

1.5 BASICS OF INFORMATION TECHNOLOGY

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RATIONALE

Information technology has great influence on all aspects of our life. Primary purpose of using computer is to make the life easier. Almost all work places and living environment are being computerized. The subject introduces the fundamentals of computer system for using various hardware and software components. In order to prepare diploma holders to work in these environments, it is essential that they are exposed to various aspects of information technology such as understanding the concept of information technology and its scope; operating a computer; use of various tools of MS Office/Open Office and internet form the broad competency profile of diploma holders. This exposure will enable the students to enter their professions with confidence, live in a harmonious way and contribute to the productivity.

Note:

Explanation of Introductory part should be dovetailed with practical work. Following topics may be explained in the laboratory along with the practical exercises. There will not be any theory examination.

TOPICS TO BE EXPLAINED THROUGH DEMONSTRATION

1. Information Technology – its concept and scope, applications of IT, ethics and future with information technology
2. Impact of computer and IT in society.-- Computer application in office, book publishing, data analysis, accounting, investment, inventory control, graphics, air and railway ticket reservation, robotics, military, banks, Insurance financial transactions and many more
3. Generations of computer, block diagram of a computer, CPU, memory, data – numeric data, alpha numeric data, processing of data.
4. Computers for information storage, information seeking, information processing and information transmission, computer organization, computer hardware and software; primary and secondary memory: RAM, ROM, PROM etc. Input devices; keyboard, mouse, scanner, etc ; output devices ; VDU and Printer(Impact and non-Impact printers), Plotter etc. Primary and Secondary Storage (Auxiliary Storage), Secondary storage; magnetic disks – tracks and sectors, optical disk (CD, CD-RW and DVD Memory)

5. Introduction to Operating Systems such as MS-DOS and Windows, difference between DOS and Windows
6. Basics of Networking – LAN, MAN, WAN

LIST OF PRACTICALS

1. Identify and list functions of various components and peripherals of given computer.
2. Installation of operating system viz. * Windows XP, *Windows 2007 etc.
3. Installing a computer system by giving connection and loading the system software and application software and various sources to install software
4. Exercises on entering text and data (Typing Practice)
5. Features of Windows as an operating system:
 - a) Start , shutdown and restore
 - b) Creating and operating on the icons
 - c) Opening, closing and resizing the windows
 - d) Using elementary job commands like – creating, saving, modifying, renaming, finding and deleting a file , creating and operating on a folder
 - e) Introduction to all properties such as changing settings like, date, time, calculator, colour (back ground and fore ground)
 - f) Using short cuts
6. Word Processing (MS Office/Open Office)
 - a) File Management:

Opening, creating and saving a document, locating files, copying contents in some different file(s)
 - b) Editing a document:
 - Entering text, cut, copy, paste using toolbars
 - Use of spell check
 - PDF file and its conversion in different file formats (MS Word/Excel etc.)
 - Scanning, editing and printing of a document
 - c) Formatting a document:
 - Using different fonts, changing font size and colour, changing the appearance through bold/ italic/ underlined, highlighting a text, changing case, using subscript and superscript, using different underline methods

- Aligning of text in a document, justification of document ,Inserting bullets and numbering
- Formatting paragraph, inserting page breaks and column breaks, line spacing
- Use of headers, footers, inserting footnote, end note, use of comments
- Inserting date, time, special symbols, importing graphic images, drawing tools

d) Tables and Borders:

- Creating a table, formatting cells, use of different border styles, shading in tables, merging of cells, partition of cells, inserting and deleting a row in a table
- How to change docx file to doc file
- Print preview, zoom, page set up, printing options
- Using Find, Replace options

7. Spread Sheet Processing (MS Office/Open Office)

a) Starting Excel

open worksheet, enter, edit data, formulae to calculate values, format data, create chart, printing chart, save worksheet, switching between different spread sheets

b) Menu commands:

Create, format charts, organize, manage data, solving problem by analyzing data, creating graphs

c) Work books:

- Managing workbooks (create, open, close, save, rename), working in work books
- Editing a worksheet: copying, moving cells, pasting, inserting, deleting cells, rows, columns, find and replace text, numbers of cells, formatting worksheet

d) Creating a chart:

- Working with chart types, changing data in chart, formatting a chart, use chart to analyze data
- Using a list to organize data, sorting and filtering data in list

e) Formulas:

Addition, subtraction, division, multiplication, percentage and auto sum

8. Power Point Presentation (MS Office/Open Office)

a) Introduction to PowerPoint

- How to start PowerPoint
- Working environment: concept of toolbars, slide layout, templates etc.
- Opening a new/existing presentation
- Different views for viewing slides in a presentation: normal, slide sorter etc.

b) Addition, deletion and saving of slides

c) Insertion of multimedia elements

- Adding text boxes, importing pictures, tables and charts etc.

d) Formatting slides

- Text formatting, changing slide layout, changing slide colour scheme
- Changing background, Applying design template

e) How to view the slide show?

- Viewing the presentation using slide navigator, Slide transition
- Animation effects etc.

9. Antivirus

a) What is virus and its types

b) Problems due to virus

c) Installation and updation of antivirus (anyone out of Kaspersky, McAfee, Norton, Quickheal etc).

d) How to scan and remove the virus

10. Internet and its Applications

a) Log-in to internet, introduction to search engine

Browsing and down loading of information from internet

b) Creating e-Mail Account

- Log in to e-mail account and Log out from e-mail account

- c) Managing e-Mail
 - Creating a message
 - Sending, receiving and forwarding a message
 - Attaching a file
 - Deleting a message

INSTRUCTIONAL STRATEGY

Since this subject is practical oriented, the teacher should demonstrate the capabilities of computers to students while doing practical exercises. The students should be made familiar with computer parts, peripherals etc. and proficient in making use of MS Office/Open Office in addition to working on internet. The student should be made capable of working on computers independently. This subject should be taught with the help of LCD projector, (while teaching a group) using PowerPoint presentation slides.

RECOMMENDED BOOKS

1. Fundamentals of Computer by E Balagurusamy, Tata McGraw Hill Education Pvt. Ltd, New Delhi
2. Fundamentals of Computer by V Rajaraman; Prentice Hall of India Pvt. Ltd., New Delhi
3. Fundamentals of Computer by Sumita Arora by Dhanpat Rai and Co , New Delhi
4. Computers Today by SK Basandara, Galgotia Publication Pvt Ltd. Daryaganj, New Delhi.
5. Internet for Every One by Alexis Leon and Mathews Leon; Vikas Publishing House Pvt. Ltd., Jungpura, New Delhi
6. A First Course in Computer by Sanjay Saxena; Vikas Publishing House Pvt. Ltd., Jungpura, New Delhi
7. Computer Fundamentals by PK Sinha; BPB Publication, New Delhi
8. Fundamentals of Information Technology by Leon and Leon; Vikas Publishing House Pvt. Ltd., Jungpura, New Delhi
9. Information Technology for Management by Henery Lucas; Tata McGraw Hill Education Pvt Ltd , New Delhi
10. MS Office by BPB Publications, New Delhi