

VIDYA GURU

COMPUTER AWARENESS

BASICS OF COMPUTERS
GENERATION OF COMPUTERS
CPU & ITS PARTS
SHORT NOTES
MCQ Questions



COMPUTER

BASICS:

A computer is an electronic device that executes the instructions in a program. (or simply performs Mathematical Calculations.)

A computer has four main functions:

- It accepts data (*Taking Input*).
- Then it processes the input data.
- Produces output.
- Stores Results.

History of Computers: Generations

First Generation (1940-1956) *Vacuum Tubes*.

Second Generation (1956-1963) *Transistors*.

Third Generation (1964-1971) *Integrated Circuits*.

Fourth Generation (1971-Present) *Microprocessors*.

Fifth Generation (Present and Beyond) *Artificial Intelligence*. Fifth generation computing devices, based on artificial intelligence, are still in development, though there are some applications, such as voice recognition, that are being used today. The use of parallel processing and superconductors is helping to make artificial intelligence a reality. Quantum computation and molecular and nanotechnology will radically change the face of computers in years to come.

Inside the CPU of a Computer.

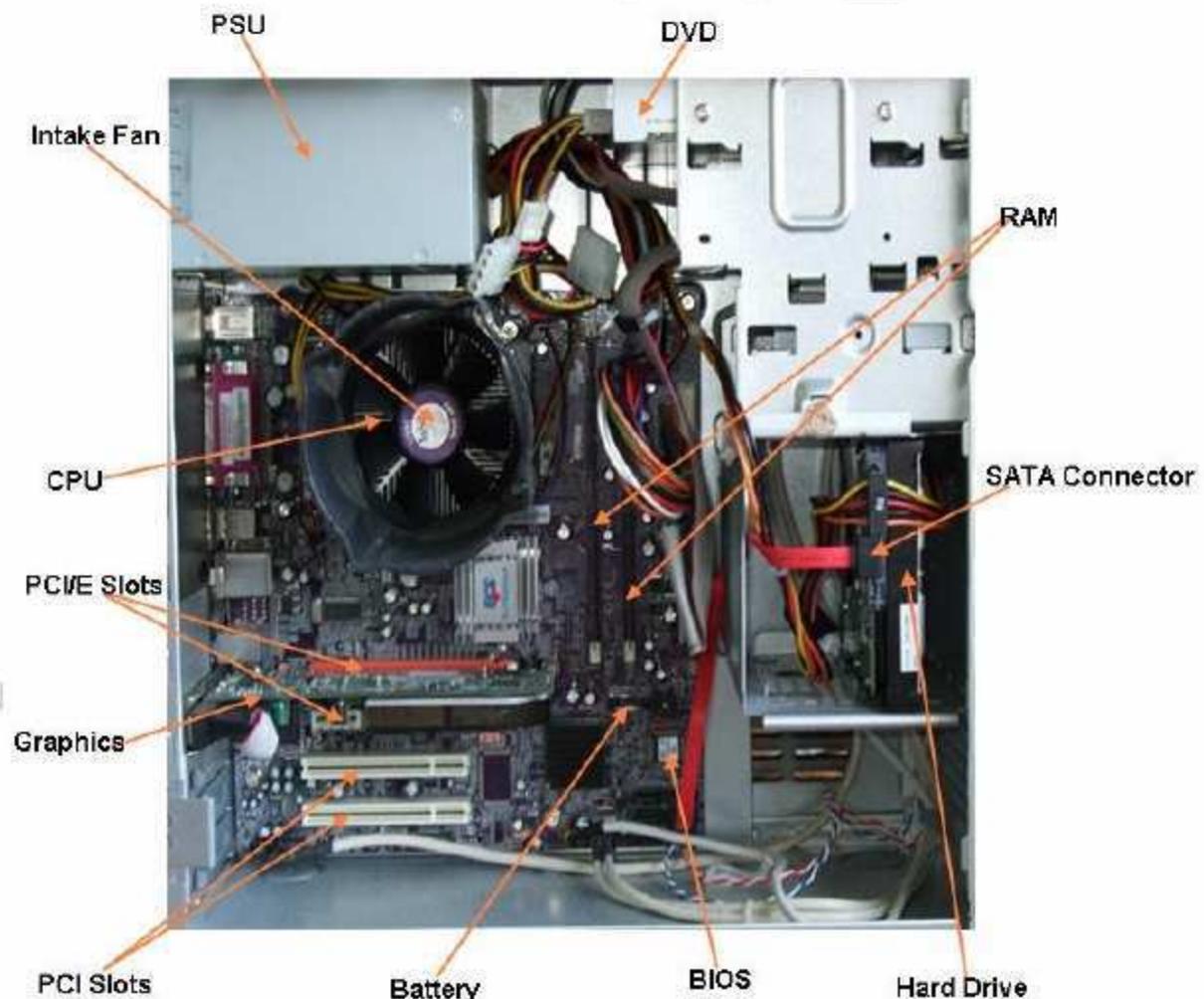


Figure below shows the complete Computer Unit:



Input and Output device and Storage devices of a Computer:

Input	Output	Storage
Keyboard	Monitor	Floppy Disk
Mouse	Printers (all types)	Diskette
Trackballs	Audio Card	Hard Disk
Touchpads	Plotters	Disk Cartridge
Pointing Sticks	LCD Projection Panels	CD-ROM
Joysticks	Computer Output Microfilm (COM)	Optical Disk
Pen Input	Facsimile (FAX)	Magnetic Tape
Touch Screen	Speaker(s)	Cartridge Tape
Light Pen	.	Reel Tape
Digitizer	.	PC Card
Graphics Tablet	.	*RAID
Scanner	.	*Memory Button
Microphone	.	*Smart Card
Electronic Whiteboard	.	*Optical Memory Card
Video Cards	.	.
Audio Cards	.	.

RAID - Redundant Array of Inexpensive Disks

Memory Button - Small storage devices about the size of a dime that look like watch batteries. They hold about 8 Kbytes of information.

Smart Card - About the same size as a credit card and contain a small microprocessor capable of storing data. They hold about 1 to 8 Kbytes of information.

Optical Memory Cards - About the same size as a credit card that can store up to 4.1 Mbytes of digitized text or images using a laser beam.

Computer Hardware

- Hard Drive
- Motherboard
- Sound Card and Video Card
- Memory Card
- Power Supply
- NIC Card
- BIOS

Hard Disk Drive

The Hard Disk Drive is a magnetic storage device. All the computer programs and files you create and save are located there. This is permanent storage (at least until you uninstall software or delete a file). The hard drive is normally signified by the drive letter "C". Today's hard drives can store a HUGE amount of information. A new computer might have a hard drive that will hold 320 GB's.



Motherboard

Your computer couldn't work without the **motherboard**. It ties everything together. It allows every part of your computer to receive power and communicate with each other. Everything that runs the computer or enhances its performance is either part of the **motherboard** or plugs into one of its expansion slots or ports.

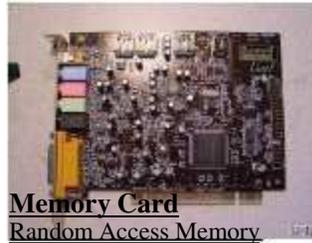


Components of Mother Board are:

- Microprocessor
- System clock
- RAM/ROM chips
- Bus connection
- Ports
- Battery
- Power supply (SMPS)
- Expansion slots etc.

Sound and Video Cards

They are Output Devices. They contain special circuits that allow your computer to play sounds and display graphics on your monitor.



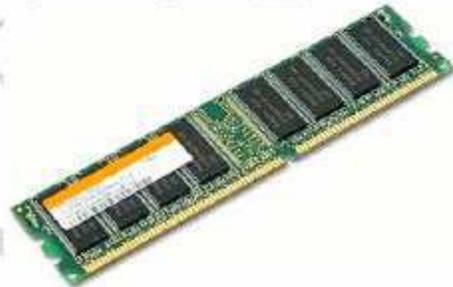
Memory Card Random Access Memory

Memory Card:

When a computer processes information, it uses software programs. Each program requires a certain amount of electronic memory, or RAM (Random Access Memory) to run correctly.

RAM is **temporary memory**. The computer holds information in this memory and gets it when it needs it.

If a computer has more RAM, it can solve problems and process information faster. If you're updating your computer, more RAM is a great thing to add.



Note: RAM is Available In 128MB, 256MB, 512MB, 1GB, and 2GB.

Read-Only Memory

A second kind of computer memory is ROM, which stands for Read-Only Memory. This memory is **permanent**. The information there was put there when the computer was made. The computer needs the information in its ROM memory in order to function.

Remember one thing RAM is VOLATILE memory and ROM is NON-VOLATILE memory.

Power Supply

If there is any one component that is absolutely vital to the operation of a computer, it is the power supply. Without it, a computer is just a box full of plastic and metal. The

power supply converts the alternating current (AC) line from your home to the direct current (DC) needed by the computer.

You can see the power supply from the back of your computer because of the power cord and the cooling fan. Computers put out a lot of heat and need the fan to keep them from overheating



Network Interface Card

A NIC card (Network Interface Card) allows your computer to talk to other computers. A cable called Cat5 is plugged into the NIC card and your computer can then be attached to a network and be on the internet.

Note: Another name of LAN is NIC.



BIOS CHIP

A BIOS chip (Basic Input Output System) is a very important computer component. In simple terms, the BIOS chip wakes up the computer when you turn it on and reminds it what parts it has and what they do.



SHORT NOTES

1. Operating system

An **Operating System (OS)** is a set of programs that manages computer hardware resources, and provides common services for application software. The operating system is the most important type of system software in a computer system. Without an operating system, a user cannot run an application program on their computer, unless the application program is self booting.

Types:

1. Real-time Operating System

A real-time operating system processes inputs simultaneously, fast enough to affect the next input or process. Real-time systems are usually used to control complex systems that require a lot of processing like machinery and industrial systems.

2. Single User Operating System

A single user OS as the name suggests is designed for one user to effectively use a computer at a time.

3. Multi-Tasking Operating System

In this type of OS several applications may be simultaneously loaded and used in the memory. While the processor handles only one application at a particular time it is capable of switching between the applications effectively to apparently simultaneously execute each application. This type of operating system is seen everywhere today and is the most common type of OS, the Windows operating system would be an example.

4. Multi-User Operating System

This type of OS allows multiple users to simultaneously use the system, while here as well, the processor splits its resources and handles one user at a time, the speed and efficiency at which it does this makes it apparent that users are simultaneously using the system, some network systems utilize this kind of operating system.

5. Distributed Operating System

In a distributed system, software and data may be distributed around the system, programs and files may be stored on different storage devices which are located in different geographical locations and may be accessed from different computer terminals. While we are mostly accustomed to seeing multi-tasking and multi-user operating systems, the other operating systems are usually used in companies and firms to power special systems.

Examples of OS are: Windows 7, Windows Vista, Windows XP, Disk Operating System (DOS), MacOS, UNIX – Linux, NT Workstation, Android (latest OS)

Note: New PC tablet **AAKASH** is based on **ANDROID** operating system.

2. NETWORKS:

A Computer Network, often simply referred to as a network, is a collection of hardware components and computers interconnected by communication channels that allow sharing of resources and information.

TYPES

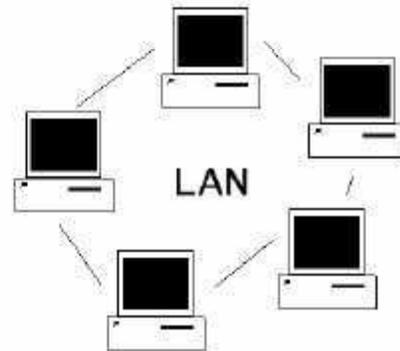
LAN - Local Area Network

WAN - Wide Area Network

MAN - Metropolitan Area Network

LAN: Local Area Network

It connects network devices over a relatively short distance. LAN generally found in office building, school, or home.



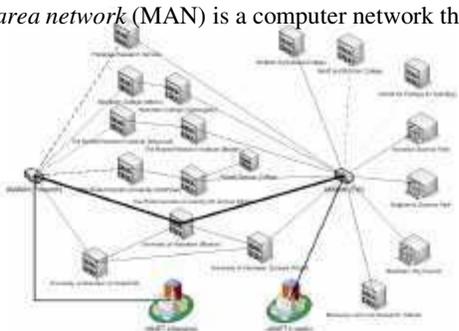
MAN:

Metropolitan Area Network

A *metropolitan area network (MAN)* is a computer network that usually spans a city or a large campus.

A MAN usually interconnects a number of local area networks (LANs)

using a high-capacity backbone technology, such as fiber-Optical links, and provides up-link services to wide area networks (or WAN) and the Internet.



6. STORAGE DEVICES



WAN - Wide Area Network

As the term implies, a WAN spans a large physical distance. The Internet is the largest WAN, spanning the Earth.



3. MS OFFICE:

MS Office is a computer Programme or Software that is use to do various type official work such as making Presentation writing letter and data entry etc. it ia a combination of ms excel, ms word, ms power point, ms publisher, etc ms stands for micro soft.

Various packages available of office are

MS WORD (FOR TYPING AND LETTER WRITING WORK)

MS EXCEL (SPREADSHEET WIDELY USED IN ACCOUNTING)

MS POWERPOINT (USED TO MAKE PRESENTATION)

Above Three Are Most Widely Used, Others Are

MS ACCESS

MS OUTLOOK (IN ORDER TO SEND THE MAIL)

MS GROOVE

MS INFOPATH

MS ONE NOTE

4. INTERNET BROWSER

A web browser is a software application for retrieving, presenting, and traversing information resources on the World Wide Web.

Examples: Mozilla firefox, opera, Google chrome, Microsoft Internet Explorer 9, Safari web browser etc.

5. ANTIVIRUS

A **VIRUS** is program or piece of code that is loaded onto your computer without your knowledge and runs against your wishes.

Viruses can also replicate themselves. All computer viruses are manmade. A simple virus that can make a copy of itself over and over again is relatively easy to produce. Even such a simple virus is dangerous because it will quickly use all available memory and bring the system to a halt. An even more dangerous type of virus is one capable of transmitting itself across networks and bypassing security systems.

Now **ANTIVIRUS** is used to remove virus from the computer. Antivirus is actually a protective software designed to defend your computer against malicious software. Malicious software, or "malware" includes: viruses, Trojans, keyloggers, hijackers, dialers, and other code that vandalizes or steals your computer contents.

Examples of Antivirus: Mac cafee, Norton, AVG, Symantec, Avast, Avira, Microtrend, Zone Alarm, Quick Heal etc.

(a) **CD: Compact Disk**, actually an optical disc used to store digital data.

Capacity : **700MB**, available in **CD-R** (Write Once), **CD-RW** (Rewritable)
CD can be plays in VCD player, CD-ROM, DVD Writer.

(b) **DVD: Digital Versatile Disk**, is also an optical disc that can be used for data storage, but storage capacity of DVD is much larger as compared to CD. DVD could store data including movies with high video and sound quality.

Capacity: 4.7 GB, available in **DVD-R** (Write Once), **DVD-RW** (Rewritable)

DVDs can be plays in DVD Writer and Blu-Ray Writer.

DVDs are also available in single layer DVD (most commonly use) and Double Layer (dual layer DVD-which can be write from both the sides)

(c) **Blu-ray Disc**

It is also an optical disc that can be used for data storage, but storage capacity of **Blu-Ray Disc** is much larger as compared to CDs & DVDs.

Some times **Blu-Ray Disc** is also called as **High-density optical disc**.

Capacity: 25GB (Single Layer) AND 50GB (Dual Layer)

Blu-Ray Disk can only plays in Blu-Ray Writer/Reader. (Infact Blu Ray Writer/Reader can play both CDs & DVDs)



If we compare the above three storage media, then we found very surprising facts.

1. BLU- RAY disc has maximum storage capacity.
2. **Blu-Ray Disc** is also called as **High-density optical disc**. That means it can store/ record movies and songs in a high definition and quality. Movies recorded in a blu ray disk has outstanding picture quality with best sound effects as compared to CDs & DVDs.
3. Obviously Blu-Ray disk is costlier as compared to CDs & DVDs.
4. Blu Ray disk can only run in Blu ray writer/reader.

Note: If I purchase the CD of any movie, then we can see the cost difference, CD cost Rs. 399/-, DVD cost Rs. 1199/- and Blu ray Disk Costs more than 2000/- of the same movie.

(d) **Magnetic Tapes**

It is also a type of storage medium for magnetic recording, made of a thin magnetizable coating on a long, narrow strip of plastic.

Surprisingly Magnetic tapes have larger storage capacity as compared to CD, DVD & BLU RAY disk.

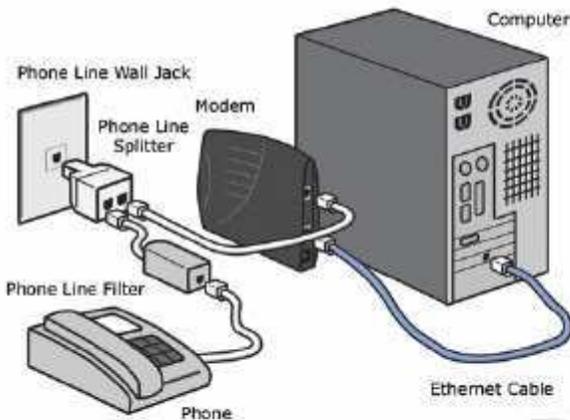


7. MODEM (Modulator-Demodulator)

A Modem is a device or program that enables a computer to transmit data over, telephone or cable lines. Computer information is stored digitally, whereas information transmitted over telephone lines is transmitted in the form of analog waves. A modem converts between these two forms.



MODEM



8. PRINTERS

Printer is nothing but an output device that produces print outs. Printer is actually a device that accepts text and graphic output from a computer and transfers the information to paper, usually to standard size sheets of paper.

Resolution: Printer resolution (the sharpness of text and images

on paper) is usually measured in **dots per inch (dpi)**.



9. Email:

Email is electronic mail. Using electronic mail (email) a person can engage in conversations with people all over the world. Yet, because of its convenience, it is also a powerful tool for even local communication. To send an email message to someone you must know his/her email address. An email address is made up of three parts. The user's ID (or username), which comes before an @ sign, the @ sign itself, and the name of the computer where the user receives email. Each computer connected to the Internet has its own unique address. Because of these unique addresses, email can be delivered clear across the world through the Internet.

e.g. vidyagurudelhi@gmail.com

Email spam, also known as junk email or unsolicited bulk email (UBE), is a subset of spam that involves nearly identical messages sent to numerous recipients by email. **Spam** can be removed by either directly deleting the file or use **ANTI SPAM** software. Spam may contain **virus**.

10. PDA (Personal Digital Assistant)

Typical PDA can function as a cellular phone, fax sender, Web browser and personal organizer. Unlike portable computers, most PDAs began as pen-based, using a stylus rather than a keyboard for input. This means that they also incorporated handwriting recognition features. Some PDAs can also react to voice input by using voice recognition technologies. PDAs of today are available in either a stylus or keyboard version. **PDAs are also called palmtops, hand-held computers and pocket computers.**



11. USB flash drive (Pen Drive)

A USB flash drive is a data storage device that consists of flash memory with an integrated Universal Serial Bus (USB) interface.

USB flash drives are often used for the same purposes for which floppy disks or CD-ROMs were used. They are smaller, faster, have thousands of times more capacity, and are more durable and reliable because of their lack of moving parts. (They are available in 128MB, 256MB, 512MB, 1GB, 2GB, 4GB, 8GB, 16GB, and 32GB etc)



TABLET PC

A tablet PC is a wireless, portable personal computer with a touch screen interface. The tablet form factor is typically smaller than a notebook computer but larger than a smart phone. Tablets have key features of a full-size personal computer. A tablet PC is essentially a small laptop computer, equipped with a rotatable touch screen as an additional input device, and running a standard (or lightly adapted) PC operating system like Windows or Linux.



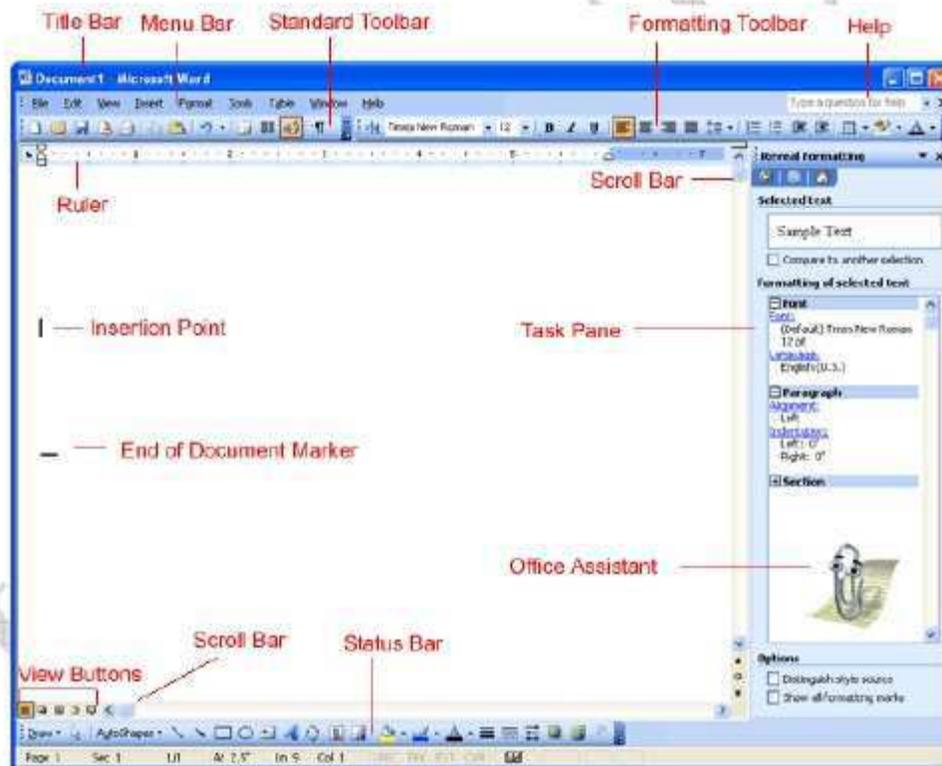
Pc Tablet



HRD Minister launches **Aakash** Tablet developed by company **Datawind**

Finally, it has become a reality. India has finally launched the **CHEAPEST TABLET COMPUTER**, which cost only around \$60 that is INR 2999. Though it is higher than \$35, which was promised before it's production, still cheaper than any other tablet pc in the world.

Basics of MS WORD (VERSION 2003)



SHORT KEYS

ALT + D : To Highlight the URL in the Address Box

MS WORD

- CTRL + C : TO COPY THE TEXT IN A DOCUMENT
- CTRL + V : TO PASTE THE TEXT IN A DOCUMENT
- CTRL + X : TO CUT THE SELECTED TEXT IN A DOCUMENT
- CTRL + B : TO BOLD THE SELECTED TEXT IN A DOCUMENT
- CTRL + U : TO UNDERLINE THE SELECTED TEXT IN A DOCUMENT
- CTRL + I : TO ITALICIZE THE SELECTED TEXT IN A DOCUMENT

- CTRL + Z : UNDO
- CTRL + E : TO CENTER THE SELECTED TEXT IN A DOCUMENT
- CTRL + J : TO JUSTIFY THE SELECTED TEXT IN A DOCUMENT
- CTRL + P : Print a document
- PRESS F1 : HELP
- PRESS F5 : FIND AND REPLACE THE PARTICULAR WORD
- PRESS F7 : SPELLING CHECK
- PRESS F12 : SAVE AS
- PRESS F11 : DIRECTLY GO TO THE LINK
- ALT + F4 : QUIT THE PROGRAM

Basics of Internet.

Internet is nothing but networks of networks. Internet is actually a global digital infrastructure that connects millions of computers. The World Wide Web (WWW) is the most popular part of the Internet by far. The Web allows rich and diverse communication by displaying text, graphics, animation, photos, sound and video.

Components of Internet

The Internet is comprised of many components such as Email, FTP and Usenet News. The World Wide Web is simply one of these components.

- World Wide Web
- FTP (**File Transfer Protocol**)
- E-mail & E-mail Discussion Groups
- Telnet
- Usenet News
- HTTP (**Hyper Text Transfer Protocol**)
- Chat & Instant Messaging.

Short Notes:

1. HTML (Hypertext Markup Language)

It is the language used to create WWW pages and associated links.

2. URLs (Uniform Resource Locators)

These are the addresses of the WWW pages e.g. <http://www.ibps.in>

3. Web Browser

To view / read the WWW pages you must have a special application i.e. a web browser

A Web browser is an application program that provides a way to look at and interact with all the information on the World Wide Web.

Example: MS internet explorer 9, Mozilla, Google chrome, Opera.

4. File Transfer Protocol (FTP)

One of the most popular uses of the internet is to download/ upload a file that is transfer files from a computer on the internet to your computer and vice versa.

FTP allows you to transfer files between two computers on the Internet.

5. TELNET

The Telnet protocol is often thought of as simply providing a facility for remote logins to computer via the Internet. Telnet follows a Client / Server Model. You run a piece of software on your own PC (the client) to use the **resources** of a **distant** Server Computer (host computer).

Telnet enables the user of a PC to login to a host computer at another site on the Internet. The user's PC then acts as a dumb terminal attached to the remote host. To use telnet you need to know the internet address of the host whose resources you want to use.

6. HTTP (Hypertext Transfer Protocol)

HTTP is a set of rules, or protocols which governs the transfer of hypertext between two or more computers.

7. IP Address

An Internet Protocol address (IP address) is a numerical label assigned to each device (e.g., computer, printer) participating in a computer network that uses the Internet Protocol for communication.

Questions:

1. PDA refers to _____

- a. Personal Digital Assistant b. Personal Device Assistance
c. Program Digital Assistance d. Personal Data Assistance

2. _____ Handles communication between computers on the network.

- a. Computer b. CPU c. A Network server
d. Storage unit

3. Find the right sequence in most of the cases to produce a document

- (a). Edit,Format,Print,Create
(b). Create,Edit,Format,Print,Save
(c).Create,Edit,Format,Save,Print
(d).Edit,Format,Create,Print,Save

4. One byte = how many bits?

- (1) 4 (2) 6 (3) 7 (4) 10 (5) None

5. In order quit the running program, we generally use

- (1) Alt+F4 (2) Alt+F5 (3) Alt+F6
(4) Alt+F7 (5) Alt+F8

6. If we press F5 in a Notepad, then

- (1) It will display current Date and Time.
(2) It will display Deleted words.
(3) It will display colored Font. (4) New notepad will open.
(5) Nothing happened.

7. The main circuit board of a Computer. It contains connectors for attaching additional boards.

- (1) SMPS (2) Graphic Card (3) RAM (4) Mother Board
(5) None

8. DPI in field of Printers stands for

- (1) Dots Parallel Inch (2) Dips Parallel Inch
(3) Dots Parallel Inch (4) Dots Per Inch (5) None

9. First Generation (1940-1956) Computers generally uses

- (1) Vacuum Tubes (2) Transistors (3) Integrated Circuits
(4) Microprocessors (5) Artificial Intelligence

10. If we press Start+E, then what will happen?

- (1) My Computer windows will open directly.
(2) Computer will be shut down. (3) Computer will restart.
(4) Computer will stand by. (5) None

11. In order to reload the page in MS Internet Explorer we generally click on.

- (a) Reload Icon (b) Refresh Icon

- (c) Restart Icon (d) Modified Icon
(e) None

12. Expanded form of MODEM is

- (a) Modulation & Demodulation
(b) Mouse & Defragmentation
(c) Modulation & Defragmentation
(d) Message and Demodulation (e) None

13. Normally F5 is used to

- (a) Refresh the system (b) Reboot the system
(c) Format the system (d) Restore the system (e) None

14. If you want to save the particular internet page we generally

- (a) Just save the page (b) Bookmark the page
(c) Hypertext the page (d) Internet pages cannot be saved.
(e) None.

15. LAN stands for

- (a) Local Access Network (b) Local Access Number
(c) Local Apparent Noon (d) Line Amplifier Node
(e) Local Area Network

16. Which one is not a Social Networking site.

- (a) Facebook (b) Orkut (c) Twitter
(d) BIGADDA (e) AOL

17. In HTTP what does P stands for

- (a) Program (b) Pixels (c) Power (d) Protocol
(e) None

18. In HTML what does L stands for

- (a) Language (b) Logic (c) Lens
(d) Either (b) & (c) (e) None

19. Android a famous Operating System is developed by

- (a) Microsoft (b) Yahoo (c) Infosys
(d) Apple (e) Google

20. 'OS' in computer abbreviation usually means ?

- (a) Order of Significance (b) Open Software
(c) Operating System (d) Optical Sensor
(e) None

21. Recently HRD Minister Kapil Sibal launched world cheapest TABLET PC, Its name is

- (a) Mac Book (b) Datawind (c) Chandra
(d) Dolphin (e) None