(E) FOUNDATION OF INFORMATION TECHNOLOGY (FIT)
(CODE No. 165) (Session 2017-18)

Learning Outcomes:

- Understanding organization of a computer system and networking.
- Basic understanding of database design.
- Ability to work on office tools such as word processor, spreadsheet and presentation.
- Ability to apply knowledge and practice on office tools to develop IT applications.
- Ability to use Indian languages in developing an IT application.
- Ability to design HTML webpage.
- Appreciation/awareness of societal impacts of information technology in business. Public services, education, health etc.
- Awareness of basic information security issues.

Job Opportunities:

- Upon completion of this optional course on FIT at secondary level, one will be able to assist in IT-enabled office work.

CLASS - IX

Theory: 40 Marks Practical: 60 Marks

Unit	Description	Marks	
		Theory	Practical
Unit I	Basics of Information Technology	10	-
Unit II	Information Processing Tools	25	30
Unit III	Societal Impacts of IT	05	-
Unit IV	IT Applications	-	30
	Total	40	60

CLASS - X

Theory: 40 Marks | Practical: 60 Marks

Unit	Description	Marks	
		Theory	Practical
Unit I	Basics of Information Technology	10	-
Unit II	Information Processing Tools	25	30
Unit III	Societal Impacts of IT	05	-
Unit IV	IT Applications	-	30
	Total	40	60

CLASS - X (THEORY)

Time : 2½ hours | Marks : 40

Unit I: Basics of Information Technology

Internet: World Wide Web, Web servers, Web Clients, Web sites, Web Pages, Web Browsers, Blogs, News groups, HTML, Web address, E-mail address, URL, HTTP, FTP, downloading and uploading files from remote site;

Services available on Internet: Information Retrieval, Locating sites using search engines and finding people on the net;

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

Unit II: Information Processing Tools

Office Tools

Database Management Tool: Basic Concepts and need for a database, Creating a database, DataTypes-Text, Number, Date, 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.

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 (Google Chrome, Internet Explorer, Mozilla Firefox, Opera, Apple Safari, Net scape Navigator);

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) inserting comments, H1..H6 (Heading), P (Paragraph), B (Bold), I (Italics), U (Underline), UL & OL (Unordered List & Ordered List Attributes: TYPE, START), LI (List Item)

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

XML (Extensible Markup Language)

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: Societal Impacts of IT

Information Security: 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.

Unit IV: IT Applications

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

Domains:

Database Design:

- 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
- 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 India - State wise Area, Population, Literacy (Enrolment in Primary, Middle, Secondary, Senior Secondary), Gender Ratio
- Environment (Save Energy) and Pollution (Global Warming)

CLASS - X (Practical)

Time : 4 hours **Marks : 60**

(A) HANDS ON EXPERIENCE **30 Marks**

1. Database Design:*

- 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. Webpage Designing *

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

3. 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 APPLICATIONS REPORT FILE **15 Marks**

Students are supposed to make an IT Application Report File containing real life assignments using a Database Management Tool and HTML

- 5 Database Solutions
- 8 HTML source code along with browser view
- 2 XML Documents Source Code and View

(C) IT Application project using database and website design in a domain such as School Management, Public Services Computing, Business Computing. 10 Marks

(D) VIVA VOCE **05 Marks**

Viva based on IT applications report file.

(F) INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)
(Code No. 166) (Session 2017-18)

Learning Outcomes:

1. Ability to develop a basic know how of one's computer system.
2. Ability to use Internet and its services.
3. Ability to efficiently work on Image editing tools.
4. Ability to design a website using HTML.
5. Ability to design Online forms using HTML.
6. Ability to apply style sheets using CSS.
7. Ability to recognize security threats and take preventive measures.

COURSE STRUCTURE
Class - IX

Theory: 40 Marks **Practical: 60 Marks**

Unit	Name of Unit	Marks	
		Theory	Practical
Unit I	Basics of Internet	5	-
Unit II	Web services	5	-
Unit III	Introduction to GIMP	10	30
Unit IV	Introduction to HTML	15	30
Unit V	Security Threats and Security Measures	5	-
	Total	40	60

Class-IX
Theory Paper

Time : 2½ hours **Marks : 40**

Unit I: Basics of Internet **Marks: 5**

World Wide Web - History of World Wide Web, difference between Internet and www, search engines.

Web Servers: What is a server; Server software, Services provided by servers and their types.

Website: Definition and its difference from portal, Components of website, Construction of website, how to build a website? elements of website, software used to create website.

- Statistics on India - State wise Area, Population, Literacy (Enrolment in Primary, Middle, Secondary, Senior Secondary), Gender Ratio
- Environment (Save Energy) and Pollution (Global Warming)

Note: Activities mentioned above are only suggestive. Teachers should encourage children to innovate.

COURSE STRUCTURE
Class - X

Theory: 40 Marks **Practical: 60 Marks**

Unit	Name of Unit	Marks	
		Theory	Practical
Unit I	Computer Components and Interconnection	5	-
Unit II	Advance GIMP	10	20
Unit III	Advanced HTML	20	40
Unit IV	Network Security	5	-
	Total	40	60

Class-X
Theory Paper

Time : 2½ hours **Marks : 40**

Unit I: Computer Components and Interconnection **Marks: 5**

Computer System and its definition, Hardware, Basic components of a Computer System, Input Unit, Central processing Unit/CPU, Output unit and functions, Memory, types of memory, Primary Memory, RAM (Random Access Memory), ROM(Read Only Memory), SECONDARY MEMORY, Binary digit, concept of bit and bytes, Types of computers (Analog, Digital, Hybrid), characteristics of computers, types of software (System Software, Application Software, Utility Softwares, classification of Programming Languages Ports and Cables)

Unit II: Advance GIMP **Marks: 10**

Toolbox-Move tool, Alignment tool, Scale tool, Shear tool, Perspective tool, Flip tool, Blend tool, Blur/Sharpen tool, Smudge tool, Dodge / Burn tool Painting in GIMP-Pencil and paintbrush tool

Operations on Layers (Adding new layers, Renaming a Layer, Deleting a Layer, Merging a Layer, Scaling a layer, Duplicating a Layer)

Masking-Introduction and example, editing a mask

Unit III: Advanced HTML **Marks: 20**

Representing data in Tabular forms, Concept of Table

Attributes <table> ..</table> ,<TR>..</TR>, <TD>..</TD>TH, Attributes: Colspan, ROWSPAN

Properties: Align, width, Border, Color, Bgcolor, background, <CAPTION> tag

Working with frames, frame attributes (<frameset..>), Attributes of <frameset>; Rows, Cols, Border, Frameborder, Framespacing.

Frameset element and its attribute (Src, Scrolling, Noresize), target attribute in anchor tag.

Working with HTML Forms

Introduction and explanation of forms, Tags and attributes used in Form, <Form>..</Form> INPUT tag and its attributes (Name, Size, Maxlength, Type)

Fields displayed by type attribute, (Text Box Field, Radio Buttons, Check boxes, command Button, Drop down Box , TEXTAREA and SELECT)

DHTML & CSS

Introduction to DHTML, Features and uses of DHTML, Components of DHTML, Cascading style sheet, Advantages and Limitations of CSS,

Methods of applying CSS to an HTML document: In-line (the attribute style) and Internal (the tag style), External (link to style sheet), creating and saving cascading style sheets

Introduction and familiarization of Font: Font-Family, Style, Size, Variant, Weight; Text and Background properties; Colour properties - Text Indent, Align, Decorating, Spacing, Transform, Text alignment, decoration and transformation, Foreground and Background colour, Image and Repeat

Use of margin and margin properties, Concept of padding and Border ; Padding and Border Properties

Absolute and Relative Positioning

Unit IV: Network Security **Marks: 5**

Concepts: Cyber Law, Cyber Crime, Fire wall, Cookies, Hackers and Crackers

Open Source Software, Free ware, Shareware, Licensing scheme, Copywriting, GPL(General Public Licence), Licensed software, Copyright software, refrain from copyright violation and piracy etc.

Class X
PRACTICAL WORK

Duration : 4 hours **Marks : 60**

Design of a Practical Question Paper

Instructions on the basis of syllabus, distribution of marks and conduct of practical examination have been provided.

The examiner is advised to set the question paper according to the prescribed curriculum and distribution of marks.

(A)	**HANDS ON EXPERIENCE**		**30 marks**
	GIMP	10 marks	
	ADVANCED HTML	20 marks	

(B) IT Application Report File **15 Marks**

Students are supposed to make a IT Application Report File Containing Real life assignments/ presentations using GIMP and Advanced HTML.

- At least 5 Activities related to Advance GIMP
- At least 10 webpages covering the concepts covered such as Tables, Frames, Forms, DHTML and CSS.

(C) Project Work **10 Marks**

Developing a website on a topic integrating all the concepts covered using advance GIMP and advanced HTML.

(D) Viva Voice **5 Marks**

Suggested Activities

1. Find out and make a list of the types of memory available in the market and their storing capacity. Also find out, about the various utility and application software(s) used, and share this information through social networking sites. Create a document/ spreadsheet/form through Office Web Apps e.g. google docs/sky drive and share it with your friends.
2. Create a collage from the pictures of any recent event held in school.
3. Design a digital poster for any state of your choice in India depicting their tourist spots and thus promoting tourism.
4. Collect and import few pictures or images of important monuments (tourist spots). Add layers and place a picture in each layer. Merge layers and edit layers and use mask to selectively colour the images.
5. Create a website for a Computer Hardware firm. The firm deals in various output units and various types of memory. Collect information about various brands of printers, scanners, memory etc. available in market. Show the various product details in tabular form on each web page.
6. Create following online forms:
   a) Adhaar Card
   b) Railway Reservation form
7. Using HTML design a web site for your school.
8. Using HTML design a web site providing information about Open source, free ware, licensed software(s).
9. Collect information of Cyber Laws and create a web site.

Note: Activities mentioned above are only suggestive. Teachers should encourage children to innovate.