

Dear Readers,

We are presenting you the Computer Capsule. Because the SBI clerk mains tend to be held in the end of this month so as per our commitments towards the needs of every student, this capsule contains all the important facts and details that can be asked in the Upcoming SBI clerk exam. We are starting this with the introduction of the Syllabus. Let us begin now :

Syllabus of The Computer Section

1. Fundamentals of the Computer :
 - i) Hardware and Software
 - ii) Memory and Memory Units
 - iii) Number System
2. Internet
3. Microsoft Office (MS-Office)
4. Networking
5. DBMS (Database Management System)
6. Full Forms/Abbreviations and Important Terms
7. Shortcut Keys
8. Miscellaneous (Latest in Computers and Mobile Technology)

Computer i.e. a combination of two words "compute" + "er". Compute means calculation and "er" means a device. It can perform all type of mathematical and logical

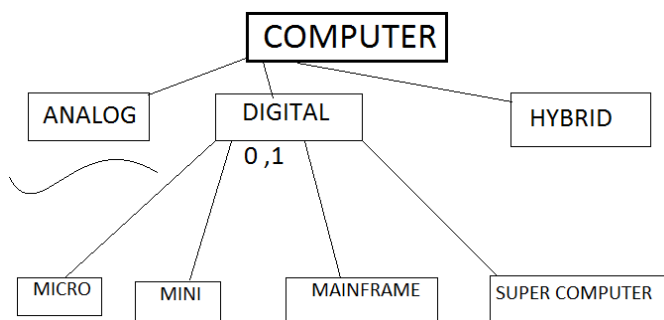
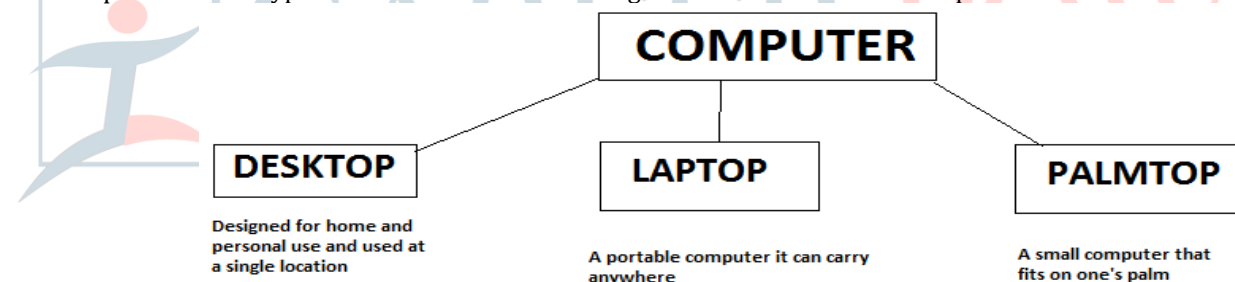
operations, it can accept data, store data, retrieve data and print data.

Charles Babbage was known as father of computer. He invented two machines in 1822 introduced Difference Engine and in 1834, introduced Analytical engine.

ENIAC was the first digital computer and it was invented by **J.Presper Eckert** and **John Mauchly** at the university of **Pennsylvania** and began construction in 1943. It uses 18000 **vacuum tubes** as a storing device.

MIT introduces the whirlwind machine (first computer with RAM) on march 8 1955.

First computer company was founded by J. Presper Eckert and John Mauchly, initially named **Electronic Controls company**, later changed to **The Eckert-Mauchly Computer Corporation (EMCC)** and released a series of mainframe computer under the name of **UNIVAC**.



Analog computer introduced by Lord **Kelvin**. **Numerical** data are represented by measurable physical variables such as electrical voltage. A thermometer is a simple analog computer.

Digital computer that accepts and process data in the form of numbers and all the character are converted into binary code

ASCII code (American Standard Code for Information Interchange) use as a standard to assign a numerical value to each character

Hybrid computer used the combined feature of analog and digital machine. you can see hybrid computer in geological departments.

Microcomputer these are small relatively inexpensive computer designed for personal and office use. It has lowest storing and processing speed. These can be laptop or desktop.

Minicomputer powerful as compare to microcomputer it has higher memory provide faster operating speeds and large storage capacities than microcomputers. It can be used as a server and capable of supporting from 2 to 200 users.

Mainframe computer it has very high memory and processing speed and used as a server (can support thousands of users)

Super computer can be used for complex type of application i.e. specific research, weather forecasting, Weapon designing etc.....

PARAM-8000 India's first super computer developed by C-DAC pune in 1998.

Tianhe-2 is china's super computer and considered as world's fastest super computer.

Shasra T is considered as India's fastest super computer of India manufactured by Indian Institute of science.

Server are dedicated computers that serve the needs or request of other programs or computer.

Browser are program which installed on the user's computer and help him to communicate or send request on the network. In others word it help to access the internet.

Generation of computer hardware

Subject	1 st generation	2 nd generation	3 rd generation	4 th generation	5 th generation
Period	1940-1956	1956-1963	1964-1971	1971-present	present & beyond
Circuitry	Vacuum tube	Transistor	Integrated chips (IC)	Microprocessor (VLSI)	ULSI (Ultra Large Scale Integration) technology
Memory Capacity	20 KB	128KB	1MB	Semiconductor type and very high	VLSI and ULSI
Processing Speed	300 IPS inst. Per sec.	300 IPS	1MIPS (1 million inst. Per sec.)	Faster than 3 rd generation	Very fast
Programming Language	Assembly Language	High level language (FORTRAN, COBOL, ALGOL)	C,C++	C,C++,Java	All the Higher level languages, Neural networks,
Example of computers	UNIVAC, EDVAC	IBM 1401, IBM 7094, CDC 3600, D UNIVAC 1108	IBM 360 series, 1900 series	Pentium series Multimedia, Stimulation	Artificial Intelligence, Robotics

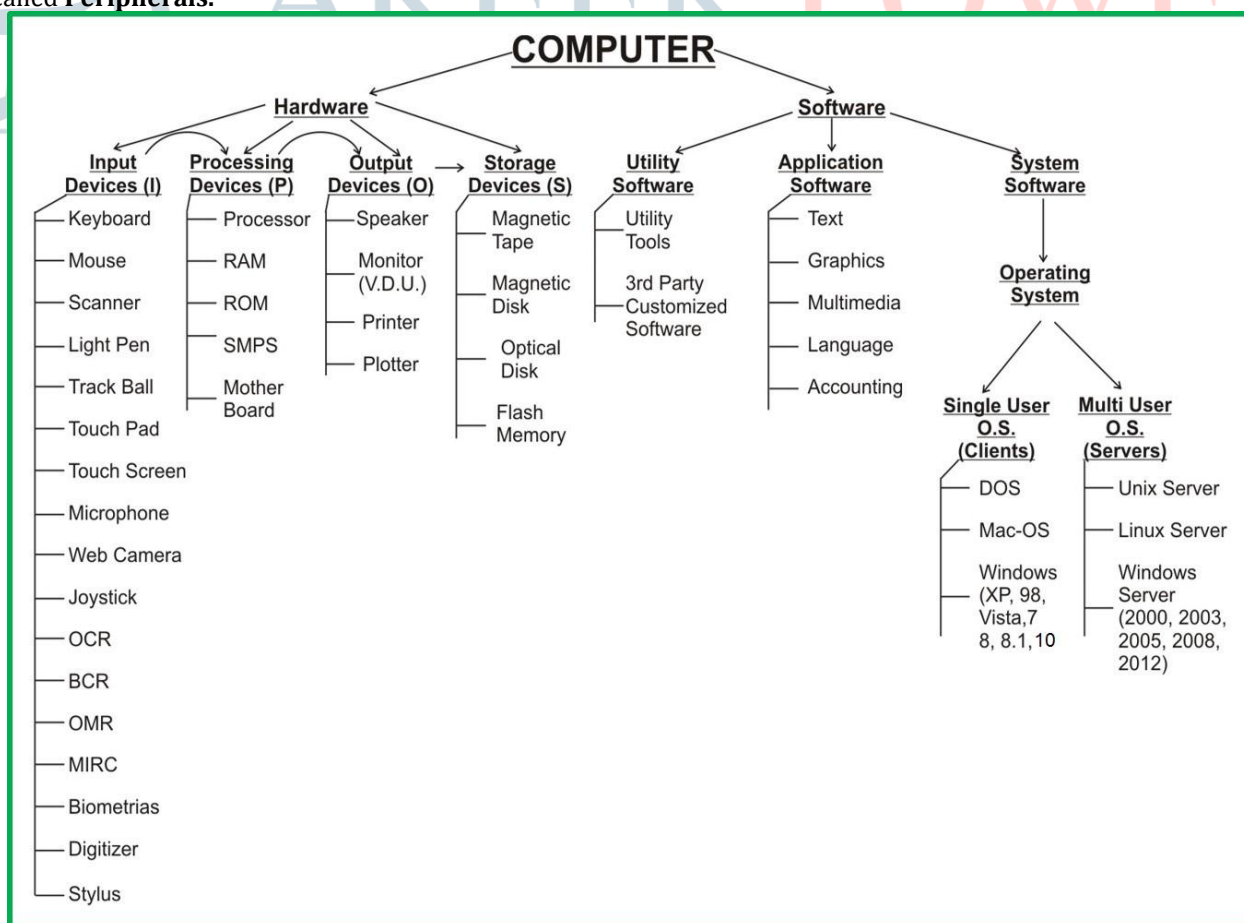
ALGOL – Algorithm language.

COBOL- Common Business Oriented language

Computer fundamentals:

The device which is used with a computer to display or store data is called **Peripherals**.

The mechanical, magnetic, electronic and electrical components that comprises a computer system such as the Central Processing Unit (CPU), monitor, keyboard, etc. is known as **Hardware**.



The data that is fed into a computer processor received into the computer by a keyboard or other sources is called **Input**. Examples of input devices include keyboards, mouse, scanners, digital cameras and joysticks.

A **keyboard** is a typewriter-style device, which uses an arrangement of buttons or keys, to act as mechanical levers or electronic switches.

Most of the commonly available personal computers have a keyboard, popularly known as **Qwerty**. The keys labeled F1 to F12 on the keyboard are called **Function Keys**.

The keys include the letter keys (0, 1, 2, ..., 9; A, B, Z), which are generally laid out in the same style as in typewriters are known as **Alphanumeric Keys**.

'Caps lock' and 'Num lock' keys are called as **Toggle Keys** because when pressed, they change their status from one state to another.

Numeric Keypad is a keypad located on the right hand side of the keyboard. It consists of digits and mathematical operators.

A **Modifier key** is a special key (or combination) on a computer keyboard that temporarily modifies the normal action of another key when pressed together. By themselves, modifier keys usually do nothing; that is, pressing any of the Shift, Alt, or Ctrl keys alone does not (generally) trigger any action from the computer.

A **Mouse** is the most popular input device which is used today for interactive processing and for the one line entry of data for batch processing.

Drag and Drop refers to the action of clicking and holding down the mouse button, while moving the mouse and then releasing the mouse button.

The first computer mouse was invented by **Douglas Engelbart**.

Joystick is the device that moves in all directions and controls the movement of a pointer.

A **Touch Screen** is a type of display screen device that is placed on the computer monitor to allow direct selection or activation of the computer when the user touches the screen.

Light Pen is the pen shaped device, which can sense light and is used to point at spots on a video screen.

A technology enables a high-speed reading of large quantities of data and transferring these data to the computer without using a keyboard. It is referred as **Optical Mark Reader (OMR)**.

It uses a beam of light that is reflected on the paper with marks, to capture presence and absence of marks.

MICR reads the characters by examining their shapes in a matrix form and the information is then passed on to the computer. **MICR** stands for **Magnetic Ink Character Reader**. It provides a high level of security and is therefore used by the banking industry for faster processing of the cheques.

It is a machine readable code, which is represented by parallel vertical lines with varying widths. For reading these bar-coded data, a device is used, which is known as a **Bar Code Reader (BCR)**.

Optical Character Recognition (OCR) is used to scan the document containing text. It is the mechanical or electronic conversion of scanned or photographed images of typewritten or printed text into machine-encoded/computer-readable text.

A computer is an electronic device that accepts data from the user (input), processes the data by performing calculations and operations on it and generates the desired **Output**.

An **output device** is any piece of computer hardware equipment used to communicate the results of data processing carried out by an information processing system (such as a computer) which converts the electronically generated information into human-readable form.

The printed form of output is referred as **Hard Copy**. The form of output displayed on the screen is referred as **Soft Copy**.



The device that prints information from the computer onto the paper is **Printer**.

Pages Per Minute (PPM) is the unit used to count the speed of the printer.

On the basis of technology, printers are categorized into **Impact and Non- Impact Printers**.

Impact printers create an image by using some mechanism to physically press an inked ribbon against the page, causing the ink to be deposited on the page in the shape desired.

- a) **Dot matrix:** The dot-matrix printer uses print heads containing from 9 to 24 pins. These pins produce patterns of dots on the paper to form the individual characters
- b) **Daisy wheel:** A hammer strikes a "petal" containing a character against the ribbon, and the character prints on the paper. Its speed is slow typically 25-55 characters per second.
- c) **Line printer:-** Line printers, or line-at-a-time printers, use special mechanism that can print a whole line at once; they can typically print the range of 1,200 to 6,000 lines per minute
- d) **Drum printer:-** A drum printer consists of a solid, cylindrical drum that has raised characters in bands on its surface. The number of print positions across the drum equals the number available on the page.
- e) **Chain printer:-** A chain printer uses a chain of print characters wrapped around two pulleys
- f) **Band printer:-** Band printer has a steel band divided into five sections of 48 characters each.

Non - Impact Printers do not touch the paper when creating an image.

- A) **Ink-jet printers:-** One or more nozzles in the print head emit a steady stream of ink drops. Droplets of ink are electrically charged after leaving the nozzle. The droplets are then guided to the paper by electrically charged deflecting plates
- B) **Laser printers:-** Laser printers use buffers that store an entire page at a time. When a whole page is loaded, it will be printed.
- C) **Thermal printer:-** is a digital printing process which produces a printed image by selectively heating coated thermo chromic paper, or thermal paper as it is commonly known, when the paper passes over the thermal print head.

A pen based output device, attached to a computer for making vector graphics, that is, images created by a series of many straight lines is known as **Plotters**.

The number of pixels displayed on a screen is known as **Resolution**.

A **Monitor** is a TV-like display attached to the computer on which the output can be displayed and viewed. It can either be a monochrome display or a color display.

A set of instructions that tells the computer about the tasks to be performed and how these tasks are to be performed, is known as **Software**.

The set of instructions, which control the sequence of operations, are known as **Program**. It is a sequence of instructions, written to perform a specified task with a computer.

Application software is a group of program designed for fulfill the demand of end user i.e. MS office.

System software is a program which is created for the system and to make the system user friendly such as operating system or is a type of computer program that is designed to run a computer's hardware and application programs.

Utility software designed to help analyze, configure, optimize or maintain a computer such antivirus software.

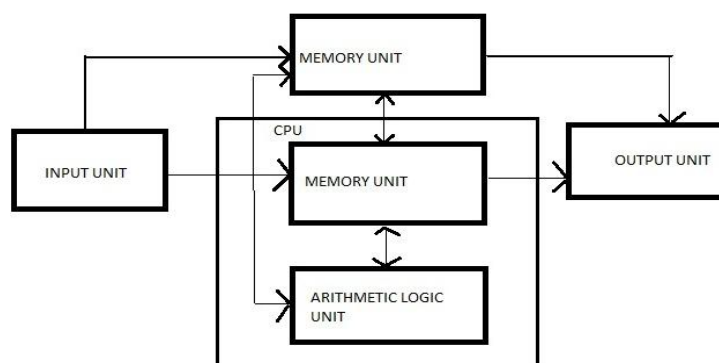
Operating system is a set of programs that help in controlling and managing the hardware and the software resources of a computer system. Main functions of operating system are :-

- Process management
- Memory management
- File ,management
- Security
- Command and interpretation.
- Resource allocation

Types of OS.

- 1) **Batch operating system** data and program that need to be processed are bundled and collected as a batch and executed together.
- 2) **Multiprogramming operating system** it allows the instruction and data from two or more separate process to reside in primary simultaneously. Multiprogramming system are multitasking multiuser and multiprocessing operating system.
- 3) **Single user** it is designed for single user and a single person use it at a time i.e. DOS window's 95 etc.
- 4) **Distributed operating system** which manages a collection of independent computers and makes them appear to the user of the system as a single computer.
- 5) **Real Time Operating System (RTOS)** It is a computing environment that reacts to input within a specific time period. It is used at those Places in which we Requires higher and Timely Response.

BASIC ORGANIZATION OF A COMPUTER SYSTEM



An **Arithmetic Logic Unit (ALU)** is a digital circuit that performs integer arithmetic and logical operations. The ALU is a fundamental building block of the central processing unit of a computer

Control Unit is responsible for controlling the overall operations of computer. It coordinates the sequence of execution of instructions and controls the overall functioning of the computer.

Instruction Execution: the program which is to be executed is a set of instruction which are stored in memory. The CPU executes the instructions of program to complete a task and this execution takes place inside the CPU with the help of registers ALU(arithmetic logic unit) and CU(control unit). When the processor executes instructions, data is temporarily stored in small local memory location and these are called **registers**

Accumulator Register:- which stores the immediate result of arithmetic and logical operations.

Memory address register (MAR) :- which contain the address of memory location to which data is to be stored.

Program counter :- which contain the address of the next instruction to process.

Instruction register:- which contain the current instruction being processed

A **Software** instructs the computer what to do and how to do it. It is a set of instructions that tells the computer about the tasks to be performed and how these tasks are to be performed

An unprocessed collection or representation of raw facts represented in a manner suitable for communication, interpretation or processing by humans or by automatic means, is known as **Data**.

Personal computers use a number of chips mounted on a main circuit board called **Motherboard**.

The CPU is fabricated as a single Integrated Circuit (IC) chip. It is also known as the **Microprocessor**.

Multiprocessing is the use of two or more central processing units (CPUs) within a single computer system. The term also refers to the ability of a system to support more than one processor and/or the ability to allocate tasks between them

Program execution in computers:

Language processor (Translator) programmer write their program in one of the **high level** language because it is much easy to code in these language but computer does not understand any of these language so it is necessary to convert program into a machine language so translator do this work.

Loader it load the code which is translated by translator into the main memory and makes it ready to execute.

Linker is used to combine all the object files and convert them into a final executable program.

Interpreter converts high level language program into machine language. It is very slow because it convert program line by line.

Compiler it also translate the program from high level language to machine language. It is very fast because it convert the whole program into machine language.

Assembler It is used for converting the code of low level language (assembly language) into machine level language.

Low level language these are coded in a form which is easy to understand by the processor.

Machine language it is also a type of low level language these can be develop in binary language (0 and 1) .

Assembly language it is also a type of low level language and using the human readable instruction of the CPU. It is written as 'MOV A.'

High level language programmer can write code in simple easy language, it is user friendly

C language it is a middle level programming language and also known as procedural language

C++ high level language uses the oops concept.

Fortran it is known as formula translation .it is used for scientific application

COBOL (Common Business Oriented Language) used for record keeping and data management in business organizations.

BASIC (Beginner's All Purpose Symbolic Instruction Code) first language designed for non-professional programmers.

PASCAL it is developed as a teaching tool for programming concepts



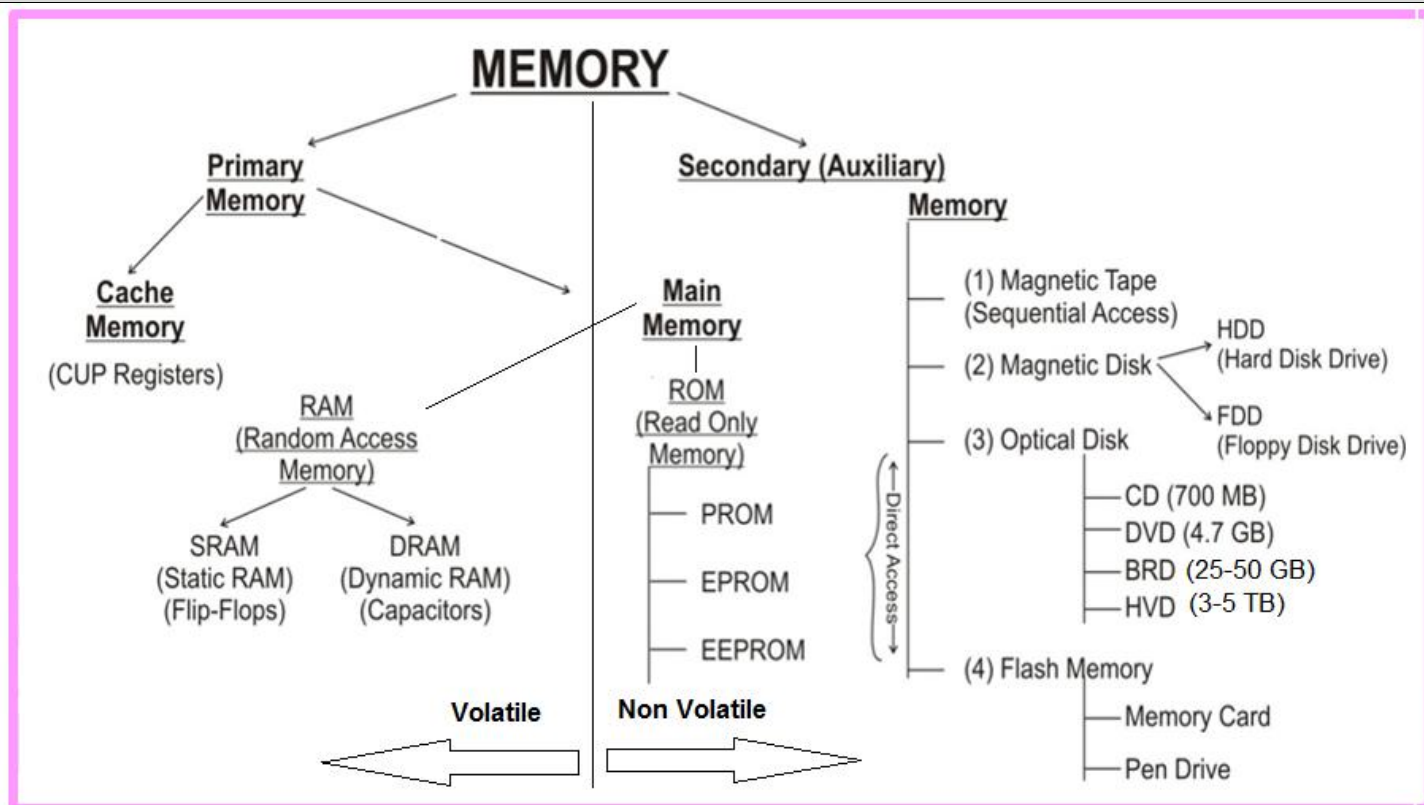
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MEMORY MANAGEMENT



8 bit	1 byte
1024 B	1 KB (Kilo Byte)
1024 KB	1 MB (Mega Byte)
1024 MB	1 GB (Giga Byte)
1024 GB	1 TB (Tera Byte)
1024 TB	1 PB (Peta Byte)
1024 PB	1 EB (Exa Byte)
1024 XB	1 ZB (Zeta Byte)
1024 ZB	1 YB (Yota Byte)

Primary memory

Primary storage, also known as *main storage* and it is the area in a computer in which data is stored for quick access by the computer's processor. The terms random access memory (RAM) and memory are often as synonyms for primary or main storage. Primary storage is volatile and can be contrasted with non-volatile secondary storage, also known as auxiliary storage.

Cache memory is a smaller, faster **memory** which stores copies of the data from frequently used main memory locations. A CPU cache is a hardware cache used by the central processing unit (CPU) of a computer to reduce the average time to access data from the main memory.

Secondary memory is where programs and data are kept on a long-term basis. Common secondary storage devices are the hard disk and optical disks. The hard disk has enormous

storage capacity compared to main memory. The hard disk is usually contained inside the case of a computer.

Read-only memory (ROM) is a storage medium used in computers and other electronic devices. Data stored in ROM can only be modified slowly or with difficulty, or not at all. ROM is non-volatile and the contents are retained even after the power is switched off.

It only allows reading.

The types of ROM include PROM, EPROM and EEPROM.

Random Access Memory (RAM), allows the computer to store data for immediate manipulation and to keep track of what is currently being processed.

RAM is referred to as volatile memory and is lost when the power is turned off.

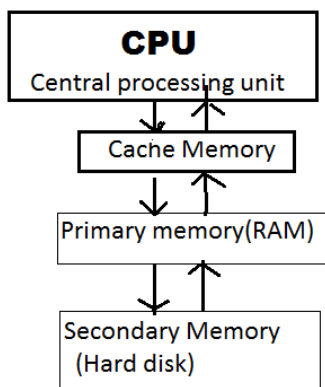
It also known as *read/write* memory as information can be read from and written onto it.

The two main types of RAM are static RAM and dynamic RAM.

SRAM retains data as long as power is provided to the memory chip and need not be refreshed periodically. It is often used as CPU Cache memory. SRAM stands for **Static Random Access Memory**.

The data on **DRAM** continues to move in and out of the memory as long as power is available and must be continually refreshed to maintain the data. DRAM stands for **Dynamic Random Access Memory**.

Virtual memory is memory on the hard disk that the CPU uses as an extended RAM



	Access Time	Storage Capacity	Cost per bit of storage
Primary memory	Faster	Smaller	High
Secondary memory	Slower	Higher	Low

Memory can also be categorized on the basis of their material

Semiconductor memory: such as RAM, ROM, EPROM, and flash memory.

Magnetic memory: such as hard disk, floppy disk and magnetic tapes.

Optical memory: such as computer disk, DVD and blue-ray disk.

A **bus**, in computing, is a set of physical connections (cables, printed circuits, etc.) which can be shared by multiple hardware components in order to communicate with one another.

The **address bus** (sometimes called the memory bus) transports memory addresses which the processor wants to access in order to read or write data. It is a *unidirectional bus*.

The **data bus** transfers instructions coming from or going to the processor. It is a *bidirectional bus*.

The **control bus** (or command bus) transports orders and synchronisation signals coming from the control unit and travelling to all other hardware components. It is a *bidirectional bus*, as it also transmits response signals from the hardware.

Number System

Decimal, Binary, Octal and Hexadecimal Equivalents			
Decimal	Binary	Octal	Hexadecimal
0	0000	000	0
1	0001	001	1
2	0010	002	2
3	0011	003	3
4	0100	004	4
5	0101	005	5

6	0110	006	6
7	0111	007	7
8	1000	010	8
9	1001	011	9
10	1010	012	A
11	1011	013	B
12	1100	014	C
13	1101	015	D
14	1110	016	E
15	1111	017	F

INTERNET

The **Internet** is a global system of interconnected computer networks that use the standard Internet protocol suite (TCP/IP) to link several billion devices worldwide.

It is a **network of networks** that consists of millions of private, public, academic, business, and government networks, of local to global scope, that are linked by a broad array of electronic, wireless, and optical networking technologies.

ARPANET adopted TCP/IP in 1983, and from there researchers began to assemble the "network of networks" that became the modern Internet.

The **World Wide Web** (abbreviated as WWW or W3, commonly known as the Web) is a system of interlinked hypertext documents that are accessed via the Internet.

A **Website** is a set of related web pages served from a single web domain.

A **Home page**, **index page**, or **main page** is a page on a website. A home page usually refers to:

- The initial or main web page of a website, sometimes called the "front page" (by analogy with newspapers).
- The first page that appears upon opening a web browser program, which is also sometimes called the start page. This 'start page' can be a website or it can be a page with various browser functions such as the visual display of websites that are often visited in the web browser.
- The web page or local file that automatically loads when a web browser starts or when the browser's "home" button is pressed; this is also called a "home page". The user can specify the URL of the page to be loaded, or alternatively choose e.g. to re-load the most recent web page browsed.
- A personal web page, for example at a web hosting service or a university web site that typically is stored in the home directory of the user.

A **Hyperlink** is a reference to data that the reader can directly follow either by clicking or by hovering or that is followed automatically

A **web browser** (commonly referred to as a browser) is a software application for retrieving, presenting and traversing information resources on the World Wide Web.

Some of the famous browsers are **Safari, Chrome, Firefox, Bolt, UC Browser** and **Internet Explorer**

The **Uniform Resource Locator**, abbreviated as URL is a specific character string that constitutes a reference to a resource. In most web browsers, the URL of a web page is displayed on top inside an address bar.

(i) An example of a typical URL would be "http://www.bankersadda.com".

Here the **domain name** is 'bankersadda.com'

Downloading means to receive data to a local system from a remote system or to initiate such a data transfer

Uploading refers to the sending of data from a local system to a remote system such as a server or another client with the intent that the remote system should store a copy of the data being transferred

An **Internet Protocol address** (also known as an **IP address**) is a numerical label assigned to each device (e.g., computer, printer) participating in a computer network. It acts as an identifier for a computer. It is a unique address for every computer.

An **email attachment** is a computer file sent along with an email message. One or more files can be attached to any email message, and be sent along with it to the recipient.

Hotmail was co-founded by an Indian American entrepreneur Sabeer Bhatia along with Jack Smith in July of 1996

CC (Carbon Copy) in e - mail indicates those who are to receive a copy of a message addressed primarily to another. The list of CC recipients is visible to all other recipients of the message.

An additional **BCC (blind carbon copy)** field is available for hidden notification; recipients listed in the BCC field receive a copy of the message, but are not shown on any other recipient's copy (including other BCC recipients)

The **Drafts folder** retains copies of messages that you have started but are not yet ready to send.

The first email was sent by **Ray Tomlinson** to himself in 1971.

DATA COMMUNICATION & NETWORKING

Data Communication deals with the transmission of digital data from one device to another. Data is transferred through a pathway called as communication channel which can be physical wire connecting the devices or may be unguided media like laser, microwave etc.

A communication channel has a source or transmitter at one side and a designation or receiver at another side of the network. The source of data origination is single but there may be multiple receivers. A communication channel is of 3 types:

Simplex: This, communication is unidirectional i.e. one of the two devices can transmit the data and the other can only receive the data. For e.g. Radio broadcasting, television broadcasting etc.

Half duplex: This communication is bidirectional. Either of the devices can act as transmitter or receiver but only one device can transmit the data at one time. For e.g. Walkie-Talkie.

Full Duplex: Here the communication is in both directions and both the devices can simultaneously transmit the data. For e.g. Telephone conversation.

Different types of network are: **LAN, MAN** and **WAN**.

A **LAN** (local area network) is a group of computers and network devices connected together, usually within the same building. By definition, the connections must be high speed and relatively inexpensive (e.g., token ring or Ethernet).

A **MAN** (metropolitan area network) is a larger network that usually spans several buildings in the same city or town.

A **WAN** (wide area network), in comparison to a MAN, is not restricted to a geographical location, although it might be confined within the bounds of a state or country. A WAN connects several LANs, and may be limited to an enterprise (a corporation or an organization) or accessible to the public. The technology is high speed and relatively expensive. The Internet is an example of a worldwide public WAN.

Networking Devices

Modem: Modem stands for Modulator-Demodulator. It is used to connect computers for communication via telephone lines.

Hub: It works at the **Physical layer**. It just acts like a connector of several computers i.e. simply connects all the devices on its ports together. It broadcasts all the data packets arriving at it with no filtering capacity.



Switch: It works at the **Data Link Layer**. It is used for dividing a network into segments called subnets. It provides filtering of data packets and prevents network traffic also.



Repeater: It operates at the **Physical Layer**. It is used to amplify a signal that has lost its original strength so as to enable them to travel long distances. It can only join the networks that transmit similar data packets. It does not have filtering capacity i.e. all data including noise is amplified and passed on in the network so don't help in reducing network traffic.

Router: It works at the **Network Layer** and is used to connect different networks that have different architectures and protocols. It sends the data packets to desired destination by choosing the best path available thus reducing network traffic. It routes the data packets using the routing table that contains all the Information regarding all known network addresses, possible paths and cost of transmission over them. Availability of path and cost of transmission decide sending of data over that path. It is of 2 types: static (manual configuration of routing table is needed) and dynamic (automatically discovers paths).

Gateway: It operates in **all the layers of the network architecture**. It can be used to connect two different networks having different architectures, environment and even models. It converts the data packets in form that is suitable to the destination application. The two different networks may differ in types of communication protocols they use, language, data formats etc.

Bridge: They are used to connect two LANs with the same standard but using different types of cables. It provides an intelligent connection by allowing only desired messages to cross the bridge thus improving performance. It uses physical addresses of the packets for this decision. It works on

IPv4 - 32 bits numeric address

IPv6 - 128 bits hexadecimal address

IP addresses divide into 5 classes. the various classes of networks specify. Ipv4 have 4 octets. These designate the network id and host id.

Class	1 st octet	2 nd octet	3 rd octet	4 th octet
Class A	Net id	Host id	Host id	Host id
Class B	Net id	Net id	Host id	Host id
Class C	Net id	Net id	Net id	Host id

Class A range starts from 0.0.0.0 to 127.255.255.255 (starting binary digit 0)

Class B range starts from 128.0.0.0 to 191.255.255.255 (starting binary digit 10)

Class C range starts from 192.0.0.0 to 223.255.255.255 (starting binary digit 110)

Class D range starts from 224.0.0.0 to 239.255.255.255 (starting binary digit 1110)

Class E range starts from 240.0.0.0 to 255.255.255.255 (starting binary digit 1111)

TRICK TO LEARN THESE RANGES

There are 4 octet and in a octet 8 bit are present. now convert this into decimal which is equals to 2^8

= 256 numbers

And if we count these from 0 so range is 0 to 255.

For class A range = $256/2$
= 128

So range is 0 to 127.

For Class B range is starts from 128 because 127 is assigned to class A.

Now the remaining numbers are 128

For B class we can assign $128/2 = 64$ numbers, add this to final range of A

= $127 + 64 = 191$

So class B range starts from 128 to 191

Same process is apply for class C its range starts from 192.

Now the remaining numbers are 64, so we can assign $64/2 = 32$ numbers to class C

Class C final range is $192 + 32 = 223$

Now the remaining 32 numbers are divided equally between D and E that is each class D and E have 16 numbers and these class are reserved for further use.

Class D - 224 to 239 ($223 + 16 = 239$)

Class E - 240 to 255 ($239 + 16 = 255$).

INFORMATION SECURITY

A **Computer Virus** is a computer program or code that can replicate itself and spread from one computer system to another system. A computer virus has the capacity to corrupt or to delete data on your computer and it can utilize an e-mail program to spread the virus to other computer systems. In the worst case scenario, it can even delete everything on your hard disk. The purpose of it is to disrupt the operation of the computer or the program.

Some examples of Computer Virus are **Trojan viruses, Stealth viruses, worms, malware (malicious software), Disk Killer, Stone virus, Sunday, Cascade, Nuclear, Word Concept, etc.**

Malware, short for **malicious software**, is any software used to disrupt computer operation, gather sensitive information, or gain access to private computer systems. It can appear in the form of executable code, scripts, active content, and other software.

Antivirus Software is used to scan the hard disk to remove the virus from them. Some of the famous anti - viruses available are Avast, Norton, Avira, Kaspersky, AVG, etc.

A person who uses his or her expertise to gain access to other people's computers to get information illegally or do damage is a **Hacker**.

Authorization is the function of specifying access rights to resources related to information security and computer

security in general and to access control in particular. More formally, "to authorize" is to define an access policy.

Authentication is the act of confirming the truth of an attribute of a single piece of data or entity. It might involve confirming the identity of a person by validating their identity documents, verifying the validity of a website with a digital certificate, tracing the age of an artifact by carbon dating, or ensuring that a product is what its packaging and labeling claim to be. In other words, Authentication often involves verifying the validity of at least one form of identification.

Phishing is the attempt to acquire sensitive information such as usernames, passwords, and credit card details (and sometimes, indirectly, money) by masquerading as a trustworthy entity in an electronic communication.

A **Spoofing attack** is a situation in which one person or program successfully represents oneself as another by falsifying data and thereby gaining an illegitimate advantage.

The **Open Systems Interconnection model (OSI)** is a conceptual model that characterizes and standardizes the internal functions of a communication system by partitioning it into abstraction layers. The model is a product of the Open Systems Interconnection project at the **International Organization for Standardization (ISO)**.

Seven layers of OSI Model are:

- Application Layer
- Presentation Layer
- Session Layer
- Transport Layer
- Network Layer
- Data link Layer
- Physical Layer

Network topology is the arrangement of the various elements (links, nodes, etc.) of a computer network. There are two basic categories of network topologies:

~ Physical topologies and Logical topologies.

Physical topology is the placement of the various components of a network, including device location and cable installation, while **Logical topology** illustrates how data flows within a network, regardless of its physical design. Various types of topologies are:

- ~ Bus Topology
- ~ Star Topology
- ~ Ring Topology
- ~ Mesh Topology
- ~ Tree Topology









Hybrid topology use a combination of any two or more topologies in such a way that the resulting network does not exhibit one of the standard topologies.

LOGIC GATES

A logic gate is an elementary building block of a digital circuit. Most logic gates have two inputs and one output. At any given moment, every terminal is in one of the two binary conditions low (0) or high (1)

There are seven basic logic gates:

- ~ AND
- ~ OR
- ~ XOR
- ~ NOT
- ~ NAND
- ~ NOR
- ~ XNOR

Name	Graphic symbol	Algebraic function	Truth table																
AND		$F = xy$	<table><tr><th>x</th><th>y</th><th>F</th></tr><tr><td>0</td><td>0</td><td>0</td></tr><tr><td>0</td><td>1</td><td>0</td></tr><tr><td>1</td><td>0</td><td>0</td></tr><tr><td>1</td><td>1</td><td>1</td></tr></table>	x	y	F	0	0	0	0	1	0	1	0	0	1	1	1	Basic Gates
x	y	F																	
0	0	0																	
0	1	0																	
1	0	0																	
1	1	1																	
OR		$F = x + y$	<table><tr><th>x</th><th>y</th><th>F</th></tr><tr><td>0</td><td>0</td><td>0</td></tr><tr><td>0</td><td>1</td><td>1</td></tr><tr><td>1</td><td>0</td><td>1</td></tr><tr><td>1</td><td>1</td><td>1</td></tr></table>	x	y	F	0	0	0	0	1	1	1	0	1	1	1	1	
x	y	F																	
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Inverter		$F = x'$	<table><tr><th>x</th><th>F</th></tr><tr><td>0</td><td>1</td></tr><tr><td>1</td><td>0</td></tr></table>	x	F	0	1	1	0										
x	F																		
0	1																		
1	0																		
Buffer		$F = x$	<table><tr><th>x</th><th>F</th></tr><tr><td>0</td><td>0</td></tr><tr><td>1</td><td>1</td></tr></table>	x	F	0	0	1	1										
x	F																		
0	0																		
1	1																		
NAND		$F = (xy)'$	<table><tr><th>x</th><th>y</th><th>F</th></tr><tr><td>0</td><td>0</td><td>1</td></tr><tr><td>0</td><td>1</td><td>1</td></tr><tr><td>1</td><td>0</td><td>1</td></tr><tr><td>1</td><td>1</td><td>0</td></tr></table>	x	y	F	0	0	1	0	1	1	1	0	1	1	1	0	Universal Gates
x	y	F																	
0	0	1																	
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NOR		$F = (x + y)'$	<table><tr><th>x</th><th>y</th><th>F</th></tr><tr><td>0</td><td>0</td><td>1</td></tr><tr><td>0</td><td>1</td><td>0</td></tr><tr><td>1</td><td>0</td><td>0</td></tr><tr><td>1</td><td>1</td><td>0</td></tr></table>	x	y	F	0	0	1	0	1	0	1	0	0	1	1	0	
x	y	F																	
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Exclusive-OR (XOR)		$F = xy' + x'y$ $= x \oplus y$	<table><tr><th>x</th><th>y</th><th>F</th></tr><tr><td>0</td><td>0</td><td>0</td></tr><tr><td>0</td><td>1</td><td>1</td></tr><tr><td>1</td><td>0</td><td>1</td></tr><tr><td>1</td><td>1</td><td>0</td></tr></table>	x	y	F	0	0	0	0	1	1	1	0	1	1	1	0	Exclusive Gates
x	y	F																	
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Exclusive-NOR or equivalence		$F = xy + x'y'$ $= x \odot y$	<table><tr><th>x</th><th>y</th><th>F</th></tr><tr><td>0</td><td>0</td><td>1</td></tr><tr><td>0</td><td>1</td><td>0</td></tr><tr><td>1</td><td>0</td><td>0</td></tr><tr><td>1</td><td>1</td><td>1</td></tr></table>	x	y	F	0	0	1	0	1	0	1	0	0	1	1	1	
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DATABASE MANAGEMENT SYSTEM

- ❖ DBMS is the acronym of **Data Base Management System**. DBMS is a collection of interrelated data and a set of programs to access this data in a convenient and efficient way. It controls the organization, storage, retrieval, security and integrity of data in a database.
- ❖ **Architecture of DBMS**-The generalized architecture of DBMS is called ANSI/ SPARC model. The architecture is divided into three levels:
 - **External view or user view/View Level**- It is the highest level of data abstraction. This includes only those portions of database of concern to a user or Application program. Each user has a different external view and it is described by means of a scheme called external schema.
 - **Conceptual view/Logical Level**- All the database entities and the relationship among them are included. One conceptual view represents the entire database called conceptual schema.

- **Internal view/Physical Level-** It is the lowest level of abstraction, closest to the physical storage method. It describes how the data is stored, what is the structure of data storage and the method of accessing these data. It is represented by internal schema.
- ❖ **Data model:** A data model is a plan for building a database. The model represents data conceptually, the way the user sees it, rather than how computers store it. Data models focus on required data elements and associations.
 - Entity – Relationship Model
 - Relational Model
- ❖ **Entity:** A thing (animate or inanimate) of independent physical or conceptual existence and distinguishable. In the University database context, an individual student, faculty member, a class room, are entities.
- ❖ **Attributes**
Each entity is described by a set of attributes/properties.
Types of Attributes



- ~ **Simple Attributes:** having atomic or indivisible values: a string of Phone Number – an eight digit number.
- ~ **Composite Attributes:** having several components in the value. Example: Qualification with components (Degree Name, Year, University Name)
- ~ **Derived Attributes:** Attribute value is dependent on some other attribute. Example: Age depends on Date of Birth. So age is a derived attribute.
- ~ **Single-valued:** having only one value rather than a set of values. For instance, Place of Birth-single string value.
- ~ **Multi-valued:** having a set of values rather than a single value, for instance, Courses Enrolled attribute for student Email Address attribute for student Previous Degree attribute for student. Attributes can be: simple single-valued, simple multi-valued, composite single-valued or composite multi-valued.

FULL FORMS & ABBREVIATIONS

TCP	Transmission Control Protocol
FTP	File Transfer Protocol

TFTP	Trivial File Transfer Protocol
SFTP	Secure File Transfer Protocol
SMTP	Simple Mail Transfer Protocol
HTTP	Hyper Text Transfer Protocol
HTTPS	Hyper Text Transfer Protocol Secure
UDP	User Datagram Protocol
ARP	Address Resolution Protocol
Tel Net	Telecommunication Networking
POP3	Post Office Protocol Version3
BGP	Border Gateway Protocol
P2P	Point to Point Protocol
PPP	Peer to Peer Protocol
IP	Internet Protocol
SNMP	Simple Network Management Protocol
NTP	Network Time Protocol
SIP	Session Initiation Protocol
DHCP	Dynamic Host Configuration Protocol
IMAP4	Internet Message Access Protocol Version 4
RARP	Reverse Address Resolution Protocol
SSH	Secure Shell
MIME	Multipurpose Internet Mail Extension
SMIME	Secure MIME
ALGOL	Algorithmic Language
ANSI	American National Standard Institute
ATM	Asynchronous Transfer Mode
AS	Autonomous System
BASIC	Beginners All Purpose Symbolic Instruction Code
BIOS	Basic input Output System
BPS	bit Per Second
DNS	Domain Name Server
EDI	Electronic Data Interchange
URL	Uniform Resource Locator
GIF	Graphics Interchange Format
ASCII	American Standard Code for Information Interchange
ASP	Active Server Pages
BCC	Blind Carbon Copy
CC	Carbon copy
CAD	Computer Aided Design
CDMA	Code Division Multiple Access
GSM	Global System for Mobile Communication
CMOS	Complementary Metal Oxide Semi-Conductor
CMYK	Cyan Magenta Yellow Black
GPS	Global Positioning System
GUI	Graphical User Interface
HDMI	High Definition Multimedia Interface
GIGO	Garbage in Garbage Out
LIFO	Last In First Out
FIFO	First In First Out
PING	Packet Internet Gopher
HDD	Hard Disc Drive
NIC	Network Interface Controller/Cord
HDTV	High Definition Television
ISP	Internet Service Provider
JPEG	Joint Picture Expert Group



LCD	Liquid Crystal Display	SRAM	Static RAM
LED	Light Emitting Diode	DRAM	Dynamic RAM
TFT	Thin Film Transistor	PROM	Programmable ROM
CRT	Cathode Ray Tube	EPROM	Electrically PROM
MIDI	Musical Instrument Digital Interface	EEPROM	Electrically Erasable PROM
MPEG	Moving Picture Expert Group	HDD	Hard Disc Drive
PDA	Personal Digital Assistants	FDD	Floppy Disc Drive
PDF	Portable Document Format	CD	Compact Disc
ARPANET	Advanced Research Projects Agency Network	DVD	Digital Video/Versatile Disc
SQL	Structured Query Language	BRD	Blu Ray Disc
USB	Universal Serial Bus	HVD	Holographic Versatile Disc
VIRUS	Vital Information Resource Under Siege	ACID	Atomicity Consistency Isolation Durability
VOIP	Voice Over Internet Protocol	WYSIWYG	What you see is what you get
IVR	Interactive Voice Response		
WIFI	Wireless fidelity		
WIMAX	Worldwide Interoperability for Microwave Access		
ADSL	Asymmetric Digital Subscriber Line		
API	Application Program Interface		
ARP	Address Resolution Protocol		
RARP	Reverse ARP		
ICANN	Internet Corporation of Assign Names & Numbers		
DPI	Dots Per Inch		
DSL	Digital Subscriber Line		
FAT	File Allocation Table		
MANET	Mobile Ad-Hoc Network		
MIPS	Million Instruction Per Second		
BIPS	Billion Instruction Per Second		
TIPS	Trillion Instruction Per Second		
NAT	Network Address Translation		
IEEE	Institute of Electrical and Electronic Engineer		
IMAP	Internet Message Access Protocol		
ISDN	Integrated Servers Digital Network		
ISO	International Standard Organization/ International Org for Standardization		
DHTML	Dynamic Hyper Text Markup Language		
MAC	Media Access Control		
CAN	Campus Area Network		
PAN	Personal Area Network		
SAN	Storage Area Network		
CNM	Circulatory Network Mode		
IPV4	Internet Protocol Version 4		
IPV6	Internet Protocol Version 6		
DBMS	Data Base Management System		
MODEM	Modulator Demodulator		
RAM	Random Access Memory		
ROM	Read Only Memory		
SMPS	Switch Mode Power Supply		
OMR	Optical Mark Reader / Recognition		
OCR	Optical Character Reader / Recognition		
BCR	Bar Code Reader		
MICR	Magnetic Ink Character Reader / Recognition		
PCB	Printer Circuit Board		

GLOSSARY

A

- **Access time** - The amount of time it takes for requested information to be delivered from disks and memory.
- **Antivirus software** - A program designed to look for and destroy viruses that may infect the memory of a computer or files stored on a computer.
- **Artificial intelligence (AI)** - Computer systems that attempt to imitate human processes for analyzing and solving problems.
- **Accumulator** - A local storage area called a Register, in which the result of an arithmetic or logic operation is formed.

B

- **BIT** - It is basic unit of computers. It has two values 1 & 0 only.
- **BYTE** - Combination of 8 Bits.
- **Basic Input Output System (BIOS)** - Also known as ROM BIOS. It provides an abstraction layer for the hardware, i.e., a consistent way for application programs and operating system to interact with input/output devices.
- **Bug** - A software bug is an error, flaw, failure, or fault in a computer program or system produces an incorrect or unexpected result.
- **Bus** - A pathway along which electronic signals travel between the components of a computer system.

C

- **Cookie** - A packet of information that travels between a browser and the web server.
- **Crash** - Your computer or application no longer works correctly and so you "lose" all the work you've done since the last time you saved.
- **Command** - An instruction that causes a program or computer to perform a function.
- **Cache** - It is a memory storage area that keeps frequent use data readily available to the computer so that the computer does not retrieve them from slow storage devices.



- **Clock Speed** - The speed of computer is measured in clock speed. High clock speed is synonymous with high processing capability. It is measured in Megahertz (MHz).
- **Column** - A vertical block of cells in a table or spreadsheet.

D

- **Delete** - To remove an item of data from a file or to remove a file from the disk.
- **Debugging** - Locating and eliminating defects in a program.
- **Desktop** - The electronic work area on a display screen.
- **Dots Per Inch (DPI)** - It is defined as the measure of the resolution of a printer and scanner, or monitor.
- **Domain Name** - A unique name that identifies a particular website and represents the name of the server where the web pages reside.

E

- **Edit** - To make certain changes in existing data.
- **Ethernet Card** - A network adapter that enables a computer to connect to an Ethernet.

F

- **Fax** - A shortened form of the word facsimile. A copy of a document transmitted electronically from one machine to another.
- **File transfer protocol (FTP)** - A set of guidelines or standards that establish the format in which files can be transmitted from one computer to another.
- **Firewall** - A security system usually consisting of hardware and software that prevents unauthorized persons from accessing certain parts of a program, database, or network.
- **Flash Memory** - It is a type of non-volatile computer storage chip that can be electrically erased and reprogrammed. It was developed by EEPROM.

G

- **Gateway** - A machine that links two networks using different protocols.
- **Gigabyte** - A measurement of the storage capacity of a device. One gigabyte represents 1024 megabytes.
- **Google** - search engine on the web.
- **Gopher** - A protocol used for locating and transferring information on the internet. It is an internet search tool that allows users to access textual information.
- **GUI** - Graphical User Interface uses icons and menus to carry out commands such as opening files, delete files, move files etc..
- **Graphic Interchange Format (GIF)** - A simple file format for pictures and photographs that are compressed so that they can be sent quickly.

H

- **Hard copy** - Text or graphics printed on paper; also called a printout.
- **Hard disk** - A rigid type of magnetic medium that can store large amounts of information.
- **Hyperlink** - An image or portion of text on a webpage which is linked to another webpage.
- **Hub** - A network device that connects multiple computers on a LAN so that they can communicate with another network and the internet.
- **Header** - Repetitive information that appears at the top (the head) of every page of a document.
- **Hypertext transfer protocol (HTTP)** - The protocol used on the World Wide Web that permits Web clients (Web browsers) to communicate with Web servers

I

- **Icons** - In a graphical user interface (GUI), a small, pictorial, on screen representation of an object, such as a document, program, folder or disk drive.
- **Instant messaging (IM)** - A chat program that lets people communicate over the Internet in real time.
- **Internet protocol (IP) address** - A unique set of numbers that identifies a computer over a network.
- **Internet service provider (ISP)** - An organization that provides access to the Internet for a fee.
- **Intranet** - A private network established by an organization for the exclusive use of its employees. Firewalls prevent outsiders from gaining access to an organization's intranet

J

- **JPEG** - Joint Photographic Experts Group. A format for storing complex graphics in compressed form.
- **Justification** - Aligning lines of text at the left margin, the right margin, both margins, and the centre. Text aligned at both margins is considered fully justified.

K

- **Keyboard** - The device used to enter information into a computer.
- **Kilobyte** - A measurement of the storage capacity of a device. One kilobyte represents 1024 bytes.

L

- **LAN** - A local area network (LAN) is a computer network that interconnects computers within a limited area such as a home, school, computer laboratory, or office building, using network media.
- **Laptop computer** - A portable computer. Also known as a notebook computer.
- **Landscape Orientation** - The positioning of the page so that the information is printed across the long dimension of the page.



- **Liveware** - It is a term to describe the human system, opposed to hardware or software in a computer.

M

- **Macro virus** - A type of virus that attaches itself to documents or word processing templates.
- **Malware** - Software that disrupts normal computer functions or sends a user's personal data without the user's authorization.
- **Memory** - The part of a computer that stores information.
- **Memory Cell** - A circuit in memory that represents a single bit of information.
- **Mass Storage** - Storage systems that provide access to hundreds of billions of bytes of stored data. They are often referred to as Archival Storage because of the very large volumes of historical or backup data they can store.
- **MIPS** - An acronym derived from millions of instructions per second. Used to measure the speed of a processor.
- **Morphing** - The transformation of one image into another image.
- **Mobile Commerce (m-Commerce)** - A form of e-commerce that has the ability to conduct monetary transactions via a mobile device such as a cell phone.
- **Mozilla** - a web browser and successor to Netscape Communicator.
- **Multitasking** - The ability of a computer to execute more than one program at a time.

N

- **NIBBLE** - Combination of four bits.
- **Network** - A system of interconnected computers. They are of three types i. e. LAN, MAN, WAN.
- **Network Interface Card (NIC)** - This is a part of the computer that allows it to talk to other computers via a network protocol like TCP/IP.
- **Node** - A computer which is attached to the network. Each node has its own address on the network so that it can be uniquely identified and can communicate with other nodes on the same or different network.

O

- **Offline** - Refers to the state in which a computer is temporarily or permanently unable to communicate with another computer.
- **Online** - Refers to the state in which a computer is ready to communicate with other computers.
- **Open source software** - Software that makes the underlying source code available to all users at no charge.
- **Operating system (OS)** - Software that manages the internal functions and controls the operations of a computer.

P

- **Palmtop computer** - A portable computer smaller than a notebook (or laptop) computer that fits on the palm of your hand. Also called a handheld computer.

- **Password** - A user's secret identification code, required to access stored material. A procedure intended to prevent information from being accessed by unauthorized persons.
- **Piracy** - The illegal copying of software or other creative works.
- **Peripherals** - A connectable device that has an auxiliary function outside the permanent system configuration such as plotters, printers and graphic displays.
- **Phishing** - A type of computer fraud that tries to trick users into revealing their passwords and other confidential information.
- **Pixel** - A smallest picture element of a digital image. The smaller the pixels, the higher the resolution.
- **Port** - An electrical connection on the computer into which a cable can be plugged so that the computer can communicate with other devices such as printer or modem.
- **Protocol** - A set of rules and regulations that coordinates the exchange of information over the network.
- **Portrait orientation** - Positioning paper so that information is printed across the short dimension of the paper.

Q

- **Query** - An alternate pipe form of operating system, which handles data in the form of messages rather than bytes.
- **Qwerty** - It is one of the standard computer keyboard, with the character Q, W, E, R, T, Y on the top row of letters on the keyboard.

R

- **Response time** - The time a computer takes to execute a command.
- **Retrieve** - To call up information from memory or storage so that it can be processed in some way.
- **Record** - A collection of all the information pertaining to a particular subject.
- **Row** - A horizontal block of cells in a table or spreadsheet.
- **Resolution** - Measurement of the degree of sharpness of a displayed image. It is defined as number of pixels per square inch on a computer generated display.
- **Register** - A temporary storage unit for quick, direct accessibility of a small amount of data for processing.

S

- **Save As** - Give the file a name and/or store the file in a certain place.
- **Save** - Tell the computer to create a file on disk that has the information you've put into the document.
- **Scroll bar** - Allows you to move around through your document.
- **Shut down** - To quit all applications and turn off the computer.

- **Spam** - unwanted repetitious messages, such as unsolicited bulk e-mail.
- **Scanner** - An input device that can copy a printed page into a computer's memory, thus doing away with the need to type the copy.
- **Screen saver** - A program that changes the screen display while the user is away from the computer.
- **Server** - A computer that manages a shared resource and provides a set of shared user services to the clients.
- **Search Engine** - Software that searches, gathers and identifies information from a database based on an index, keywords or titles.
- **Spam** - Unwanted repetitious messages, such as unsolicited bulk e-mail.
- **Soft copy** - Information shown on the display screen.
- **Sort** - To arrange fields, records, or files in a predetermined sequence.
- **Surfing the Net** - Browsing through various Web sites on the Internet in search of interesting things.

T

- **Trash** - Place where you put files and folders that you want to delete or get rid of.
- **Topology** - The structure of the network, including physical connections such as wiring schemes and logical interactions between network devices.
- **Track** - A ring on a disk where data can be written.
- **Telnet** - A protocol for remote computing on the internet that allows a computer to act as a remote terminal on another machine, anywhere on the internet.
- **Touchpad** - The device on a laptop computer that takes the place of a mouse.
- **Touch screen technology** - The technology that permits a user to perform a function simply by touching the screen on an appropriate spot.

U

- **Uninterrupted Power Supply (UPS)** - A Battery powered backup system that provides enough electricity to a computer during a power outage so that a user can save files before shutting down the computer.
- **Universal Serial Bus (USB)** - A common standard for connecting multiple peripherals to a computer as needed.
- **Upload** - To transfer information from a client computer to a host computer.

V

- **Virus** - A piece of computer code designed as a prank or malicious act to spread from one computer to another by attaching itself to other programs.

W

- **WAP** - Wireless Application Protocol is a specification for a set of communication protocol used to allow wireless devices to access the internet and other utilities.
- **Web browser** - Software that permits a user with a click of a mouse to locate, display, and download text, video,

audio, and graphics stored in a host computer on the Web.

The most common Web browsers now in use are Internet Explorer, Google Chrome and Mozilla Firefox.

- **Web site** - One or more related pages created by an individual or an organization and posted on the World Wide Web.
- **Wi-Fi (Wireless fidelity)** - A process that permits high-speed wireless transmission of data.
- **Word processing** - The electronic process of creating, formatting, editing, proofreading, and printing documents.
- **Workstation** - A desktop computer that runs applications and serves as an access point in a local area network.

Z

- **Zombie** - A computer that has been hijacked by a cracker without the owner's knowledge and used to perform malicious tasks on the Internet.



MICROSOFT OFFICE

- ❖ **Microsoft Office** is an office suite of desktop applications, servers and services for the Microsoft Windows and OS X operating systems. It was first announced by **Bill Gates of Microsoft** on August 1, 1988 at COMDEX in Las Vegas.
- ❖ MS office primarily includes Word, Excel, PowerPoint, Access and Outlook. It also includes OneNote, Groove, InfoPath and Publisher.

MS WORD

- ❖ Microsoft Word is a word processor developed by Microsoft.
- ❖ It is used for creating, editing, formatting, storing, retrieving and printing of a text document.
- ❖ Microsoft Word's native file formats are denoted either by a .doc or .docx file extension.
- ❖ A **Cursor** is an indicator used to show the position on a computer monitor or other display device that will respond to input from a text input or pointing device.

Basic Keys (Common Tasks)

Ctrl + N	Create a new document
----------	-----------------------



Ctrl + B	Make letters bold
Ctrl + I	Make letters italic
Ctrl + U	Make letters underline
Ctrl + Shift+ <	Decrease font size one value
Ctrl + Shift + >	Increase the font size one value
Ctrl + [Decrease the font size by 1 point
Ctrl +]	Increase the font size by 1 point
Ctrl+ Spacebar	Remove paragraph or character formatting.
Ctrl + C	Copy the selected text or object
Ctrl + X	Cut the selected text or object
Ctrl + V	Paste text or an object
Ctrl + Alt + V	Paste special
Alt+ Ctrl + S	Split the document Window
Ctrl + Z	Undo the last action
Ctrl + Y	Redo the last action

- ❖ To create a document, we use **New command** at the menu.
- ❖ **Save as** is used to save a document for the first time. It is also used to change the destination of the saved file in the computer.
- ❖ **Print Preview** is used to see the document before the printout is taken.
- ❖ **Cut and Paste** options are used to move the data from one part of the document to another.

Control Keys + Function keys

Ctrl+F2	Choose the print preview command (Microsoft office Button)
Ctrl+F3	Cut on the spike
Ctrl+F4	Close the window
Ctrl+F6	Go to the next window
Ctrl+F9	Insert an empty field
Ctrl+F10	Maximise the document window
Ctrl+F11	Lock a field
Ctrl+F12	Choose the Open command (Microsoft Office Button)

- ❖ **Portrait and Landscape** options are available in **Orientation** category of Page Setup.
- ❖ **Alignment** refers to the position of text between the margins.
- ❖ **Auto complete** is a feature in word that automatically completes the spelling of days of the week and months of the year that have more than five letters in their names.

Function Keys

F1	Get help or visit Microsoft office Online.
F2	Move text or graphic.
F4	Repeat the last action
F5	Choose the Go To command (Home tab).
F6	Go to the nest pane or frame.

F7	Choose the spelling command (Review tab)
F8	Extend a selection
F9	Update the selected fields
F10	Show key tips
F11	Go to the nest field
F12	Choose the Save As command (Microsoft Office Button).

- ❖ **Header and Footer** option is used to display information such as title and page number of the document.
- ❖ The bar at the top of the window that bears the name of the window, is known as **Title Bar**.
- ❖ A screen element of MS Word that is usually located below the title bar that provides categorized options, is called **Menu Bar**.
- ❖ **Auto Correct** in word automatically corrects certain spelling, typing, capitalisation or grammar errors.
- ❖ **Thesaurus** is used for finding a synonym for a word in the document.
- ❖ Word has extensive lists of **bullets and numbering** features used for tables, lists, pages, chapters, headers, footnotes, and tables of content.

MS EXCEL

- ❖ **Microsoft Excel** is a spreadsheet application developed by Microsoft for Microsoft Windows and Mac OS.
- ❖ It features calculation, graphing tools, pivot tables, and a macro programming language called Visual Basic for Applications.
- ❖ The intersection of a row and column is called a **Cell**.
- ❖ The cell in which we are currently working is known as **Active Cell**.
- ❖ Microsoft Excel's native file formats are denoted either by a .xls or .xlsx file extension.
- ❖ A Worksheet is made of columns and rows, wherein columns run **Vertically** and rows run **Horizontally**.
- ❖ Up to Excel 2003, the standard amount of columns has been 256 and 65,536 rows.
- ❖ Excel 2007 onwards, the maximum number of rows per worksheet increased to 1,048,576 and the number of columns increased to 16,384.
- ❖ Microsoft Excel has the basic features of all spreadsheets, using a grid of cells arranged in numbered rows and letter-named columns to organize data manipulations like arithmetic operations
- ❖ The letter and number of the intersecting column and row is the **Cell Address**.
- ❖ Short cut key to insert a new worksheet in MS-Excel is **ALT + Shift + F1 + or F11**.
- ❖ **Sheet tab** is the tab at the bottom of the worksheet window that displays the name of the worksheet.
- ❖ A Microsoft office document that contains one or more worksheets is known as a **Workbook**.

Shortcut Keys of MS-Excel

Key	Description
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F2	<i>Edit the selected cell</i>
F5	<i>Go to a specific cell</i>
F7	<i>Spell check selected text and/or document</i>
F11	<i>Create chart</i>
Ctrl + Shift + ;	<i>Enter the current time</i>
Ctrl + ;	<i>Enter the current date</i>
Shift + F3	<i>Open the Excel insert function window</i>
Shift + F5	<i>Bring up Find and Replace box.</i>
Ctrl + A	<i>Select all contents of the worksheet</i>
Ctrl + B	<i>Bold highlighted selection</i>
Ctrl + I	<i>Italic highlighted selection</i>
Ctrl + U	<i>Underline highlighted selection</i>
Ctrl + P	<i>Bring up the print dialog box to begin printing</i>
Ctrl + Z	<i>Undo last action</i>
Ctrl + F9	<i>Minimise current workbook</i>
Ctrl + F10	<i>Maximise currently selected workbook</i>
Ctrl + F6	<i>Switch between open workbooks/window</i>
Ctrl + page up	<i>Move between Excel worksheet in the same Excel document.</i>
Ctrl + Page Down	<i>Move between Excel worksheets in the same Excel document</i>
Ctrl + Tab	<i>Move between two or more open Excel files</i>
Alt + =	<i>Create a formula to sum all of the above cells</i>
Ctrl + '	<i>Insert the value of the above cell into cell currently selected.</i>
Ctrl + Arrow key	<i>Move to next section to text</i>
Ctrl + Space	<i>Select entire column</i>
Shift + Space	<i>Select entire row</i>

Important Questions Based on Microsoft Word:

- Pressing F8 key for three times selects
 - A word
 - A sentence
 - A paragraph
 - Entire document
- What happens if you press Ctrl + Shift + F8?
 - It activates extended selection
 - It activates the rectangular selection
 - It selects the paragraph on which the insertion line is.
 - None of above
- How can you disable extended selection mode?
 - Press F8 again to disable
 - Press Del to disable
 - Press Esc to disable
 - Press Enter to disable
- What does EXT indicator on status bar of MS Word indicate?
 - It indicates whether the external text is pasted on document or not
 - It indicates whether extended add-ons are installed on MS Word or not
 - It indicates whether Extended Selection mode is turned on or off
 - None of above
- What is the maximum number of lines you can set for a drop cap?
 - 3
 - 10
 - 15
 - 20
- What is the default number of lines to drop for drop cap?
 - 3
 - 10
 - 15
 - 20
- What is the shortcut key you can press to create a copyright symbol?
 - Alt+Ctrl+C
 - Alt + C
 - Ctrl + C
 - Ctrl + Shift + C
- How many columns can you insert in a word document in maximum?
 - 35
 - 63
 - 55
 - 65
- What is the smallest and largest font size available in Font Size tool on formatting toolbar?
 - 8 and 72
 - 8 and 64
 - 12 and 72
 - None of above
- What is the maximum font size you can apply for any character?
 - 163
 - 1638
 - 16038
 - None of above
- Which of the following is graphics solution for Word Processors?
 - Clipart
 - WordArt
 - Drop Cap
 - All of above
- The keystrokes Ctrl + I is used to
 - Increase font size
 - Inserts a line break
 - Indicate the text should be bold
 - Applies italic format to selected text
- A character that is raised and smaller above the baseline is known as
 - Outlined
 - Raised
 - Superscript
 - Subscript
- What is the purpose of inserting header and footer in document?
 - To enhance the overall appearance of the document
 - To mark the starting and ending of page
 - To make large document more readable
 - To allow page headers and footers appear on document when printed
- Which of the following function key activates the speller?
 - F5
 - F7
 - F9
 - Shift + F7
- The minimum number of rows and columns in MS Word document is
 - 1 and 1
 - 2 and 1
 - 2 and 2
 - None of above
- Thesaurus tool in MS Word is used for

- A) Spelling suggestions B) Grammar options
C) Synonyms and Antonyms words
 D) All of above
- 18. Why Drop Caps are used in document?**
 A) To drop all the capital letters
 B) To automatically begin each paragraph with capital letter
C) To begin a paragraph with a large dropped initial capital letter
 D) None of above
- 19. A bookmark is an item or location in document that you identify as a name for future reference. Which of the following task is accomplished by using bookmarks?**
 A) To add anchors in web page
 B) To mark the ending of a paragraph of document
C) To quickly jump to specific location in document
 D) To add hyperlinks in webpage
- 20. A word processor would most likely be used to do**
 A) Keep an account of money spent
 B) Do a computer search in media center
 C) Maintain an inventory
D) Type a biography
- 21. Which of the following is not valid version of MS Office?**
 A) Office XP **B) Office Vista**
 C) Office 2007 D) None of above
- 22. You cannot close MS Word application by**
 A) Choosing File menu then Exit submenu
 B) Press Alt+F4
 C) Click X button on title bar
D) From File menu choose Close submenu
- 23. The key F12 opens a**
 A) Save As dialog box
 B) Open dialog box
 C) Save dialog box D) Close dialog box
- 24. What is the short cut key to open the Open dialog box?**
 A) F12 B) Shift F12
 C) Alt + F12 **D) Ctrl + F12**
- 25. A feature of MS Word that saves the document automatically after certain interval is available on**
A) Save tab on Options dialog box
 B) Save As dialog box
 C) Both of above
 D) None of above
- 26. Where can you find the horizontal split bar on MS Word screen?**
 A) On the left of horizontal scroll bar
 B) On the right of horizontal scroll bar
C) On the top of vertical scroll bar
 D) On the bottom of vertical scroll bar
- 27. Which of the following is not available on the Ruler of MS Word screen?**
 A) Tab stop box B) Left Indent
 C) Right Indent **D) Center Indent**
- 28. What is place to the left of horizontal scroll bar?**
 A) Tab stop buttons B) View buttons
 C) Split buttons D) Indicators
- 29. Which file starts MS Word?**
A) Winword.exe B) Word.exe
 C) Msword.exe D) Word2003.exe
- 30. How many ways you can save a document?**
 A) 3 B) 4
 C) 5 D) 6
- 31. If you want to keep track of different editions of a document which features will you use?**
 A) Editions **B) Versions**
 C) Track Change D) All of above
- 32. Background color or effects applied on a document is not visible in**
 A) Web layout view B) Print Layout view
 C) Reading View **D) Print Preview**
- 33. What is a portion of a document in which you set certain page formatting options?**
 A) Page B) Document
C) Section D) Page Setup
- 34. Borders can be applied to**
 A) Cells B) Paragraph
 C) Text **D) All of above**
- 35. Which of the following is not a type of page margin?**
 A) Left B) Right
C) Center D) Top
- 36. What is the default left margin in Word 2003 document?**
 A) 1" **B) 1.25"**
 C) 1.5" D) 2"
- 37. What is gutter margin?**
 A) Margin that is added to the left margin when printing
 B) Margin that is added to right margin when printing
C) Margin that is added to the binding side of page when printing
 D) Margin that is added to the outside of the page when printing
- 38. Portrait and Landscape are**
A) Page Orientation B) Paper Size
 C) Page Layout D) All of above
- 39. If you need to change the typeface of a document, which Tab will you choose?**
 A) References B) View
C) Format D) Insert
- 40. Which of the following is not a font style?**
 A) Bold B) Italics
 C) Regular **D) Superscript**
- 41. What happens when you click on Insert >> Clip Art**
 A) It inserts a clipart picture into document
 B) It lets you choose clipart to insert into document
C) It opens Clip Art taskbar
 D) None of above
- 42. Which option is not available in Insert Table Auto fit behavior?**
 A) Fixed Column Width B) AutoFit to Contents
 C) Autofit to Window **D) Autofit to Column**



43. To autofit the width of column
A) Double click the right border of column
B) Double click the left border of column
C) Double click the column header
D) All of above
44. From which menu you can insert Header and Footer?
A) Insert Menu B) View Menu
C) Format menu D) Tools Menu
45. After typing header text, how can you quickly enter footer text?
A) Press Page Down key and type the text for footer
B) Click on Switch between Header & Footer then type the text
C) Both of above D) None of above
46. When inserting Page number in footer it appeared 1 but you wish to show 'a.' How can you do that?
A) From format menu choose bullets and Numbering and configure necessary setting
B) From Insert menu choose Page Number and specify necessary setting
C) Click on Page Number Format tool and specify required setting
D) All of above
47. Which of the following statement is false?
A) You can set different header footer for even and odd pages
B) You can set different page number formats for different sections
C) You can set different header footer for first page of a section
D) You can set different header and footer for last page of a section
48. Where can you change the vertical alignment?
A) Formatting toolbar B) Paragraph dialog box
C) Page Setup dialog box D) Standard toolbar
49. To get to the 'Symbol' dialog box, click on the ____ menu and choose 'Symbol'.
A) Insert B) Format
C) Tools D) Table
50. Which of the following symbol sets would be most likely to contain a mathematical symbol such as a degree sign, greater than or equal to, or a Greek letter?
A) Wingdings B) Wingdings 3
C) Webdings D) Symbol
51. When assigning a shortcut key to a symbol, you should always try to select a key or key combination that is:
A) Unassigned
B) Located on the ten-key pad section of your keyboard.
C) Assigned to another task.
D) From the same font family as the symbol.
52. Suppose you wanted to create an AutoCorrect entry that would type the words 'We regret to inform you that your submission has been declined' of the following choices, which would be the best name you could assign to this entry?
A) Regret B) Subdual
C) We regret to inform you that your submission has been declined
D) 11
53. If you want to convert a symbol or several lines of text into an AutoCorrect entry, you should:
A) Insert the symbol or type the text in a Word document first. Then, select the text or symbol and go to the AutoCorrect dialog box.
B) Click the Tools menu and choose AutoCorrect Options. Then, click the Insert menu and choose Symbol (or click the Format menu and choose Paragraph) to add the symbol or paragraph to AutoCorrect.
C) AutoCorrect can only accommodate one line of text. It is not possible to convert a symbol or multiple lines of text into an AutoCorrect entry.
D) Insert the symbol or type the text in a Word document first. Then, select the text or symbol and click the Edit menu followed by Paste Special. Select New AutoCorrect Entry and then click OK.
54. AutoCorrect was originally designed to replace ____ words as you type.
A) Short, repetitive B) Grammatically incorrect
C) Misspelled words D) None of the above
55. Which of the following is the second step in creating a macro?
A) Start recording
B) Using your mouse or keyboard, perform the task you want to automate
C) Assign a keyboard shortcut to the macro
D) Give the macro a name
56. If you will be displaying or printing your document on another computer, you'll want to make sure and select the ____ option under the 'Save' tab.
A) Embed Fonts B) Embed True Type Fonts
C) Save True Type Fonts D) Save Fonts
57. In Word, the mailing list is known as the _____.
A) Data sheet B) Source
C) Data source D) Sheet
58. Which of the following is not one of the three 'Mail Merge Helper' steps?
A) Merge the two files
B) Create the main document
C) Set the mailing list parameters
D) Create the data source
59. Which of the following button will allow you to add, delete, or change records in your Data Source?
A) 'Data Source' button
B) 'Edit' button
C) 'Edit Data Source' button
D) 'Data editing' button
60. It is possible to ____ a data source before performing a merge.
A) Create B) Modify
C) Sort D) all of the above



61. What is the default font size of a new Word document based on Normal template?
A) 10 pt B) 12 pt
C) 14 pt D) None of above
62. What is the default font used in MS Word document?
A) Times New Roman B) Arial
C) Algerian D) Preeti
63. Which tab in Font dialog box contains options to apply font effects?
A) Font tab B) Character Spacing
C) Text Effects D) Standard Toolbar
64. If you need to double underline a word, how will you do that?
A) Go to Format menu and then Font option. Open Underline Style and choose Double Underline
B) From Format menu choose Font option and then from Font tab open Underline Style and select Double Underline
C) Select the text then choose Format >> Font and on Font tab open Underline Style and choose Double Underline
D) Click double underline tool on formatting toolbar
65. Drop Cap means
A) All Caps B) Small Caps
C) Title case D) None of the above
66. What is the short cut key to open Font dialog box?
A) Ctrl + F B) Alt + Ctrl + F
C) Ctrl + D D) Ctrl + Shift + D
67. How can you access the font size tool on font dialog box?
A) Ctrl + S B) Ctrl + Shift + S
C) Ctrl + P D) Ctrl + Shift + P
68. How can you make the selected character superscripted?
A) Ctrl + = B) Ctrl + Shift + =
C) Alt + Ctrl + Shift + = D) None of above
69. What does Ctrl + = key effect?
A) Superscript B) Subscript
C) All Caps D) Shadow
70. What happens if you mark on Hidden check box of Font dialog box after you select some text?
A) The text is deleted from document and you need to bring from Recycle Bin if required again.
B) The text is hidden and you need to bring it by removing the check box if needed again
C) The text is deleted and cannot be returned back
D) The text is hidden and cannot be returned back
71. How can you increase the font size of selected text by one point every time?
A) By pressing Ctrl +] B) By pressing Ctrl + [
C) By pressing Ctrl + } D) By pressing Ctrl + {
72. Which of the following line spacing is invalid?
A) Single B) Double
C) Triple D) Multiple
73. How can you apply exactly the same formatting you did to another text?
A) Copy the text and paste in new location. Then type the new text again.
B) Copy the text and click on Paste Special tool on new place
C) Select the text then click on Format Painter and select the new text
D) All of above
74. What should you do if you require pasting the same format in many places?
A) Click the Format painter and go on pasting in many places holding Alt Key
B) Double click the format painter then go on pasting in many places
C) Click the format painter then go on pasting to many places holding Ctrl Key
D) All of above
75. On which toolbar can you find Format Painter tool?
A) Standard toolbar B) Formatting toolbar
C) Drawing Toolbar D) Picture Toolbar
76. Which indent marker controls all the lines except first line?
A) First Line Indent Marker
B) Left Indent Marker
C) Hanging Indent Marker
D) Right Indent Marker
77. How can you remove tab stop markers from ruler?
A) Double click the tab marker and choose Clear All
B) Drag the tab stop marker out of the ruler
C) Right click the tab stop marker and choose remove
D) All of above
78. Which operation you will perform if you need to move a block of text?
A) Copy and Paste B) Cut and Paste
C) Paste and Delete D) Paste and Cut
79. What is the extension of Word files?
A) FIL B) DOT
C) DOC D) TXT
80. Which of the following option is not available in Insert >> Illustrations?
A) Chart B) Word Art
C) Clip Art D) Graph

COMPUTER MISCELLANEOUS QUESTIONS

1. What does ASCII stand for?
(a) American Standard Code for Information Intelligence
(b) American Standard Code for Income Interchange
(c) American Standard Code for Information Interchange
(d) American States Code for Intelligence Interchange
- (e) None of the above
2. Which of the following is a binary number?
(a) 10101000 (b) 245 (c) 200
(d) 02 3G stands for
(a) Third Generation
(b) Trillion Gigabyte (c) Tenth Girdle



- (d) Triple Generation (e) Third Game
3. Which of the following terms is related to Internet connectivity?
(a) IP (b) TCP (c) Gopher
(d) Both (a) and (b) **(e) All of the above**
4. Which of the following is related to Internet?
(a) WWW (b) CPU (c) RAM
(d) Bus (e) Port
5. Which of the following is known as the Brain of Computer?
(a) CPU (b) RAM (c) DVD
(d) ROM (e) Control Panel
6. Which of the following correctly explains Monitor?
(a) Electronic visual display
(b) Input Device
(c) Input around the desktop area
(d) Pixel based smart area
(e) Both (b) and (d)
7. PC stands for
(a) Personnel Computer (b) Personalised Computer
(c) Personal Computer (d) Personnel Computing
(e) Personalised Computing
8. Mainframe is related to
(a) Computer **(b) Super Computer**
(c) Mini Computer (d) Micro Computer
(e) None of these
9. Which of the following is known as the page?
(a) Windows page (b) Start page
(c) Memory page (d) Desktop page
(e) Document page
10. In which part of CPU is arithmetic calculation done?
(a) ALU (b) CU
(c) Digital Signal Processor
(d) RISC (e) Both 1 and 2
11. Which of the following is important for connecting more than one system?
(a) Wire **(b) LAN** (c) Bluetooth
(d) Wi-Fi (e) All of the above
12. Software for organizing, storage, updating and retrieving information is a(n)—
(a) Data warehouse
(b) Database management system
(c) Data mining (d) Operating system
(e) None of the above
13. Which of the following is essential for opening a webpage?
(a) Browser (b) Peripherals (c) Fast internet
(d) Program (e) Mouse
14. What is the term for any device which is connected to any computer system from outside?
(a) Peripheral (b) RAM (c) Memory
(d) Bus (e) All of the above
15. Which of the following is not an output Device?
(a) Plotter **(b) Mouse** (c) Monitor
(d) Printer (e) Headphone
16. A (n) ____ device is any hardware component that allows you to enter data and instructions into a computer.
(a) Output (b) Terminal **(c) Input**
(d) Communications (e) Interaction
17. What does the acronym BIOS stand for?
(a) Basic Input / Output Systemization
(b) Basic Input / Output System
(c) Basic Internal Output System
(d) Basic Internal Output System
(e) Basic Input / Output System
18. In the OS, software and data that the computer is currently using are stored in
(a) PC (b) AGP (c) Scanner
(d) RAM (e) USB
19. Which of the following is a binary number?
(a) 12 (b) 34 (c) 45
(d) 10 (e) 13
20. The process of making changes to an existing document is referred to as ____ it.
(a) Modifying (b) Adjusting (c) Changing
(d) Creating **(e) Editing**
21. Which of the following refers to containers used to store related documents located on the computer?
(a) Labels (b) Indexes (c) Programs
(d) Folders (e) Sections
22. Which of the following refers to the means by which an OS or any other programs interacts with the user?
(a) Program front-end (b) Programming interface
(c) User login **(d) User interface**
(e) User compatibility
23. The ____ format reduces an audio file to about one-tenth of its original size while preserving much of the original quality of the sound.
(a) DOC (b) PNG (c) GIF
(d) MP3 (e) VMEG
24. The ____ which contains billion of documents called web pages is one of the more popular services on the internet.
(a) Web server (b) Telnet (c) Web
(d) Collection (e) News net
25. What type of device is a printer?
(a) Output device (b) Input device
(c) Processing device (d) Storage device
(e) None of these
26. Which of the following terms is associated with Internet/Email?
(a) Plotter (b) Slide presentation
(c) Bookmark (d) Pie Chart (e) Microsoft Excel
27. Which of the following is contained at the end of the file name and helps to determine the type of file?
(a) File property (b) The nomenclature
(c) The name (d) File subtitle
(e) File extension
28. What is Linux?
(a) Input Device **(b) Operating system**
(c) Storage Device (d) Output Device
(e) Processor
29. Which of the following is a small microprocessor-based computer designed to be used by one person at a time?



- (a) Netbook (b) Notebook (c) Supercomputer
(d) **Personal computer** (e) All-in-one
30. Key-board and _____ are examples of input devices.
(a) Monitor (b) Modem (c) Printer
(d) **Mouse** (e) CPU
31. Which among the following is the most prevalent storage device for personal computer?
(a) **Flash Drive** (b) USB personal computer
(c) Mainframe (d) Laptop
(e) None of these
32. Website address is such a unique name which recognizes a specific _____ on web.
(a) Web browser (b) **Website** (c) PDA
(d) Link (e) None of these
33. A bit refers to _____.
(a) A form of storage
(b) A value equal to a kilobyte
(c) The same things as a pixel
(d) **The smallest unit of digital information.**
(e) A value equal to megabyte
34. Hard disk drives are considered _____ storage.
(a) Flash (b) **Non-volatile**
(c) Temporary (d) Non-permanent
(e) Worthless
35. In _____ back-up of any computer there is a copy of each program, data and system file.
(a) Restoration (b) Boot strap (c) Differential
(d) **Full** (e) None of these
36. Which of the following terms is associated with networks?
(a) Mouse (b) Plotter (c) MS Excel
(d) MS Word (e) **Connectivity**
37. DVD is an example of
(a) **Optical device** (b) Output device
(c) Hard disk (d) Solid state storage device
(e) None of these
38. What type of device is a computer monitor?
(a) **Output** (b) Input (c) Storage
(d) Processing (e) Software
39. What is Window Explorer?
(a) Personal Computer (b) Network
(c) **File Manager** (d) Drive (e) Web browser
40. Binary Number system is also called _____.
(a) **Base-2 number system**
(b) Base-1 number system
(c) Base-3 number system
(d) Base-8 number system
(e) Base-16 number system
41. 30,000 bytes is equal to
(a) **30 KB** (b) 3 MB (c) 3 GB
(d) 3 TB (e) None of these
42. Terminal is a:
(a) device to give power supply to computer
(b) **Point at which data enters or leaves the computer**
(c) The last instruction in a program
(d) any input /output device
- (e) None of these
43. Which part of a computer cannot be touched?
(a) Mouse (b) Monitor (c) Hardware
(d) **Software** (e) None of these
44. Manipulation of data in computer is called
(a) Boot (b) **Processing** (c) Simplification
(d) Format (e) Clean disk
45. Which computer bus connects the main memory to the memory controller in computer systems?
(a) Data Bus (b) **Memory Bus**
(c) I/O Bus (d) Both (b) and (c)
(e) None of these
46. _____ and _____ are the two types of computer memory.
(a) RAM and CPU (b) ROM and CPU
(c) **RAM and ROM** (d) RAM and BIOS
(e) BIOS and ROM
47. What is the full form of CRT?
(a) **Cathode Ray Tube**
(b) Computer Resolution and Transparency
(c) Cathode Resolution and Transparency
(d) Computer RAM Trash
(e) None of these
48. Which among the following is not hardware?
(a) Motherboard (b) **Operating system**
(c) CPU (d) Keyboard
(e) Hard disk drive
49. Which of the following is software?
(a) Motherboard (b) CPU
(c) **Microsoft Windows**
(d) RAM (e) All of these
50. In computing, a _____ is a directive to a computer program order to perform a specific task.
(a) Hard boot (b) Hibernation
(c) **Command** (d) Warm boot (e) Format
51. Which of the following is/are modifier keys in a computer?
(a) Ctrl (b) Alt (c) Shift
(d) Both 2 and 3 (e) **All of the above**
52. Which among the following is associated with Internet Mail?
(a) **Inbox** (b) Server (c) Trash
(d) Drop Box (e) One Drive
53. What is a cursor?
(a) It is an indicator
(b) It shows the position on a computer monitor
(c) Cursor is Latin for 'runner'.
(d) Both 1 and 2
(e) **All of the above**
54. Which among the following is not legitimate type of computer virus?
(a) Boot Virus (b) File infector Virus
(c) Resident Virus (d) **Hangout Virus**
(e) Macro Virus
55. _____ is a self-contained step-by-step set of operations to be performed.
(a) **Algorithm** (b) Application software
(c) Network topology (d) System Software



- (e) Utility software
56. In computing, what is a tape drive?
(a) **A data storage device** (b) An OCR device
(c) A pointing device (d) A multimedia device
(e) A text editing device
57. What does HTML stand for?
(a) Hyper Text Making Links
(b) **Hyper Text Markup Language**
(c) Higher Textual Marking of Links
(d) Hyper Text Mixer of Links
(e) None of these
58. The short cut key Ctrl + R is used in Excel to
(a) Right align the content of cell
(b) Remove the cell contents of selected cells
(c) **Fill the selection with active cells to the right**
(d) Select multiple rows
(e) None of these
59. 'Linux' is ____ operating system.
(a) Microsoft (b) Apple (c) Interface
(d) Android (e) **Open source**
60. The full form of VDA is
(a) **Virtual Desktop Access**
(b) Visual Desktop Array (c) Virtual Desktop Array
(d) Visual Desktop Access (e) None of these
61. WAN stands for
(a) Whole Area Network (b) **Wide Area Network**
(c) Wide Array Net (d) Wireless Area Network
(e) None of these
62. Which among the following is an Input Device?
(a) Monitor (b) **Joystick** (c) Plotter
(d) Both 1 and 2 (e) All of the above
63. Which among the following is the largest computer?
(a) Mainframe computer (b) Personal Computer
(c) Laptop (d) Notebook
(e) **Supercomputer**
64. ISDN stands for
(a) Integral Service Dynamic Network
(b) International Subscriber Dialup Network
(c) International Service Digital Network
(d) **Integrated Service Digital Network**
(e) None of these
65. ____kb is approximately equal to Megabyte.
(a) 10,000 (b) 1532 (c) **1000**
(d) 100 (e) 10
66. Which of the following is not a binary number?
(a) 110010 (b) **201020** (c) 101010
(d) 100001 (e) 1011101
67. Which of the following is an operating system?
(a) Compiler (b) Plotter (c) **Mac**
(d) Both 1 and 2 (e) All of the above
68. Which of the following is not an operating system?
(a) Android (b) Windows XP (c) iOS
(d) **Compiler** (e) None of these
69. Which of the following is a base of hexadecimal number?
(a) 8 (b) 2 (c) 10
(d) **16** (e) 24
70. Which of the following is the name of an application similar to MS Office?
(a) Libre Office (c) Open Office (c) Neo Office
(d) Free Office (e) **All of the above**
71. What is the full form of UNIVAC?
(a) **Universal Automatic Computer**
(b) Universal Array Computer
(c) Unique Automatic Computer
(d) Unvalued Automatic Computer
(e) None of these
72. The process of converting analog signals into digital signals so they can be processed by a receiving computer is referred to as
(a) **Modulation** (b) Demodulation
(c) Synchronizing (d) Digitizing
(e) Transmission
73. Which of the following memory has stored data in large number?
(a) RAM (b) ROM (c) Cache memory
(d) **Hard Disk** (e) None of these
74. Generally, web address is located by
(a) Hyperlink (b) HTTP (c) **URL**
(d) Locator (e) Browser
75. Which of the following is more than TB ?
(a) MB (b) KB (c) **PB**
(d) Bit (e) Bytes
76. A web address is a unique name that identifies a specific ____ on the internet.
(a) URL (b) HTML (c) CSS
(d) **Website** (e) None of these
77. If you wish to extend the length of the network without having the signal degrade, you would use a
(a) Gateway (b) Router (c) Modem
(d) **Repeater** (e) Resonator
78. The ____ button on the Quick Access Toolbar allows you to cancel your recent commands or activities.
(a) Search (b) Cut
(c) **Undo** (d) Redo
79. The main folder on a storage device is called
(a) Platform (b) Interface
(c) **Root Directory** (d) Device Driver
(e) None of these
80. The blinking symbol on the computer screen is called
(a) Mouse (b) Logo (c) Hand
(d) **Cursor** (e) Palm
81. Which of the following is not a computer programming language?
(a) **Windows** (b) PASCAL
(c) BASIC (d) COBOL
82. When you want to move some text from one page to a different page, the best method is
(a) Drag and drop (b) **Cut and paste**
(c) Delete and retype (d) Find and replace
(e) None of these
83. A ____ is example of an Input Device.
(a) Printer (b) **Keyboard** (c) Monitor
(d) Compiler (e) All of these

84. What is the full form of MICR?
(a) Magnetic Ink Character Reader
 (b) Magnetic Ink Code Reader
 (c) Magnetic Ink Cases Reader
 (d) Magnetic Instant Code Recognition
 (e) Magnetic Ink Code Recognition
85. Text in a column is generally aligned _____.
(a) Justified (b) Right (c) Centre
 (d) Left (e) None of these
86. What does the term GUI in computing stands for _____.
 (a) Graphical utility interface
 (b) Graphical user input
(c) Graphical user interface
 (d) Graphics user intake
 (e) Graphics user information
87. A saved document is referred to as _____.
(a) file (b) folder (c) project
 (d) data (e) word
88. Which of the following is not example of Utility Software?
 (a) Backup software (b) Antivirus software
 (c) Disk tools **(d) Media Players**
 (e) None of these
89. Example of telecommunication device is a _____.
(a) modem (b) printer (c) keyboard
 (d) scanner (e) mouse
90. What is the full form of Internet communication protocol TCP/IP?
 (a) Transmission Control Practice/Internet Practice
(b) Transmission Control Protocol/Internet Protocol
 (c) Transport Control Protocol/Internet Protocol
 (d) Transport Component Practice/International Practice
 (e) Telephone Call Protocol/International Protocol
91. Chip is a common nickname for a(n) _____.
 (a) Transistor (b) Semi-conductor
 (c) Resister (d) Hard disk
(e) Integrated circuit
92. Which among the following is a disadvantage of an EDI system?
 (a) Speed (b) Errors **(c) Expensive**
 (d) Mismatch (e) None of these
93. A device that not only provides surge protection, but also furnishes the computer with battery backup power during a power outage is _____.
 (a) Battery strip **(b) UPS** (c) Surge strip
 (d) USB (e) Memory
94. Which of the following is a recent version of operating systems?
 (a) Windows XP (b) Windows 7 Basic
 (c) Windows 8 **(d) Windows 10**
 (e) Windows 2013
95. What is the full form of SMTP?
 (a) Swift Mail Transmission Program
(b) Simple Mail Transfer Protocol
 (c) Swift Mail Transfer Program
 (d) Spam Mail Trash Program
 (e) None of these
96. A high speed device used in CPU for temporary storage during processing is called
(a) Register (b) Bus (c) Compiler
 (d) Translator (e) Bus
97. Which of the following is used for establishing connection to other document or locations within a website?
(a) Hyperlink (b) Web link (c) CSS
 (d) Java query (e) HTML Link
98. When a computer is turned on, where does it get the first instructions that it loads into RAM?
 (a) From RAM **(b) From ROM**
 (c) From the Hard Disk
 (d) From a CD (e) None of these
99. Which of the following is the coding of data so that it can't be easily understood if intercepted?
 (a) Barcode (b) Decoder **(c) Encryption**
 (d) Mnemonics (e) None of the above

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