ANNEXURE 'G'

SYLLABUS

SCIENCE

SUMMATIVE ASSESSMENT-II (2013-14)
Class-X

Second Term		**Marks : 90**
Units		**Marks**
I.	Chemical Substances -Nature and Behaviour	23
II.	World of Living	30
III.	Natural Phenomena	29
IV	Natural Resources	08
	Total	**90**

THE QUESTION PAPER WILL INCLUDE VALUE BASED QUESTION(S) OF 3-5 MARKS.

Theme : Materials (25 Periods)

Unit : Chemical Substances - Nature and Behaviour

Carbon compounds : Covalent bonding in carbon compounds. Versatile nature of carbon. Homologous series Nomenclature of carbon compounds containing functional groups (halogens, alcohol, ketones, aldehydes, alkanes and alkynes), difference between saturated hydrocarbons and unsaturated hydrocarbons. Chemical properties of carbon compounds (combustion, oxidation, addition and substitution reaction). Ethanol and Ethanoic acid (only properties and uses), soaps and detergents.

Periodic classification of elements : Need for classification, Modern periodic table, gradation in properties, valency, atomic number, metallic and non-metallic properties.

Theme : The World of The Living (30 Periods)

Unit : World of Living

Reproduction : Reproduction in animal and plants (asexual and sexual) reproductive health-need for and methods of family planning. safe sex vs HIV/AIDS. Child bearing and women's health.

Heridity and evolution : Heredity; Mendel's contribution- Laws for inheritance of traits: Sex determination: brief introduction; Basic concepts of evolution.

Theme : Natural Phenomena (23 Periods)

Unit : Reflection of light at curved surfaces, Images formed by spherical mirrors, centre of curvature, principal axis, principal focus, focal length, mirror formula (Derivation not required), magnification.

Refraction; laws of refraction, refractive index.

Refraction of light by spherical lens, Image formed by spherical lenses, Lens formula (Derivation not required), Magnification. Power of a lens; Functioning of a lens in human eye, defects of vision and their corrections, applications of spherical mirrors and lenses.

Refraction of light through a prism, dispersion of light, scattering of light, applications in daily life.

Theme : Natural Resources (12 Periods)

Unit : Conservation of natural resources

Management of natural resources. Conservation and judicious use of natural resources. Forest and wild life, coal and petroleum conservation. Examples of People's participation for conservation of natural resources.

The Regional environment : Big dams : advantages and limitations; alternatives if any. Water harvesting. Sustainability of natural resources.

Our environment : Eco-system, Environmental problems, Ozone depletion, waste production and their solutions. Biodegradable and non-biodegradable substances.

PRACTICALS

SECOND TERM

1. To study the following properties of acetic acid (ethanoic acid) :
   - i) odour
   - ii) solubility in water
   - iii) effect on litmus
   - iv) reaction with sodium bicarbonate
2. To study saponification reaction for preparation of soap.
3. To study the comparative cleaning capacity of a sample of soap in soft and hard water.
4. To determine the focal length of
   - i. Concave mirror
   - ii. Convex lens

   by obtaining the image of a distant object.
5. To trace the path of a ray of light passing through a rectangular glass slab for different angles of incidence. Measure the angle of incidence, angle of refraction, angle of emergence and interpret the result.
6. To study (a) binary fission in Amoeba and (b) budding in yeast with the help of prepared slides.
7. To trace the path of the rays of light through a glass prism.
8. To find the image distance for varying object distances in case of a convex lens and draw corresponding ray diagrams to show the nature of image formed.
9. To study homology and analogy with the help of preserved / available specimens of either animals or plants.
10. To identify the different parts of an embryo of a dicot seed (Pea, gram or red kidney bean).

RECOMMENDED BOOKS :

Science - Textbook for class X - NCERT Publication

Assessment of Practical Skills in Science - Class X - CBSE Publication

Laboratory Manual Science - Class X, NCERT Publication

Design of Question Paper
Science (086),
Summative Assessment-II
Class X – (2012-13)

Types of questions	Marks per question	Total no of questions	Total marks
MCQ	1	18	18
VSA	1	3	3
SA-I	2	4	8
SA-II	3	12	36
LA	5	5	25
Total		42	90

The question paper will include value based question(s) to the extent of 3-5 marks.

WEIGHTAGE

S. No.	Name of the unit	Weightage
1.	Chemical substances Nature and Behaviour	23
2.	World of Living	30
3.	Natural Phenomena	29
4.	Natural resources	8
TOTAL		90