(E) FOUNDATION OF INFORMATION TECHNOLOGY
(CODE No. 165)

General Instructions

1. The units specified for each term shall be assessed through Formative Assessments and Summative Assessments.

2. Each of the Summative Assessments, SA1 in the first term and SA2 in the second term will carry 30% weightage.

3. Formative Assessment is based on hands-on skills and projects. In each term, there will be two Formative Assessments (FA1, FA2 in first term and FA3, FA4 in the second term). Each Formative Assessment carries 10% weightage that sum up to 40% weightage (FA1+FA2+FA3+FA4) in the annual evaluation.

WEIGHTAGE DISTRIBUTION

TERM I   **3 Hours**   **90 Marks**

TERM I (50%)		TERM II (50%)			
FA1	FA2	SA1	FA3	FA4	SA2
10%	10%	30%	10%	10%	30%

COURSE STRUCTURE
CLASS IX

CLASS	TERM	DURATION	MARKS
IX	I	3 Hours	90

S.No	Description	Theory
1	Basics of Information Technology	20
2	Information Processing Tools	60
3	IT Applications	10
	Total	90

Note: Assessment of Practical Skills through MCQ will carry 18 marks, i.e., 20% weightage of the summative assessment.

TERM-I (THEORY)

Unit I: Basics of Information Technology

Convergence of technologies - Computer, Communication and Content Technologies.

Computer System: Characteristics of a computer, components of a computer system - CPU (CU & ALU), Memory, Storage Devices and I/O Devices

Memory - Primary (RAM & ROM) and Secondary Memory;

Units of Memory - Byte, Kilobyte, Megabyte, Gigabyte, Terabyte, I/O Devices - Keyboard, Mouse, Printer, Joystick, Scanner, Microphone, OCR, MICR, Light Pen, Barcode Reader, Digital Camera, Web Camera Speaker, Plotter;

Storage Devices - Hard Disk, CD ROM, DVD, Blu Ray, Pen/Flash Drive, Memory Stick;

Types of Software: System Software (Operating System), Application Software (General purpose application software - Word Processing, Spreadsheet, Presentation, Database Management; Specific purpose application software - Accounting Management, Reservation System, HR Management, Attendance System, Payroll System, Inventory Control System, Billing System) and Utility Software (Disk/Folder/Files Management, Virus Scanner/Cleaner, Encryption/Decryption Tools)

Unit II: Information Processing Tools

Operating System - Basic concepts of Operating System, 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), Real Time and Distributed; Commonly used operating systems: UNIX, LINUX, Windows, Solaris, BOSS (Bharat Operating System Solutions); Mobile OS - Android, Symbian.

Introduction to Windows: Basic components of a GUI Window: Desktop, Frame, Title Bar, Menu Bar, Status Bar, Scroll Bars (Horizontal and Vertical), Basic operations of left and right buttons of mouse, Creating Shortcut, Basic Tools: Text Editor, Painting Tool, Calculator, using Mouse and moving icons on the screen, Task Bar, Different types of menu and menu selection, running an application, setting system date and time; viewing files, concept of folders and directories, creating/moving/ renaming/deleting files and folders, opening and closing Windows, Minimise, Restore and Maximise forms of windows,

Office Tools

Word Processing Tool:

Introduction to a Word Processor. Creating and Saving a document. Editing and Formatting a Document: Text Style (**B**, I, U), Font Type, Size, changing color, alignment of text. Formatting paragraphs with line and/or paragraph spacing. Adding headers and footers, numbering pages, using grammar and spell check utilities, using subscript and superscript, inserting symbols, Print Preview, Printing a document. Inserting Pictures, Page Setting, Bullets and Numbering, Borders and Shading, Format Painter/Paintbrush, Find and Replace, Inserting Tables: inserting, deleting rows and columns, merging cells, splitting cells.

Unit III: IT Applications

Students are suggested to work on the following areas using Word Processing.

Domains:

Multi Lingual Documentation:

- Letter Writing - content, context, addressee

- Report Writing - content, presentation, context

- Greeting Card - design, context, recipient

- Poster Making - design, context, target group

<p style="text-align:center">TERM - I (PRACTICALS)</p>

(A)   HANDS ON EXPERIENCE

1.   Working on Operating System:

To test some of the following basic system operations on file / folder(s):

- Create

- Rename

- Copy / Cut / Paste

- Delete

- Commands related to Text Editor / Drawing Tool

2.   Word Processing*

A document is required to be created for testing the following areas:

o Editing and formatting text and paragraph

o Page and paragraph setup

o Inserting symbols and pictures

*Printouts of the document(s) should be attached with the answer sheet

(B)   IT APPLICATION REPORT FILE

Students are supposed to make an IT Application Report File containing real life assignments using Word Processing Tool on 4 topics (Report Making, Poster Making, Invitation Cards, Letter/Application writing)

(C)   VIVA VOCE

The questions can be asked from any portion of the syllabus covered during Term I of Class IX

TERM-II(Theory)

CLASS	TERM	DURATION	MARKS
IX	II	3 Hours	90

S.No	Description	Theory
1	Basics of Information Technology	10
2	Information Processing Tools	60
3	IT Applications	10
4	Societal impacts of IT	10
	Total	**90**

Note: Assessment of Practical Skills through MCQ will carry 18 marks, i.e., 20% weightage of the summative assessment.

Unit I: Basics of Information Technology

Communication Technology

Computer Networking - LAN, MAN, WAN, Internet, Interspace

Wired Networking Technology; examples Co-axial Cable, Ethernet Cable, Optical Fiber

Wireless Networking Technology examples Bluetooth, Infrared and WiFi

Content Technology

Data, Information and Multimedia (Picture/Image, Audio, Video, Animation)

Unit II: Information Processing Tools

Office Tools

Presentation Tool:

Introduction to Presentation Graphics, Understanding the concept of Slide Shows, Basic elements of a slide, Different types of Slide Layouts, Creating and saving a Presentation, Different views of a slide: Normal view, Slide Sorter view and Slide Show, Editing and Formatting a slide: Adding Titles, Subtitles, Text, Background, Watermark; Headers and Footers, Numbering Slides; Printing Slides Handouts, Inserting pictures from files, Animating pictures and Text with Sound Effects, Timing Text box, Pictures and Slides, Rehearse Timings, Ungrouping and Grouping Objects (like text, picture).

Spreadsheet Tool:

Introduction to Spreadsheets, Concept of Worksheets and Workbooks, Creating and Saving a worksheet. Working with a spreadsheet: entering numbers, text, date/time, series using AutoFill, Editing and formatting a worksheet including changing colour, size, font, alignment of text, Inserting or Deleting cells, rows and columns, Formula-Entering a formula in a cell, using operators(+,-,*,/) in formulae, Relative referencing, Absolute referencing and mixed referencing, Printing a worksheet. Use simple Statistical functions: SUM(), AVERAGE(), MAX(), MIN(), IF()(without compound statements); Inserting tables in worksheet, Embedding Charts of various types: Line, Pie, Scatter, Bar and Area in a worksheet.

Word Processing Tool:

Using auto-format, Mail Merge, track changes, Review comments, insertion of drawing tools, shapes and mathematical symbols.

Unit III: IT Applications

Students are suggested to work on the following areas using Word Processing, Presentation and Spreadsheet Tools.

Domains:

Documentation:

- Mail-Merge Formal/Informal letter

Presentation:

- School Presentation
- Environment (Save Energy) and Pollution (Global Warming)
- Product Advertisement
- Science & Social Science topic from the course
- Trends in Wireless Computing

Analysis Reporting:

- School/Class Result with student-wise and subject-wise marks
- Cricket Score Record
- Weather Forecasting Report

Unit IV: Societal Impacts of IT

Benefits of ICT in Education, Healthcare, Governance, Business, Design and Manufacturing Plagiarism, Privacy, Security and Integrity of Information; Intellectual Property Rights, Careers in IT

TERM-II (PRACTICALS)

(A) HANDS ON EXPERIENCE

1. Presentation

A presentation is required to be created with 4 slides for testing the following areas:

- Editing and formatting slides
- Inserting pictures and sounds
- Animating pictures and text with sound effects

2. Spreadsheet*

A spreadsheet is required to be created for testing the following areas:

- Formatting cells and data
- Functions & formulae (Relative, absolute and Mixed reference)
- Charts

*Printouts of the Handouts/Spreadsheet(s) should be attached with the answer sheet.

(B)   IT APPLICATION REPORT FILE

Students are supposed to make an IT Application Report File containing real life assignments/presentations using Presentation and Spreadsheet Tools

- 4 presentations

- 4 spreadsheets with charts

- 1 word processing document along with mail merge feature.

(C)   VIVA VOCE

The questions can be asked from any portion of the syllabus covered during Term II.

COURSE STRUCTURE CLASS - X

CLASS	TERM	DURATION	MARKS
X	I	3 Hours	90

S.no	Description	Theory
1	Basics of Information Technology	30
2	Information Processing Tools	50
3	IT Applications	10
	Total	**90**
Note: Assessment of Practical Skills through MCQ will carry 18 marks, i.e., 20% weightage of the summative assessment.		

TERM-I (THEORY)

Unit I: Basics of Information Technology

Internet: World Wide Web, Web servers, Web sites, Web Pages, Web Browsers, Blogs, Newsgroups, HTML, Web address, Email address, URL, HTTP;

Services available on Internet: Information Retrieval, Locating sites using search engines and finding people on the net, FTP, Downloading and Uploading files from or two remote site;

Web Services: Chat, email, Video Conferencing, e-Learning, e-Banking, e-Shopping, e-Reservation, e-Groups, Social Networking

Unit II: Information Processing Tools

Office Tools

Database Management Tool :

Basic Concepts and need for a database, Creating a database, Data Types : Text, Number, data, Time, Setting the Primary Key, Entering data into a database, Inserting and deleting Fields, Inserting and deleting Records, Field Size, Default Value, Creating Query using design view only single Tab.

Information Representation Methods

Hyper Text Markup Language

Introduction to Web Page Designing using HTML, Creating and saving an HTML document, accessing a web page using a web browser (Internet Explorer, Mozilla Firefox, Opera, Apple Safari, Netscape Navigator, Google Chrome);

Elements in HTML: Container and Empty elements, Designing web pages using the following elements:

HTML, HEAD, TITLE, BODY (Attributes: BACKGROUND, BGCOLOR, TEXT, LINK, ALINK, VLINK, LEFTMARGIN, TOPMARGIN), FONT(Attributes: COLOR, SIZE, FACE), BASEFONT(Attributes: COLOR, SIZE, FACE), CENTER, BR (Break), HR(Horizontal Rule, Attributes: SIZE, WIDTH, ALIGN, NOSHADE, COLOR), COMMENT, ! for comments, H1..H6 (Heading), P (Paragraph), B (Bold), I (Italics), U (Underline), UL & OL (Unordered List & Ordered List Attributes: TYPE, START), LI (List Item)

Unit III: IT Applications

Students are suggested to work on the following areas using Database Management Tool on topics implementing the tools covered in the course.

Domains:

Business Computing

- Personal Data Record File

- School/Class Result Record

- Employee Payroll

- Stock Inventory

- Vehicle Parking Record File

Webpage Design

- My Home Page

- My School

- My Family

TERM - I (PRACTICALS)

(A) HANDS ON EXPERIENCE

1. Business Computing Problem:*

A business-computing problem is required to be solved using Database Management Tool (Open Office) for testing the following aspects of database.

Creating and entering data into a database

- Setting the primary key

- Inserting meaningful data and organising

- Creating Query with the same design view of the table.

2.   Web Page Designing *

A Web Page designing for testing in the following:

- Adding a title to webpage

- Formatting Text

- Adding Ordered/Unordered Lists

- Writing Text in Paragraphs

The students are supposed to know the tools and style for designing domain specific web pages from real life applications and the topics mentioned in the syllabus.

* Printouts of the Table Content / Web Pages should be attached with the answer sheet

(B)   IT Application Report File

Students are supposed to make an IT Application Report File containing real life assignments using a Database Management Tool and HTML on topics from the domain:

Must have print outs of the following:

- 4 Database Solutions from Business Computing

- 4 HTML source code along with browser view

(C)   VIVA VOCE

Oral questions can be asked from any portion of the syllabus covered during Term I.

CLASS	TERM	DURATION	MARKS
X	II	3 Hours	90

S.no	Description	Theory
1	Information Processing Tools	60
2	IT Applications	10
3	Societal impacts of IT	20
	Total	90
Note: Assessment of Practical Skills through MCQ will carry 18 marks, i.e., 20% weightage of the summative assessment.		

Unit II: Information Processing Tools

Information Representation Methods

Hyper Text Markup Language

Insertion of images using the element IMG (Attributes: SRC, WIDTH, HEIGHT, ALT, ALIGN), Super Script SUP, Subscript SUB, Creating Table TABLE (BACKGROUND, BGCOLOR, WIDTH, CELLSPACING, CELLPADDING, BORDER), TR, TD, ROWSPAN, COLSPAN Internal and External Linking between Web Pages: Significance of linking, A - Anchor Element (Attributes: NAME, HREF, TITLE, ALT MAILTO)

XML

Introduction to XML, Difference between XML and HTML with respect to the following:

Data separation, data sharing, document structure, tags, nesting of elements, attributes, values.

XML Elements - Defining own tags in XML, root elements, child elements and their attributes;

Comments in XML, White space and new line in XML, well formed XML documents, validating XML documents, XML Parser, Viewing XML documents in a web browser.

Unit III: IT Applications

Students are suggested to work on the following areas using HTML on topics implementing the elements covered in the course.

Domains:

Website Designing

- Personal Blog with Name, Photo, Areas of Interest, School, State, Country

- School Website - Infrastructure, Facilities, Uniform, Motto, School Pictures, Extra-Curricular Activities, Subject and Language Options

- Travel and Tourism

- Statistics on Indian - State wise Area, Population, Literacy (Enrolment in Primary, Middle, Secondary, Senior Secondary), Gender Ratio,

- Environment (Save Energy) and Pollution (Global Warming)

Unit IV: Societal Impacts of IT

Virus, Worms, Trojans and Anti-Virus Software, Spyware, Malware, Spams, Data Backup and recovery tools and methods, Online Backups, Hacker and Cracker with regard to Computer Data and Applications, Social Networking Information security provisions in e-commerce, Benefits of ICT in Education, Healthcare, Governance, Virtual, School, emergence of Knowledge economy, Impact of ICT on Society: Knowledge based society, Infomania, Digital Unity and Digital Divide.

TERM - II (PRACTICALS)

(A) HANDS ON EXPERIENCE

1. Web Page Designing *

Web Page designing for testing in the following:

- Adding a title to webpage
- Formatting Text
- Inserting Image
- Adding Ordered/Unordered Lists
- Writing Text in Paragraphs
- Adding content in Tabular Form
- Adding Internal / External links.

Adding Internal/External links.

The students are supposed to know the tools and style for designing domain specific web pages from real life applications and the topics mentioned in the syllabus.

2. XML Assignment *

Students to be asked to create an XML document on the lines of XML concepts covered in theory syllabus.

> * Printouts of the document(s) should be attached with the answer sheet

(B) IT Application Report File

Students are supposed to make a IT Application Report File containing real life assignments on HTML and XML on Domains mentioned in UNIT III

- 4 HTML source code along with browser view
- 2 XML Documents Source Code and View.

(C) VIVA VOCE

The questions can be asked from any portion of the syllabus covered during Term II.