

(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 IX : (THEORY)

Time : 2½ hours

Marks : 40

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, 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)

Communication Technology:

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

Wired Networking Tools: Co-axial Cable, Ethernet Cable, Optical Fiber

Wireless Networking Tools: Bluetooth, Infrared and WiFi

Content Technology:

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

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.

Basic components of a GUI Window: Desktop, Title Bar, Menu Bar, Status Bar, Scroll Bars (Horizontal and Vertical); Frame; 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 Tools: 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.

Using auto-format, mail merge, track changes, review comments, usage of drawing tools, shapes and mathematical symbols.

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 Spreadsheet, Concept of Worksheet and Workbook, Creating and Saving a worksheet. Working with a spreadsheet: entering numbers, text, date/time, series using Auto Fill, 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); Embedding Charts of various types: Line, Pie, Scatter, Bar and Area in a worksheet; inserting tables in a worksheet.

Unit III: Societal Impacts of IT

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

Unit IV: IT Applications

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

Domains:

Multi Lingual Documentation:

- Letter Writing - content, context, addressee, Mail-Merge Formal/Informal letter
- Report Writing - content, presentation, context

- Greeting Card - design, context, recipient
- Poster Making - design, context, target group

Presentation:

- School Presentation
- Environment (Save Energy) and Pollution (Global Warming)
- Product Advertisement
- Science and 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

CLASS - IX (Practical)

Time: 4 hours

Marks : 60

(A) HANDS ON EXPERIENCE

30 Marks

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

- Editing and formatting text and paragraph
- Page and paragraph setup
- Inserting symbols and pictures

3. 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

4. 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 document(s) should be attached with the answer sheet.

(B) IT APPLICATION REPORT FILE

15 Marks

Students are supposed to make an IT Application Report File containing real life assignments using Word Processing, Presentation and Spreadsheet Tools on at least 15 topics from the domain mentioned in Unit IV:

- At least 5 documents of Word Processing tools along with mail merge feature
- At least 5 presentations of Presentation tools
- At least 5 spreadsheets with graphs

(C) IT APPLICATION PROJECT using word processing, spreadsheet and presentation tools **10 Marks**

(D) VIVA VOCE **05 Marks**

Viva based on IT applications report file.