

## Syllabus – Fundamentals of Computer

Sr. No.	Module/Unit Name
1	Computer Fundamentals & Operating System
2	Mastering Documentation, data management, digital presentation using office suite
3	Secure Web Access and communication
4	Cloud Storage and Online Collaboration

### 1. Computer Fundamentals & Operating System

- What is a Computer
- Characteristics of a Computer
- Basic Applications of Computer
- Advantages and Disadvantages of a Computer
- History of Computer
- Generation of Computer
- Classification of Computers
- Components of computer (Input unit, Arithmetic and logic unit, Control unit, Storage /Memory unit, Output unit)
- Computer Memory ( What is computer memory, Types of memory, Difference between Primary memory & Secondary memory)
- Concepts of Hardware and Software (Definition of Hardware and Software, Input devices, Secondary Storage devices, Output devices, Mother board, Power supply, System software, Application Software)
- Languages (Machine Language, Assembly Language, High Level Language)
- Concepts of data and information
- Number System (Base conversion, binary, decimal, hexadecimal, and octal systems, conversion from one system to the other)
- Binary Arithmetic( Addition, subtraction and multiplication)
- IECT (Information Electronics and Communication Technology) and its applications of IECT
  - E-governance
  - Multimedia and Entertainment
- Operating System and types of operating systems
- Functions of Operating System.
- GUI Operating Systems.
- Types of GUI Operating System (Window, Linux, Android, Apple IOS, MAC OS)

- Elements of GUI Operating System(Desktop, Windows, Title Bar, Task Bar, Start Menu/ Launcher, Icon, Button, Menu, Dialogue Box, Tab, Toolbar, Ribbon)
- How Graphical User Interface Works?
- Advantages and Disadvantages of GUI
- Difference between GUI and CUI Operating System
- Window Operating System
- Managing files and folders in Window Operating System
- Control Panel
- Connecting keyboard, mouse, monitor, printer and projector to CPU
- Basic Troubleshooting for common computer issues (power Supply), Handling issues related to printer (paper jam, printer isn't printing, paper size mismatch, Printer error etc.), Handling issues related to scanner (paper jam, poor image quality etc.)

## **2. Mastering Documentation, data management, digital presentation using office suite**

- **Introduction to Word Processing**
  - Opening Word Processing Package
  - Menu Bar
  - Creating, opening and saving document
  - Entering and editing text
  - paragraph creation
  - Moving text (Cut, Copy & Paste)
  - Undo, Redo, Using Shortcuts
  - Formatting Documents ( Setting font styles, size, color, Typeface (Bold, Italic, Underline), Font effects, Change case, Highlighting, paragraph indenting , Alignments, Line Spacing, Drop cap, Bullets & Numberings, Borders & shadings, Header & Footer, Footnote & Endnote, Inserting Page break, Page numbering, Date & Time, Line Break, Word Wrap, Creating Cover page, Page Border, Table of Contents, Using Page Themes & Color, Inserting Watermarks)
  - Working with Tables (Creating tables, Table Styles, Borders & Shadings, Cell Alignment, Inserting & Deleting rows or columns, Merging, Splitting, Sorting, Using formula. Converting table into graphs)
  - Inserting Objects- Inserting Pictures, Formatting & editing pictures, picture styles, Picture borders, effects & layouts, Positioning, grouping & ordering, rotating and cropping, Adding and Editing Textbox, Shapes & SmartArt, Inserting Various types of charts, Charts layout and formatting.
  - Page Layout & Printing- Page Orientation, Setting page margins, Page size, Columns, Page Setup & Printing.
  - Features & Tools- Find and Replace, Auto Correct, Bookmarks, Hyperlinks, Spell Check, Thesaurus, Mail Merge.
  - Converting document into pdf
- **Typing Skills**

- Keyboard basics
- Correct way of typing
- Alphabet Placement and Positioning
- Typing with Various keys
- Speed typing
- Using shortcut keys.
- **Introduction to Spreadsheet**
  - Opening, creating and saving Spreadsheet.
  - Entering & editing data, Selecting Range
  - Cell Addressing
  - Creating text, number and date series.
  - Inserting, Deleting or Hiding a Row & Column.
  - Changing Cell Height & Width.
  - Formulas & Functions
  - Cell Referencing (Absolute, Relative & Mixed)
  - HLookup & VLookup.
  - Conditional Formatting.
  - Data Sorting & Filtering, Creating Data List, Data Validation
  - Consolidation, What-if Analysis.
  - Creating Charts and Graphs- Adding different types of Charts, Charts layout and formatting.
  - Find & Replace, Spell Check, Thesaurus
  - Page Setup & Printing.
- **Introduction to Digital Presentation**
  - Creating a Presentation using Template
  - Creating a Blank Presentation
  - Opening and saving a Presentation
  - Entering and Editing Text
  - Inserting and Deleting Slides in a Presentation
  - Applying Themes & Background
  - Adding Pictures, Textbox, Tables, Charts, Shapes, Word Tables or Excel Worksheets
  - Adding Text to Shapes, Group/Ungroup Objects
  - Adding Header & Footer, Using Slide Master.
  - Setting Animation & Transition effects, Adding Audio & Video.
  - Running a slide show
  - Save as PDF, Image or Video file, PowerPoint Views, Printing handouts and slides.

### **3. Secure Web Access and communication**

- **Concept of Internet**
  - What is Network
  - Types of networks
  - Concept of Client and Server
  - Network Topologies
  - Network communication media

- Concept of Internet and its applications
- Advantages and disadvantages of internet
- Internet protocol
- Domain Name System
- IP Address, URL, Internet Connectivity
- Using WiFi & Bluetooth on digital devices
- WWW and Web browsers
- Popular Search Engines
- Navigating through web
- Uploading & Downloading
- Services on web
- Using Online Services (Banking, Using e- governance websites, Shopping, Streaming, social networking sites))
- **Introduction to E-mail**
  - History of Email
  - E-mail addressing
  - Creating new email account
  - Composing & sending email without and with attachments
  - Email Drafts and Scheduled sending
  - Replying & forwarding, Sorting & searching email,
  - Sending email to multiple users, CC and BCC
  - Email protocol, Signatures (appended to the end of outgoing messages)
- **Basic Internet Security Concepts**
  - Need of Security over internet
  - Security threats, viruses and malwares, e-mail spam
  - Security and privacy issues related to online shopping and social networking sites
  - Safety measures- choosing strong password, Antivirus, Firewalls, safe browsing

#### **4. Cloud Storage and Online Collaboration**

- What is cloud and cloud storage
- Types of cloud storage (Public, private, hybrid and community cloud)
- Cloud Storage Service Providers(Google Drive, OneDrive, Dropbox)
- Benefits of online storage over local storage and portable storage
- Creating and Managing Files on the Cloud
- Sharing and Collaborating on Documents
- Syncing Files Across Devices
- Introduction to Online Collaboration Tools (Google Workspace, Microsoft Office 365)