUBLICATIONS

Orders for text books and other publications brought out by the Board can be placed with any of the following offices:

1. Head Assistant (Publication Stores)
Central Board of Secondary Education
PS 1-2, Institutional Area, I.P. Extension
PatparGanj, Delhi - 110092
2. Regional Officer,
Central Board of Secondary Education
Rajgarh Road, Rajgarh Tinali,
Guwahati - 781003
3. Regional Officer,
Central Board of Secondary Education
Todarmal Marg,
Ajmer (Raj.)-305001
4. Regional Officer
Central Board of Secondary Education
35-B, Civil Station, MG Marg
Civil Lines, Allahabad - 211001
5. Regional Officer
Central Board of Secondary Education
Sector - 5
Panchkula - 134109
6. Regional Officer
Central Board of Secondary Education
Plot no.1630 A, 16th Main Road
Anna Nagar (West)
Chennai - 600040
7. Regional Officer
Central Board of Secondary Education
8th Floor, BSFC Building, Fraser Road,
Patna - 800001
8. Regional Officer
Central Board of Secondary Education
6th Floor, Alok Bharti Complex,
Shaheed Nagar, Bhubaneshwar - 751007

Mode of payment

- (i) Payments are accepted either through Bank Draft/Money Order drawn in favour of Secretary Central Board of Secondary Education, or in cash which may be sent to the CBSE offices, alongwith the order.
- (ii) Mailing charges are additional to the price indicated against each publication.
- (iii) Packing charges will be @ 3% extra.

Discount: For 10 copies or more of each publication discount @15% is admissible. No discount for less copies.





CENTRAL BOARD OF SECONDARY EDUCATION

Shiksha Kendra, 2, Community Centre, Preet Vihar, Delhi-110 092 India