

COMPUTER BASICS

1.1 Introduction:-

Computer is an electronic data processing machine that accepts user supplied data and instructions; stores and executes them and outputs the result in the desired format.

This machine consists of Hardware component and Software component. The major hardware components of a computer are the Central Processing Unit (CPU), Memory, Input devices and the Output devices.

Software is the set of instructions required to make the hardware work.

Computer follow I-P-O cycle (Input - Processing _ Output cycle) i.e. data is input and then processed. Result is output. Processing of the data is done by the CPU also called microprocessor of the computer. The processor's speed i.e. number of electrical pulses employed per seconds is indicated in Megahertz (MHz) or now a day in Gigahertz. The latest PC in the market has a speed more than 2.5 GHz.

Various commonly used input devices are Keyboard, Mouse, Scanner etc. and output devices are Monitors, Printers, Speakers and Plotters etc.

Memory of the computer consists of two types; namely primary memory and secondary memory.

Primary memory consists of RAM (Random Accessible Memory) and ROM (Read Only Memory).

Processing of various instructions, data and the display of results take place in RAM. The distinct feature of this kind of memory is that it is volatile; i.e. the contents of the memory are lost when power is switched off. It is used to temporarily hold the data, instructions, information or to carry out the commands, processes. The various important software today requires sufficient RAM in computer in order that they can function properly. The latest PC in the market today have more than 1GB RAM.

To store the data permanently i.e. for later retrieval, the media used is called Secondary storage media or Secondary memory. The commonly used Secondary storage media are floppy disk drive, Hard disk drive and Compact disk drives (CD drives).

Storage capacity of the Floppy disk (3.5 inch) 1.44 MB. Today, Hard disks are available in more than 100 GB capacity. Where's, CD are available in more than 750 MB storage capacity. Compact disks (CD) become immensely important

because these are light and portable and have large storage capacity. These are abundantly used in taking routine back up of the important data, storing modern day software's etc.

An operating system is a program that acts as an interface between user and the computer. It manages the resources and overall operations of a computer.

1.2 How to start the system:-

A Computer system (unit) usually consists of a machine (computer), Monitor (display unit), Keyboard, Mouse and UPS for constant, uninterrupted power supply and a Printer. To start the system, first switch on the power supply to UPS and from UPS onward. Then switch on the machine (computer) and monitor/printer and wait a little, enter password through keyboard if prompted, and the normal desktop (screen) appears. Now the system is ready.

1.3 windows Operating System:-

Windows operating system is a Graphical User Interface based operating system and is user friendly i.e. very simple in use. No command is necessary to remember.

Under windows operating system, the screen (desktop) contains a few important items such as **My Computer**, **Network Neighbourhood**, **Internet Explorer**, and **Recycle Bin** on it. Also, by default, the **taskbar** with the **Start button** on its left and a clock on its right appears at the bottom of the screen.

My Computer tells what is on the computer, i.e. various drivers (floppy, hard disk, CD etc.) and other controls.

Network Neighbourhood is used to connect to other computers/resources (printer, scanner etc.) in the network.

Internet Explorer is a program, which helps the user to browse the web pages on the Internet.

Recycle Bin is a waste basket that holds deleted files and gives the facility to retrieve them if needed.

Start button serves as a launching pad to open programs, documents etc. The list of important choices under it and their uses in brief are as under.

Programs:- contains list of various programs installed in the system, for example Ms word (used for letter drafting, tabulation, documentation etc.), Ms Excel (used for designing, estimating, drawing, graphs, accounting and other calculations etc.), Power Point (used for presentation etc.), Windows explore

(used for browsing and managing files and folders on the local drive or network) etc.

Documents:- lists of all previously opened documents/files.

Find: - utility that helps to trace files, folders or computers within the network.

Helps: - Windows help with options.

Run: - utility to start a program or open a folder.

Shut Down: - To shut down (to close the system) and restart computer.

Now for example, suppose some design calculations are to be done. For this, Ms Excel program can be used. To open the Ms Excel program, using mouse click the start button and point to the 'programs' option. There in 'programs' submenu, click on Ms Excel to start it.

Similarly, for letter drafting, follow the above procedure to start the program Ms Word.

The programme shall open a working sheet for design calculation/letter drafting and the work can be done using the facilities/functions/commands available in the program. Work can be saved using save option under File Menu. Computer asks the file name when work is saved. To exit/quit a program, either click the X button on top right corner of the window or click the file menu and then click exit.

Files and Folders:-

A file is the basic unit of storage. It represents a document or a program. The icons (symbol) that represent it depend on the type of the file. Also, the file name has an extension, which represents its type. For example, Ms Word file has extension .doc, Ms excel file has extension .xls, etc.

Folders contain files and other folders.

Folder/File Management:-

Different kinds of Works should be arranged systematically in separate folders. Folders can be made directly on Drivers (ex. C,D etc.) or in other folders. For this, Go to windows explorer through the path:- Start / Programs / windows explorer and use option - New / Folder in File menu of the windows explorer.

The Files/Folders can be copied, renamed, deleted very easily. For this, go to windows explorer through path - Start / Programs / windows explorer and select the file/folder to be copied and then click copy in the edit menu. Now go

to the destination folder and click paste in the edit menu. This will make a copy of source file/folder in the destination folder.

Similarly, files/folders can be moved from a place/folder using cut/paste option in edit menu. Similarly, renaming of files/folders can be done using rename option in edit menu. Similarly useless files/folders can be deleted using Delete option in edit menu.

The above mentioned options for copy/paste/delete/rename etc. are also available in the mouse menu and can be accessed by selecting the desired files/folders and then pressing right button of the mouse. The various options (ex. Copy/delete/rename etc.) shall pop up on the screen and desired option among them can be chosen.

Using Internet:-

Double clicking upon Internet Explorer icon on the desktop shall connect you to World Wide Web. To open a particular web site, type the address of the web site at the address row and press Enter key on the keyboard. It shall open the desired web site. There in, clicking upon the links shall open the different web pages of the web site. Use back/forward option at the top left of the screen to go to the previous or next page respectively. Web page can be saved/printed using 'save as/print' option available in the File menu.

Web Site of the Water Resources Department:-

The address of the web site of the Water resources department, Government of Rajasthan is www.rajasthan.gov.in and can be opened as described above in section 'Using Internet'

The web site contains variety of useful information regarding various important aspects, topics related to the Water Resources Department like important Water resources and irrigation projects in Rajasthan, Draft for rehabilitation & resettlement of the displaced people due to water resources project, water resources planning & policy, Rainfall data, Irrigation safety manual, Drainage act, List of Departmental circulars/Standing orders etc.

These information are available in the menu form or as a link at the web site and can be opened/accessed by simply clicking at the desired item in the related menu or at the link.

The NIT information of Water Resources Department is also linked to the web site and any detail regarding this can be readily obtained at the Mouse click. The list of various projects/works taken under RWSRP is also linked to the web site.

List of important Telephone numbers and e mail ID of the Water Resources Department personnel and links to the web sites of other department of Government of Rajasthan is also available at the site.

General Precautions in Computer Usage:-

1. Avoid connecting computer system directly to power supply as any sharp fluctuation in the voltage may cause damage to it. Always connect the system to power supply through UPS/CVT.
2. Always do the connecting / disconnecting of the peripherals (printer/monitor etc.) to the machine (computer) in switched off condition and never in on condition.
3. Always, first shut down the window using shut down option under start button and then switch off the system.
4. To use an existing document/file/format for a new work, always first save it in a new name using 'save as' option and then work upon it so that original file remain unaltered.
5. Keeps the system always safe and guarded against viruses using standard antivirus programs. Keep the auto protects enabled. To ensure safety of the system, while inserting any floppy/CD in the system, prefer to scan it first with antivirus program.
6. While working upon a document/file, take care that you save your work suitably, time to time and at the end of your session so as to avoid any unnecessary loss of the work due to power failure/system failure etc.