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Important Inventions & Founders

- First Modern Computer in the World- **ENIAC**
- Father of Computer– **Charles Babbage**
- Inventor of Punch Cards in Computer – **Hollerith**
- Computer Graphics was developed by – **William Fetter**
- ARPANET was developed by – **DARPA**
- Compiler was developed by – **Dr. Grace Murray Hopper**
- Father of Computer Animations- **John Whitney**
- Keyboard was invented by- **Christopher Latham Sholes**
- Laptop Computer was invented by – **Adam Osborne**
- First GUI Computer Game was invented by- **A.S. Douglas**
- Computer BIOS was invented by **– Gary Kildall**
- Inventors of Computer Chip– **Jack Kilby & Robert Noyce**
- Father of Computer Hard Disk- **Reynold Johnson**
- Inventor of First Data Base – **Dr. Edgar Frank Codd**
- Inventor of Computer Scanner **– Ray Kurzweil**
- Inventor of Computer Speakers- **Abinawan Puracchidas**
- Inventor of MS-DOS Operating Systems- **Microsoft**
- Founder of Apple Computers **– Steve Jobs**
- Founder of Artificial Intelligence – **John McCarthy**
- Founder of Bluetooth – **Ericsson**
- Father of C Language – **Dennis Ritchie**
- Father of C++ language – **Bjarne Stroustrup**
- Founder of Email **– Shiva Ayyadurai**
- Founder of Google – **Larry Page and Sergey Brin**
- Founder of Internet – **Vint Cerf**
- Father of Java **- James Gosling**
- Founder of Linux – **Linus Torvalds**
- Founder of Microsoft – **Bill Gates and Paul Allen**
- Founder of Mobile Phones – **Martin Cooper**
- Founder of Mouse – **Douglas Engelbart**
- Founder of Php – **Rasmus Lerdorf**
- Founder of USB – **Ajay V.Bhatt**
- Founder of WWW – **Tim Berners-Lee**
- Founder of Yahoo – **Jurry Yang and David Filo**
- First Commercial Computer – **UNIVAC**
- ENIAC and UNIVAC was developed by – **John Mauchly and J. Presper Eckert**

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Generation of Computers

	1st	2nd	3rd	4th	5th
Period	1940 – 1956	1956 – 1963	1964 – 1971	1972 – 2010	2010-till date
Components	Vacuum Tubes	Transistor	Integrated Circuits – ICs	Microprocessor, Large Scale ICs	Silicon Chips, ULSI,AI
Computer	EDVAC,ENIAC,EDSAC UNIVAC	IBM-1401	IBM-370	PDP 11	NoteBook UltraBook....

Types of Computer

1. PC **2. Minicomputer** **3.Microcomputer**

4. Mainframe Computer **5.Palmtop** **6.Super computer**

1. Personal Computer: A Personal Computer can be defined as a small, relatively inexpensive computer designed for an individual user. Personal Computers are based on the microprocessor technology that enables manufacturers to put an entire CPU on one chip. Businesses use personal computers for word processing, accounting, desktop publishing, and for running spreadsheet and database management applications. At home, the most popular use for personal computers is playing games and surfing the Internet.

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2. Mini Computer: Mini Computer is a midsize multi-processing system capable of supporting up to 250 users simultaneously. These were designed for specific tasks but have now lost popularity due to the advent of PCs. Some of the Popular Minicomputers are given below:

- IBM Midrange computers
- Texas Instrument TI-990

3. Mainframes: Mainframe is very large in size and is an expensive computer capable of supporting hundreds or even thousands of users simultaneously. Mainframe executes many programs concurrently and supports many simultaneous executions of programs.

Super Computer

A **supercomputer** is a computer with great speed and memory. This kind of computer can do jobs faster than any other computer of its generation. They are usually thousands of times faster than ordinary personal computers made at that time. The first Atlas was officially commissioned on **7 December 1962**, nearly three years after the Cray **CDC6600** **S**upercomputer was introduced, as one of the world's first supercomputers. **Seymour Cray** is called as father of super computer.

Top 5 Super Computer in the world in year-2018

Rank	Name	Site
1	**Summit**	IBM Power System AC922, IBM POWER9 22C 3.07GHz, NVIDIA Volta GV100, Dual-rail Mellanox EDR Infiniband , IBM DOE/SC/Oak Ridge National Laboratory, United States
2	**Sunway TaihuLight**	Sunway MPP, Sunway SW26010 260C 1.45GHz, Sunway , NRCPC, National Supercomputing Center in Wuxi, China
3	**Sierra**	IBM Power System S922LC, IBM POWER9 22C 3.1GHz, NVIDIA Volta GV100, Dual-rail Mellanox EDR Infiniband , IBM DOE/NNSA/LLNL,United States
4	**Tianhe-2A**	TH-IVB-FEP Cluster, Intel Xeon E5-2692v2 12C 2.2GHz, TH Express-2, Matrix-2000 , NUDT, National Super Computer Center in Guangzhou,China
5	**AI Bridging Cloud Infrastructure (ABCI)**	PRIMERGY CX2550 M4, Xeon Gold 6148 20C 2.4GHz, NVIDIA Tesla V100 SXM2, Infiniband EDR , Fujitsu National Institute of Advanced Industrial Science and Technology (AIST),Japan

As of June 2018, India has 5 systems on the TOP500 list ranking	
Rank	**Name**
39	Pratyush (Cray XC40)
66	Mihir (Cray XC40)
206	InC1 - Lenovo C1040
327	SERC - Cray XC40
496	iDataPlex DX360M4

SOME Fact about Super computer-:

1. Start from -: **December 1962**
2. Company -:**CDC,UK**
3. Father of Super Computer-:**Seymour Cray**
4. First Super Computer-:**CDC-6600**

In India-:

1. Start from -:**December 1990**
2. Company -**C-DAC,Pune**
3. First Super Computer-**PARAM-8000**

Computer Memory

Computer memory is the storage space in computer where data is to be processed and instructions required for processing are stored.

Primary Memory (Main Memory)-Primary memory holds only those data and instructions on which computer is currently working. It has limited capacity and data is lost when power is switched off. It is generally made up of semiconductor device. These memories are not as fast as registers. The data and instruction required to be processed reside in main memory. It is divided into two subcategories RAM and ROM.

Secondary Memory(Auxiliary Memory)- This type of memory is also known as external memory or non-volatile. It is slower than main memory. These are used for storing data/Information permanently. CPU directly does not access these memories instead they are accessed via input-output routines. Contents of secondary memories are first transferred to main memory, and then CPU can access it. For example: disk, CD-ROM, DVD etc.

Characteristics of Main Memory	Characteristic of Secondary Memory
These are semiconductor memories. It is also known as main memory.	These are magnetic and optical memories It is known as backup memory.
Usually volatile memory.	It is non-volatile memory.
Data is lost in case power is switched off.	Data is permanently stored even if power is switched off.
It is working memory of the computer.	It is used for storage of data in a computer.
Faster than secondary memories.	Computer may run without secondary memory. Slower than primary memories.

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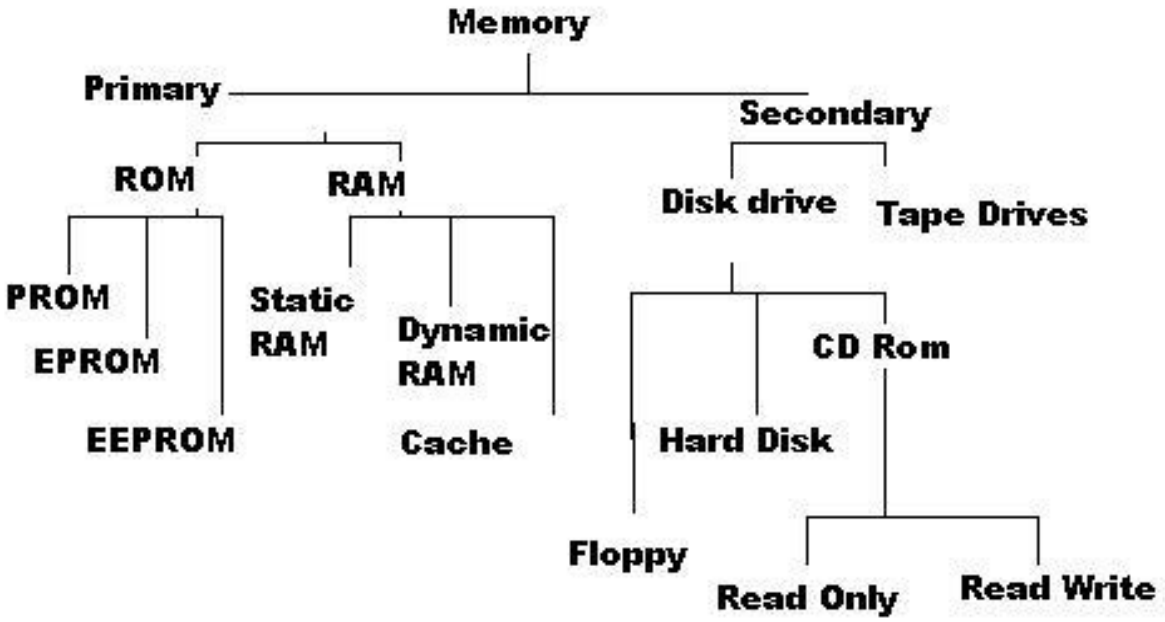

RAM (Random Access Memory) is the internal memory of the CPU for storing data, program, and program result. It is a read/write memory which stores data until the machine is working. As soon as the machine is switched off, data is erased. RAM is volatile, i.e. data stored in it is lost when we switch off the computer or if there is a power failure. Hence, a backup Uninterruptible Power System (UPS) is often used with computers.

RAM is of two types-:

1. Static RAM (SRAM) **2. Dynamic RAM (DRAM)**

Static RAM (SRAM) : The word **static** indicates that the memory retains its contents as long as power is being supplied. However, data is lost when the power gets down due to volatile nature. SRAM chips use a matrix of 6-transistors and no capacitors. Transistors do not require power to prevent leakage, so SRAM need not be refreshed on a regular basis. There is extra space in the matrix, hence SRAM uses more chips than DRAM for the same amount of storage space, making the manufacturing costs higher. SRAM is thus used as cache memory and has very fast access.

Dynamic RAM (DRAM) : DRAM, unlike SRAM, must be continually **refreshed in order to maintain the data**. This is done by placing the memory on a refresh circuit that rewrites the data several hundred times per second. DRAM is used for most system memory as it is cheap and small. All DRAMs are made up of memory cells, which are composed of one capacitor and one transistor.

Cache Memory : Cache memory is a very high speed semiconductor memory which can speed up the CPU. It acts as a buffer between the CPU and the main memory. It is used to hold those parts of data and program which are most frequently used by the CPU. The parts of data and programs are transferred from the disk to cache memory by the operating system, from where the CPU can access them.

ROM (Read Only Memory): ROM stands for **Read Only Memory**. The memory from which we can only read but cannot write on it. This type of memory is non-volatile. The information is stored permanently in such memories during manufacture. A ROM stores such instructions that are required to start a computer. This operation is referred to as **bootstrap**. ROM chips are not only used in the computer but also in other electronic items like washing machine and microwave oven.

MROM (Masked ROM): The very first ROMs were hard-wired devices that contained a pre-programmed set of data or instructions. These kind of ROMs are known as masked ROMs, which are inexpensive.

PROM (Programmable Read Only Memory) : PROM is read-only memory that can be **modified only once by a user**. The user buys a blank PROM and enters the desired contents using a PROM program. Inside the PROM chip, there are small fuses which are burnt open during programming. It can be programmed only once and is not erasable.

EPROM (Erasable and Programmable Read Only Memory) : EPROM can be erased by exposing it to ultra-violet light for a **duration of up to 40 minutes**. Usually, an EPROM eraser achieves this function. During programming, an electrical charge is trapped in an insulated gate region. The charge is retained for more than 10 years because the charge has no leakage path. For erasing this charge, ultra-violet light is passed through a quartz crystal window (lid). This exposure to ultra-violet light dissipates the charge. During normal use, the quartz lid is sealed with a sticker.

EEPROM (Electrically Erasable and Programmable Read Only Memory) : EEPROM is programmed and erased electrically. It can be erased and reprogrammed about ten thousand times. Both erasing and programming **take about 4 to 10 ms** (millisecond).

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In EEPROM, any location can be selectively erased and programmed. EEPROMs can be erased one byte at a time, rather than erasing the entire chip. Hence, the process of reprogramming is flexible but slow.

Units of Computer Memory

Bit (Binary Digit)	**0,1**
1 Nibble	**4 Bits**
1 Byte or Character	**8 Bits**
1 KB (Kilo Byte)	**1024 Bytes**
1 MB (Mega Byte)	**1024 KB**
1 GB (Giga Byte)	**1024 MB**
1 TB (Tera Byte)	**1024 GB**
1 PB (Peta Byte)	**1024 TB**
1EB (Exa Byte)	**1024 PB**
1ZB (Zetta Byte)	**1024 EB**
1YB (Yotta Byte)	**1024 ZB**

Virtual memory- : Virtual memory is a memory management technique for letting processes execute outside of memory. This is very useful especially is an executing program cannot fit in the physical memory.

Online Live Class COMPUTER MEMORY (PRIMARY MEMORY) PART- 1

https://www.youtube.com/watch?v=ahrD7xei7Ag&index=14&list=PLUBOuzNf9-fpFWVbIAD8IRikYBOHJGE6M

Online Live Class COMPUTER MEMORY (Secondary memory) PART-2

https://www.youtube.com/watch?v=M2FDms-U3b4&list=PLUBOuzNf9-fpFWVbIAD8IRikYBOHJGE6M&index=13

Operating System

An **Operating System**, or OS, is a software program that enables the computer hardware to communicate and operate with the computer software. Without a computer Operating System, a computer would be useless.

Basic functions of an operating system-

- Operating system controls and coordinates the use of the hardware among the various applications programs for various uses.
- **Operating system** acts as **resource allocator** and manager. Since there are many possibly conflicting requests for resources the operating system must decide which requests are allocated resources to operating the computer system efficiently and fairly?
- Operating system is control program which controls the user programs to prevent errors and improper use of the computer. It is especially concerned with the operation and control of I/O devices.
- **Multiprogramming –** In multiprogramming more than one program reside in the main memory. When one job is unable to execute because of I/O operation to complete, it switches to other program and allow that program to run the main motive of multiprogramming is to utilize the CPU efficiently.
- **Multitasking-**In multitasking operating system more than one program is assigned to the CPU or switches between the programs occurs so fast that it seems like more than one program is running. The main motive of multitasking is to utilize the CPU efficiently and reduce the response time.
- **Multiprocessing-**In multiprocessing operating system a task is divided between more than one processor (CPU) so that parallelism can be achieved.
- **Multithreading** -Sometime a program need to do multiple task at the same time. It is an extension of multiprogramming. In multithreading the program is divided into multiple task.

Throughput, Turnaround time, waiting time and Response time -:

- **Throughput** – number of processes that complete their execution per time unit.
- **Turnaround time** – amount of time to execute a particular process.
- **Waiting time** – amount of time a process has been waiting in the ready queue.
- **Response time** – amount of time it takes from when a request was submitted until the first response is produced, not output (for time-sharing environment).

Hard and Soft real-time systems-:

- **A hard real** time system guarantees that critical tasks complete on time. This goal requires that all delays in the system be bounded from the retrieval of the stored data to the time that it takes the operating system to finish any request made of it.
- **A soft real** time system where a critical real-time task gets priority over other tasks and retains that priority until it completes. As in hard real time systems kernel delays need to be bounded

Windows

- In 1983 **Bill Gates** announces Microsoft Window November 10, 1983,
- Microsoft **Windows 1.01** is introduced in **November 20,1985** and initially sold for $100.00
- Microsoft **Windows 1.03** is introduced in **August 1986**.
- Microsoft **Windows NT(New Technology)** is introduced in **27 July 1993.**
- Microsoft **Windows ME(Millennium)** is introduced in **2000.**
- Microsoft **Windows XP (eXPerience)** is introduced in **25 October 2001.**

COMPUTER LANGUAGES: A language is the main medium of communicating between the Computer systems and the most common are the programming languages. As we know a Computer only understands binary numbers that is 0 and 1 to perform various operations but the languages are developed for different types of work on a Computer. A language consists of all the instructions to make a request to the system for processing a task.

Low Level Language:
Low level languages are the machine codes in which the instructions are given in machine language in the form of 0 and 1 to a Computer system. It is mainly designed to operate and handle all the hardware and instructions set architecture of a Computer. Low level language is also divided into two parts are Machine language and Assembly language.

High Level Language:
The high level languages are the most used and also more considered programming languages that helps a programmer to read, write and maintain. It is also the third generation language that is used and also running till now by many programmers. They are less independent to a particular type of Computer and also require a translator that can convert the high level language to machine language. The translator may be an interpreter and Compiler that helps to convert into binary code for a Computer to understand.

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GENERATION LANGUAGES:
1st - Machine and Assembly language
2nd - Assembly language and high level languages (FORTRAN , COBOL)
3rd - High level languages (FORTRAN II - IV , COBOL , PASCAL , BASIC, ALGOL68)
4th - High level languages(FORTAN 77 , PASCAL , COBOL)
5th - High level languages(C , C++ ,JAVA , .NET)

LANGUAGE TRANSLATOR:
Compiler : It's a computer program(s) that transforms source code written in a programming language into machine language that is the target language which usually has a binary form known as object code.

Interpreter : It translates high level instructions into an intermediate form, it translates the code into the intermediate form line by line an caries out specific actions.

Assembler : It is a program that takes basic computer instruction(s) and converts then into a pattern of bits that the computer's processor can use to perform it's basic operations. The language used to program the assembler is called assembly language.

Networking

A **computer network** is a system in which multiple computers are connected to each other to share information and resources.

Characteristics of a Network:

A network is a group of systems that are connected to allow sharing of resources—such as files or printers—or sharing of services-such as an Internet connection .There are two aspects of setting up a network: the hardware used to connect the systems together and the software installed on the computers to allow them to communicate.

Basic Communication Model :

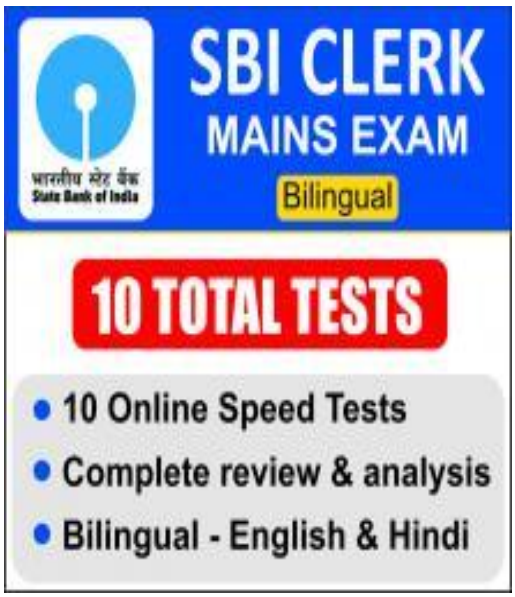
Communication model is used to exchange data between two parties. For example communication between a computer, server and telephone (through modem).

- **Source-** Data to be transmitted is generated by this device, example: telephones, personal computers etc.
- **Transmitter-** The data generated by the source system are not directly transmitted in the form they are generated. The transmitter transforms and encodes the information in such a form to produce electromagnetic waves or signals.
- **Transmission System-** A transmission system can be a single transmission line or a complex network connecting source and destination.
- **Receiver-** Receiver accepts the signal from the transmission system and converts it to a form which is easily managed by the destination device.
- **Destination-**Destination receives the incoming data from the receiver.

Network Topology:

Topology is the geometric arrangement of a computer system. Each computer system in a topology is known as a node. Network topology is determined only by the configuration of connections between nodes.

- **Bus Topology:** A bus topology is such that there is a single line to which all nodes are connected and the nodes connect only to this bus.
- **Mesh Topology:** This type of network topology contains at least two nodes with two or more paths between them.
- **Ring Topology:** In this network topology, every node has exactly two branches connected to it. The ring is broken and cannot work if one of the nodes on the ring fails.
- **Star Topology:** In this network topology, the peripheral nodes are connected to a central node, which rebroadcasts all transmissions received from any peripheral node to all peripheral nodes on the network, including the originating node.
- **Tree Topology:** This is a network topology in which nodes' are arranged as a tree. The function of the central node in this topology may be distributed.



Servers

The server is a special computer that contains more disk space and memory than are found on client workstations. The server has special software installed that allows it to function as a server. This special software can provide file and print services (to allow sharing of files and printers), provide web pages to clients, or provide e-mail functionality to the company.

Workstations -The workstation also is known as a client, which is just a basic computer running a client operating system such as Windows XP or Linux. These users typically store their files on a central server so that they can share the files with other users on the network.

Hosts-The term host refers to any computer or device that is connected to a network and sends or receives information on that network. A host can be a server, a workstation, a printer with its own network card, or a device such as a router. We can summarize by saying that any system or device that is connected to the network is known as a host.

Types of Networks-Organizations of different sizes, structures, and budgets need different types of networks. Networks can be divided into one of two categories: peer-to-peer or server-based networks.

1. **Peer-to-Peer Network**
2. **Server-Based Networks**

Peer-to-Peer Network

A peer-to-peer network has no dedicated servers instead; a number of workstations are connected together for the purpose of sharing information or devices. When there is no dedicated server, all workstations are considered equal; any one of them can participate as the client or the server. Peer-to-peer networks are designed to satisfy the networking needs of home networks or of small companies that do not want to spend a lot of money on a dedicated server but still want to have the Capability to share information or devices. For example, A small peer-to-peer network will allow these three computers to share the printer and the customer information with one another .The extra cost of a server was not incurred because the existing client systems were networked together to create the peer-to-peer network. A big disadvantage of peer-to-peer networking is that you can't do your day-today administration in a single place.

Server-Based Networks

Usually after four or five systems have been networked, the need for a dedicated server to store all of the user accounts and data files becomes apparent—this is a server-based network. The advantage of a server-based network is that the data files that will be used by all of the users are stored on the one server. This will help you by giving you a central point to set up permissions on the data files, and it will give you a central point from which to back up all of the data in case data loss should occur. With a server-based network, the network server stores a list of users who may use network resources and usually holds the resources as well. The server in a server-based network may provide a number of different services. The services it will offer to the network usually are decided by the server's role. There are a number of different roles that a server could play on a network:

1. File and print Servers 2.Application servers 3.Web servers 4.Directory servers

1. File and print servers-

File and print servers control and share printers and files among clients on the network. File and print servers were the original reason to have a network; a large number of users needed access to the same files, so the files were placed on a server, and all clients were connected to the server when they needed to work with the files.

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2. Application servers-

Application servers are servers that run some form of special program on the server. A good example of an application server is a server that runs the company's e-mail server. The e-mail server software is special software that can be run on a server operating system. Another example of software that would run on an application server is a database server product such as Microsoft SQL Server. A database server is a server that holds the company's core business data and typically gives this data to custom applications that run on the workstations. These are some applications that you might find on an application server:

1. Microsoft SQL Server 2.Oracle 3.Microsoft Exchange Server 4.IBM Lotus Domino

3. Web servers-

Web servers are servers that run the Hypertext Transfer Protocol (HTTP) and are designed to publish information on the Internet or the corporate intranet. Web servers are popular in today's businesses because they host web applications (web sites) for the organization. These web applications could be designed for internal use, or they could be used to publish information to the rest of the world on the Internet. Examples of web server software are Microsoft's Internet Information Services that runs on Windows or Apache web server software that runs on UNIX/Linux, Novell NetWare, and Windows.

4. Directory servers-

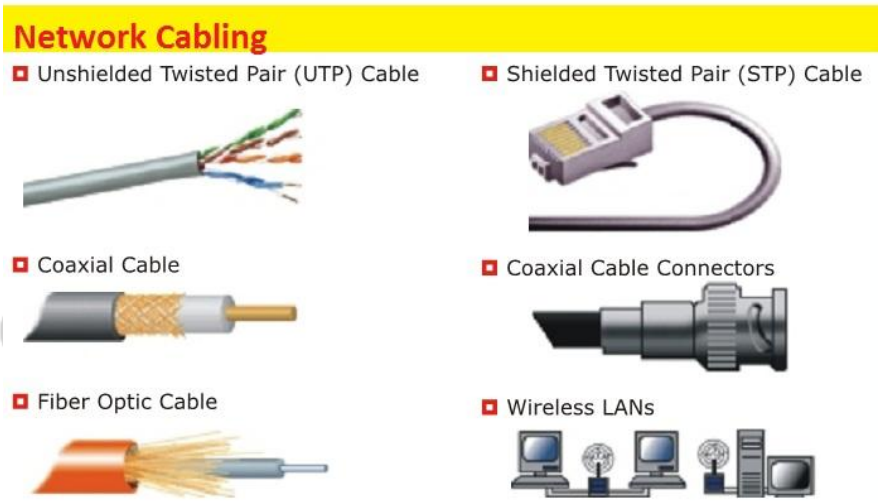
Directory servers hold a list of the user accounts that are allowed to log on to the network. This list of user accounts is stored in a database (known as the directory database) and can store information about these user accounts such as address, city, phone number, and fax number. A directory service is designed to be a central database that can be used to store everything about such objects as users and printers.

Network Media and Connectors-:

Cabling is the medium for the transmission of data between hosts on the LANs. LANs can be connected together using a variety of cable types, such as unshielded twisted-pair, coax, or fiber. Each cable type has its own advantages and disadvantages, which you will examine in this section. There are three primary types of cable media that can be used to connect systems to a network—coaxial cable, twisted-pair cable, and fiber-optic cable. Transmission rates that can be supported on each of these physical media are measured in millions of bits per second, or megabits per second (Mbps).

Coaxial Cable-:

Coaxial, or coax, cable looks like the cable used to bring the cable TV signal to your television. One strand (a solid-core copper wire) runs down the middle of the cable. There are two types of coax cabling: thinnet and thicknet. The two differ in thickness and maximum cable distance that the signal can travel.



Twisted-Pair Cable-:

Coaxial cable is not as popular today as it was a few years ago; today the popularity contest has been dominated by twisted-pair cabling. Twisted-pair cabling gets its name by having four pairs of wires that are twisted to help reduce crosstalk or interference from outside electrical devices. (Crosstalk is interference from adjacent wires.) there are two forms of twisted-pair cabling—unshielded twisted-pair (UTP) and shielded twisted-pair (STP).

Fiber-Optic Cable-:

The third type of cabling that we want to discuss is fiber-optic cabling. Fiber-optic cabling is unlike coax and twisted-pair, because both of those types have a copper wire that carries the electrical signal. Fiber-optic cables use optical fibers that carry digital data signals in the form of modulated pulses of light. An optical fiber consists of an extremely thin cylinder of glass, called the core, surrounded by a concentric layer of glass, known as the cladding. There are two fibers per cable-one to transmit and one to receive. The core also can be an optical-quality clear plastic, and the cladding can be made up of gel that reflects signals back into the fiber to reduce signal loss. There are two types of fiber-optic cables: single-mode fiber (SMF) and multimode fiber (MMF).

1. **Single-mode fiber** Uses a single ray of light, known as a mode, to carry the transmission over long distances.
2. **Multimode fiber** Uses multiple rays of light (modes) simultaneously, with each ray of light running at a different reflection angle to carry the transmission over short distances

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Cable	Max Distance	Transfer Rate	Connector Used
Thinnet	185 m	10 Mbps	BNC
Thicknet	500 m	10 Mbps	AUI
CAT 3 (UTP)	100 m	10 Mbps	RJ-45
CAT 5 (UTP)	100 m	100 Mbps	RJ-45
CAT 5e	100 m	1 Gbps	RJ-45
CAT 6	100 m	10 Gbps	RJ-45
Fiber	2 km	1+ Gbps	SC, ST

Network Devices

Network devices are components used to connect computers or other electronic devices together so that they can share files or resources like printers or fax machines. Devices used to setup a Local Area Network (LAN) are the most common types of network devices used by the public. A LAN requires a **hub**, **router**, **cabling** or **radio technology**, **network cards**, and if online access is desired, a high-speed **modem**. This is much less complicated than it might sound to someone new to networking.

- **Hub**- Broadcasts data from one port to all other ports in the network.
- **Repeater-** Regenerates the input data which is subjected to attenuation.
- **Switch-** Intelligent device which sends data to particular port.
- **Bridge-**Same function as switch but much more primitive and has lesser ports.
- **Router**-Connects all computers from a LAN to internet using same IP.
- **IEEE 802.11-** Wi-Fi standard- 802.11 b has speed of 11 Mbps, 802.11 g has a speed of 54 Mbps and 802.11 N uses multiple wireless signals and antennas and has speeds of over 100Mbps.
- **Gateway-**Needed when 2 different network technologies are being used. Acts as translator.
- **Connecting Cables**- RJ-11(Telephone Cable), RJ 45 (LAN Cable), Twisted pair cables (used in connecting 2 computers), Null Modem Cable (RS232) , Optical Fiber Cable(Gigabit Ethernet).

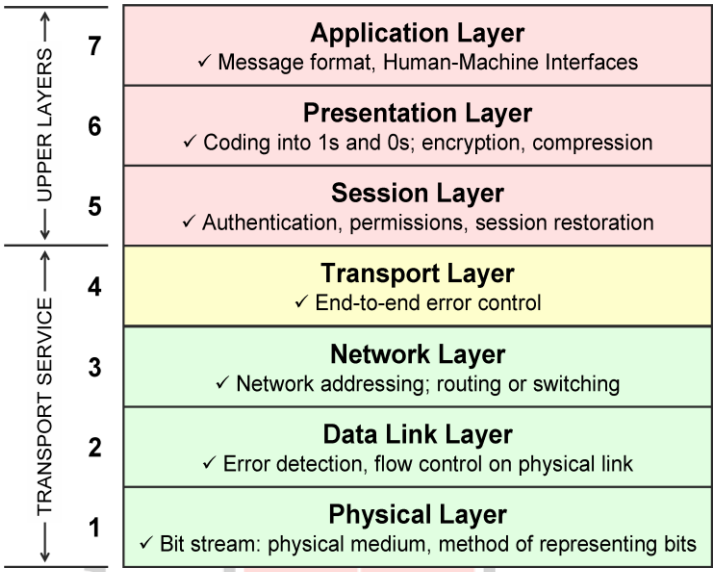
ARPANET- Advanced Research Projects Agency Network, **ARPANET** or **Arpanet** began development in 1966 by the United States ARPA. ARPANET was a Wide Area Network linking many Universities and research centers, was first to use packet switching, and was the beginning of what we consider the Internet today. Some of the reasons for creating ARPANET include making it easier for people to access computers, to improve computer equipment, and to have a more effective communication method for the military.

OSI Model

OSI (Open Systems Interconnection) is reference model for how messages should be transmitted between any two points in a telecommunication network. A reference model is a framework for understanding relationships. The purpose of the OSI

reference model is to guide vendors and developers so that the digital communication products and software programs they create will interoperate. The OSI reference model defines seven layers of functions that take place at each end of a communication.

Layers of OSI -



Layer 7: The application layer - This is the layer at which communication partners are identified, quality of service (QoS) is identified, user authentication and privacy are considered, and any constraints on data syntax are identified. (This layer is not the application itself, although some applications may perform application layer functions.)

Layer 6: The presentation layer - This is a layer, usually part of an operating system (OS), that converts incoming and outgoing data from one presentation format to another (for example, from a text stream into a popup window with the newly-arrived text).

Layer 5: The session layer - This layer sets up, coordinates, and terminates conversations, exchanges, and dialogs between the applications at each end. It deals with session and connection coordination.

Layer 4: The transport layer - This layer manages the end-to-end control (for example, determining whether all packets have arrived) and error-checking. It ensures complete data transfer.

Layer 3: The network layer - This layer handles the routing of the data (sending it in the right direction to the right destination on outgoing transmissions and receiving incoming transmissions at the packet level). The network layer does routing and forwarding.

Layer 2: The data-link layer - This layer provides synchronization for the physical level and does bit-stuffing for strings of 1's in excess of 5. It furnishes transmission protocol knowledge and management. This layer has two sub layers, the Logical Link Control Layer and the Media Access Control Layer.

Layer 1: The physical layer - This layer conveys the bit stream through the network at the electrical and mechanical level. It provides the hardware means of sending and receiving data on a carrier network.

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IP Addresses

Every machine on a network has a unique identifier. Most networks today, including all computers on the Internet, use the TCP/IP protocol as the standard for how to communicate on the network. In the TCP/IP protocol, **the unique identifier for a computer is called its IP address.**

There are two standards for IP addresses:-

1) IP Version 4 (IPv4) **2) IP Version 6 (IPv6).**

All computers with IP addresses have an IPv4 address, and many are starting to use the new IPv6 address system as well. Here's what these two address types mean:-

IPv4 uses 32 binary bits to create a single unique address on the network. An IPv4 address is expressed by four numbers separated by dots. Each number is the decimal (base-10) representation for an eight-digit binary (base-2) number, also called an octet. For example: **216.27.61.137**.

Class A - 0.0.0.0 - 127.255.255.255 **Class B** - 128.0.0.0 - 191.255.255.255

Class C - 192.0.0.0 - 223.255.255.255 **Class D** - 224.0.0.0 - 239.255.255.255

Class E - 240.0.0.0 - 247.255.255.255

IPv6 uses 128 binary bits to create a single unique address on the network. An IPv6 address is expressed by eight groups of hexadecimal (base-16) numbers separated by colons, as in **2001:cdba:0000:0000:0000:0000:3257:9652** Groups of numbers that contain all zeros are often omitted to save space, leaving a colon separator to mark the gap (as in 2001:cdba::3257:9652).

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Differences between IPv4 and IPv6:

	IPv4	IPv6
No. of bits on IP Address	32	128
Format	decimal	hexadecimal
Capable of Addresses	4.3 billion	infinite number

Advantages of IPv6 over IPv4:

- IPv6 simplified the router's task compared to IPv4.
- IPv6 is more compatible to mobile networks than IPv4.
- IPv6 allows for bigger payloads than what is allowed in IPv4.
- IPv6 is used by less than 1% of the networks, while IPv4 is still in use by the remaining 99%.

Some Important Networking Terminology

- **MAC address -:** The address for a device as it is identified at the Media Access Control (MAC) layer in the network architecture. MAC address is usually stored in ROM on the network adapter card and is unique.
- **Bandwidth -:** Every line has an upper limit and a lower limit on the frequency of signals it can carry. This limited range is called the bandwidth.
- **Bookmark** - When referring to the Internet or a browser, a bookmark or electronic bookmark is a method of saving a web page's address. For example, with most browsers pressing Ctrl + D will bookmark the page you are viewing.

- **Bounce** -A description of what occurs when an e-mail message returns back to the sender as undeliverablE. Some e-mail programs also have a **bounce** or **bounce back** feature built into them, which allows the user to bounce messages back to the sender causing the e-mail address to appear invalid.
- **Buffer**-When referring to memory, a buffer is a temporary storage in memory that stores information while processing other information.
- **Cloud computing** -A term used to describe services over a network by a collection of servers. These computers or cloud of computers enable the users visiting to have access to much faster computers or servers, be able to access programs and services from anywhere with Internet access often without having to install other software, and get access to the services from any device capable of reaching the network or Internet
- **Cyber Law-** Cyber law is the part of the overall legal system that deals with the Internet, cyberspace, and their respective legal issues. Cyber law covers a fairly broad area, encompassing several subtopics including freedom of expression, access to and usage of the Internet, and online privacy. Generically, cyber law has been referred to as the Law of the Internet.
- **DNS-:** Domain Name System or Domain Name Service, a DNS is an Internet or other network server that helps to point domain names or the hostname to their associated IP address that was introduced by **Paul Mockapetris** and **Jon Postel** in1984. If a domain name is not found within the local database, the server may query other domain servers to obtain the address of a domain name. For example, when a user is accessing the Computer Hope domain a user would enter the easy to remember domain: computerhopE.com. When entered that domain name is looked up on a Domain Name System to translate that name into an IP address that can be better understood by computer, E.g. 69.72.169.241. Using that IP address the computers can then find the computer containing the Computer Hope web page and forward that information to your computer.
- **E-learning- :** E-learning Stands for electronic learning, E-learning (or eLearning) is a term used to describe the process of acquiring knowledge via the use of a computer and the Internet, intranet, or extranet, using various types of media. The multimedia may include streaming video, audio recordings, videoconferencing using a webcam, and even virtual worlds, such as Second Life. It is commonly self-paced but can be led by an instructor as well.
- **Phishing-:** Pronounced like fishing, phishing is a term used to describe a malicious individual or group of individuals scamming users by sending e-mails or creating web pages that are designed to collect an individual's online bank, credit card, or other login information. Because these e-mails and web pages look like legitimate companies users trust them and enter their personal information.

- **Pop-up-:** Term used to describe a Window that appears on top of all other Windows. This term became a well-known term with the advent of intrusive and non-intrusive Internet pop-up ads. These ads became increasingly annoying as this form of advertising started to become more popular with many web pages.
- **Search engine-:** A search engine is a software program or script available through the Internet that searches documents and files for keywords and returns the results of any files containing those keywords. Today, there are thousands of different search engines available on the Internet, each with their own abilities and features. The first

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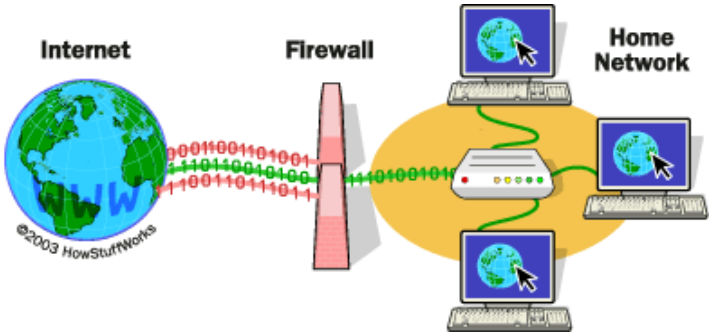
search engine ever developed is considered Archie, which was used to search for FTP files and the first text-based search engine is considered Veronica. Today, the most popular and well known search engine is **Google.**

- **Server side scripting-:** Server-side scripting is a method of designing Websites so that the process or user request is run on the originating server. These scripts provide an interface to the user and are used to limit access to proprietary data. These scripts also work with reusability and allow the webmaster to control access to the source code of the script to limit any attempts at reverse engineering; additionally some of the coding used in these scripts may even be valuable or proprietary.
- **ASP-** : Active Server Pages, an ASP page is a dynamically created web page that commonly ends with a .ASP extension that utilizes ActiveX scripting, usually VBScript or JScript code. The .aspx extension is used for Web pages that use Microsoft's ASP.NET. These pages are called "Web Forms", and can contain (X)HTML code as well as ASP.NET code.
- **Web page-:** A web page or webpage is a document commonly written in Hyper Text Markup Language (HTML) that is accessible through the Internet or other network using a browser. A web page is accessed by entering a URL addresses and may contain text, graphics, and hyperlinks to other web pages and files.
- **WWW-:** Short for World Wide Web, WWW sometimes also abbreviated as W3 or Web is a graphical interface for the Internet that was first introduced to the public on August 6, 1991 by Tim Berners-Lee. The World Wide Web consists of billions of pages linked to each other that contain text, graphics, multimedia files, and other interactive software. Unlike other services available through the Internet, the World Wide Web provides a rich medium and helps brings all people together. The first web site was built at CERN by **Tim Berners-Lee** and put online August 6, 1991.
- **Firewall-:** A firewall is a software utility or hardware device that limits outside network access to a computer or local network by blocking or restricting network ports. Firewalls are a great step for helping prevent un-authorized access to a company or home network. The picture is an example of a hardware firewall, the ZyXEL ZyWALL a Unified Security Gateway with a Firewall and other security features. In addition to hardware firewalls like that shown above, basic hardware firewalls are also commonly found in most network routers and can be configured and setup through the router setup. Software firewalls are designed to protect the computer they are installed onto by blocking any unrestricted programs from sending and receiving information from the network or Internet. A good example of a software Firewall is the Windows Firewall that is

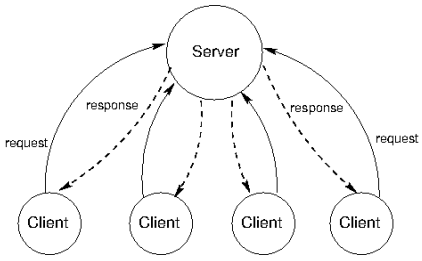


included with Microsoft Windows.

- **NIC-:** Short for Network Interface Card, a NIC is also commonly referred to as an Ethernet card and network adapter and is an expansion card that enables a computer to connect to a network such as a home network or the Internet using an Ethernet cable with a RJ-45 connector. The picture is an example of a SMC EZ Card 10/100 PCI network card, a network card commonly found in most desktop computers today that do not already have an onboard network on their motherboard.

- **Packet switching-:** A method of distributing data over a network first developed by Leonard leinrock between 1959 and 1962 and first widely used on ARPANET. In packet switching, information is broken into small segments of data known as packets and then reassembled when received at the destination. This helps prevent any small information sent after larger information from having to wait until the larger information has been sent. When information is broken into packets, the information size and speed of the line is what determines how fast it takes to send information over a network and not the order in which it was sent.
- **Proxy server-:** A proxy is a computer server or software program that is part of the gateway server or another computer that separates a local network from outside networks. A proxy server will cache all pages accessed through the network allowing users who may want to visit that same page to load it faster and reduce the networks bandwidth. When a page is accessed that is not in the proxy server's cache, the proxy server will access the page using its own IP address, cache the page, and forward it to the user accessing that page.
- **Spam-:** spam is most often considered to be electronic junk mail or junk newsgroup postings. Some people define spam even more generally as any unsolicited email. However, if a long-lost brother finds your email address and sends you a message, this could hardly be called spam, even though it is unsolicited. Real spam is generally email advertising for some product sent to a mailing list or newsgroup. In addition to wasting people's time with unwanted e-mail, spam also eats up a lot of network bandwidth. Consequently, there are many organizations, as well as individuals, who have taken it upon themselves to fight spam with a variety of techniques. But because the Internet is public, there is really little that can be done to prevent spam, just as it is impossible to prevent junk mail. However, some online services have instituted policies to prevent spammers from spamming their subscribers.

- **Client-server architecture- :** Technology that separates computers and application software into two categories clients, and servers to better employ available computing resources and share data processing loads. A client computer provides the user interaction-facility (interface) and some or all application processing, while the a server computer might provide high-volume storage capacity, heavy data crunching, and/or high resolution graphics. Typically, several client computers are connected through a network (or networks) to a server which could be a large PC, minicomputer, or a mainframe computer. Every computer connected to a website acts as a client while the website's computer acts as a server. Also called client-server environment.



Number System

Number systems are the technique to represent numbers in the computer system architecture, every value that you are saving or getting into/from computer memory has a defined number system. Computer architecture supports following number systems.

- Binary number system
- Octal number system
- Decimal number system
- Hexadecimal (hex) number system

1) Binary Number System-:

A Binary number system has only two digits that are 0 and 1. Every number represents with 0 and 1 in this number system. The base of binary number system is 2, because it has only two digits.

2) Octal number system-:

Octal number system has only eight (8) digits from 0 to 7. Every number represents with 0,1,2,3,4,5,6 and 7 in this number system. The base of octal number system is 8, because it has only 8 digits.

3) Decimal number system-

Decimal number system has only ten (10) digits from 0 to 9. Every number represents with 0,1,2,3,4,5,6, 7,8 and 9 in this number system. The base of decimal number system is 10, because it has only 10 digits.

4) Hexadecimal number system-:

A Hexadecimal number system has sixteen (16) alphanumeric values from 0 to 9 and A to F. Every number represents with 0,1,2,3,4,5,6, 7,8,9,A,B,C,D,E and F in this number system. The base of hexadecimal number system is 16, because it has 16 alphanumeric values. Here A is 10, B is 11, C is 12, D is 13, E is 14 and F is 15.

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Number system	Base	Used digits	Example
Binary	2	0,1	$(11110000)_2$
Octal	8	0,1,2,3,4,5,6,7	$(257)_8$
Decimal	10	0,1,2,3,4,5,6,7,8,9	$(230)_{10}$
Hexadecimal	16	0,1,2,3,4,5,6,7,8,9, A,B,C,D,E,F	$(F9)_{16}$

For Conversion of number system and binary coding – Watch my video in Makmyexam Youtube channel, Computer Times Playlist-: Link is given below- :

Number System-:

https://www.youtube.com/watch?v=JIADayNDMt8&list=PLUBOuzNf9-fpFWVbIAD8IRikYBOHJGE6M&index=17&t=2336s

Binary Coding- :

https://www.youtube.com/watch?v=4-Gcj1bty2E

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M.S.Word/Excel Shortcuts

M.S. Word/ Excel Shortcuts with CTRL from A-Z Alphabetically-:

CTRL + **A** = Select text
CTRL + **B=** Bold text
CTRL + **C** = Copy text
CTRL + **D** = Open font formatting window
CTRL + **E** = Centre text
CTRL + **F** = Find a phrase
CTRL + **G** = Go To a specific page or bookmark
CTRL + **H** = Replace text with another text
CTRL + **I** = Italic text
CTRL + **J** = Justify text
CTRL + **K** = Open Insert Hyperlink window
CTRL + **L** = Left align text
CTRL + **M** = Indent a paragraph from the left
CTRL + **N** = Open new Word document
CTRL + **O** = Open an existing Word document
CTRL + **P** = Print Word document
CTRL + **Q** = Remove paragraph formatting
CTRL + **R** = Right align text
CTRL + **S** = Save Word document
CTRL + **T** = Create a hanging indent
CTRL + **U** = Underline text
CTRL + **V** = Paste text
CTRL + **W** = Close Word document
CTRL + **X** = Cut text
CTRL + **Y** = Redo an action previously undone
CTRL + **Z** = Undo a previous action

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M.S Excel shortcut keys-:

F2 = edit the selected cell
F5= Go to the specific cell
F7 = spell check of the selected text
F11= Create the chart
CTRL+SHIFT+ ;= enter the current time
CTRL+; = Enter the current date
ALT+SHIFT+F1= insert the new worksheet
SHIFT + F3= Open the formula window
SHIFT + F5= open the search box
CTRL+D= Fill the cell
CTRL+G= Open the go to option
CTRL+O = Open option
CTRL+P= Open the print dialogue box
CTRL+F9= Minimize the current window
CTRL+F10= Maximize the current selected window
CTRL+F6= Switch between the open worksheets
SHIFT+SPACE= Select entire row
CTRL + SPACE= Select entire column
CTRL+W= Close the window
CTRL+TAB= Move b/w two or more open excel file

Data Base Management System-:

Database-:

A database is a logically coherent collection of data with some inherent meaning, representing some aspect of real world and which is designed, built and populated with data for a specific purpose.

DBMS-:

It is a collection of programs that enables user to create and maintain a database. In other words it is general-purpose software that provides the users with the processes of defining, constructing and manipulating the database for various Applications.

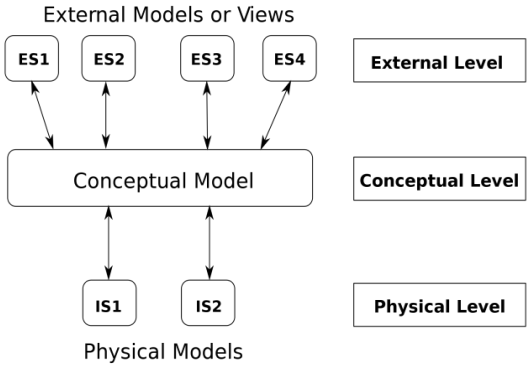
Advantages of DBMS-:

1. Redundancy is controlled.
2. Unauthorized access is restricted.
3. Providing multiple user interfaces.
4. Enforcing integrity constraints.
5. Providing backup and recovery.

III-tier Architecture -:

Three levels of data abstraction (III-tier Architecture)-: They are three levels of abstraction are given below,

1. **Physical level**: The lowest level of abstraction describes how data are stored**. (How to store the data?)**
2. **Logical level**: The next higher level of abstraction, describes what data are stored in database and what relationship among those data. **(What type of data to be stored?)**
3. **View level**: The highest level of abstraction describes only part of entire database. **(How to show the data?)**



The people who use the database can be categorized -

a) Database users **b) Database administrator (DBA)**

Database users are of 4 different types that are given below:

1) Naive users: These are the unsophisticated users who interact with the system by invoking one of the application programs that have been written previously. E.g. consider a user who checks for account balance information over the World Wide Web. Such a user access a form, enters the account number and password etc. And the application program on the internet then retrieves the account balance using given account information which is passed to the user.

2) Application programmers-: These are computer professionals who write application programs, used to develop user interfaces. The application programmer uses Rapid Application Development (RAD) toolkit or special type of programming languages which include special features to facilitate generation of forms and display of date on screen.

3) Sophisticated users: These users interact with the database using database query language. They submit their query to the query processor. Then Data Manipulation Language (DML) functions are performed on the database to retrieve the data. Tools used by these users are OLAP (Online Analytical Processing) and data mining tools.

4) Specialized users-: These users write specialized database applications to retrieve data. These applications can be used to retrieve data with complex data types e.g. graphics data and audio data.

b) Database Administrator (DBA): A person having who has central control over data and programs that access the data is called DBA. DBA functions are given below:

1. Schema definition: DBA creates database schema by executing Data Definition Language (DDL) statements.
2. Storage structure and access method definition
3. Schema and physical organization modification: If any changes are to be made in the original schema, to fit the need of your organization, then these changes are carried out by the DBA.
4. Granting of authorization for data access: DBA can decide which parts of data can be accessed by which users. Before any user access the data, DBMS checks which rights are granted to the user by the DBA.

5. Routine maintenance: DBA has to take periodic backups of the database, ensure that enough disk space is available to store new data, ensure that performance of DBMS ix not degraded by any operation carried out by the users.

SQL-:

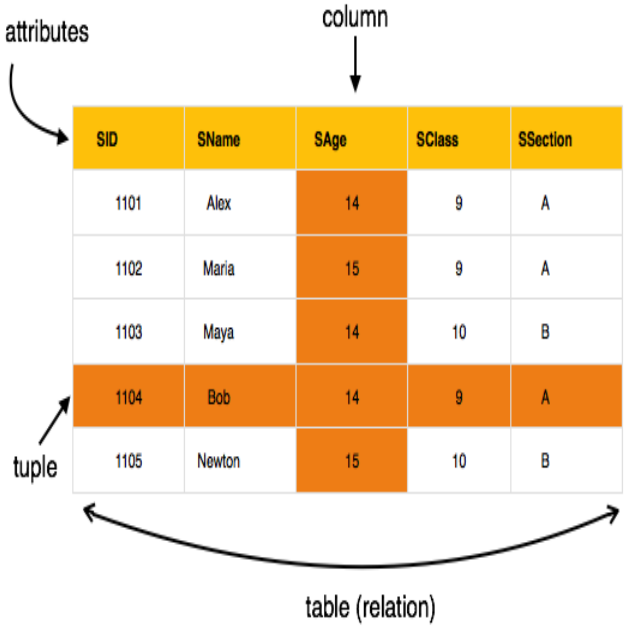
SQL stands for **Structured Query Language.** SQL is used to communicate with a database. According to ANSI (American National Standards Institute), it is the standard language for relational database management systems. SQL statements are used to perform tasks such as update data on a database, or retrieve data from a database. Some common relational database management systems that use SQL are: Oracle, Sybase, Microsoft SQL Server, Access, Ingres, etc. Although most database systems use SQL, most of them also have their own additional proprietary extensions that are usually only used on their system. However, the standard SQL commands such as "Select", "Insert", "Update", "Delete", "Create", and "Drop" can be used to accomplish almost everything that one needs to do with a database. This tutorial will provide you with the instruction on the basics of each of these commands as well as allow you to put them to practice using the SQL Interpreter.

Relational Model-:

The most popular data model in DBMS is the Relational Model. It is more scientific a model than others. This model is based on first-order predicate logic and defines a table as an n-array relation.

The main highlights of this model are −

1. Data is stored in tables called **relations**.
2. Relations can be normalized.
3. In normalized relations, values saved are atomic values.
4. Each row in a relation contains a unique value.
5. Each column in a relation contains values from a same domain.



SID	SName	SAge	SClass	SSection
1101	Alex	14	9	A
1102	Maria	15	9	A
1103	Maya	14	10	B
1104	Bob	14	9	A
1105	Newton	15	10	B

Key-:

A key is an attribute (also known as column or field) or a combination of attribute that is used to identify records. Sometimes we might have to retrieve data from more than one table, in those cases we require to join tables with the help of keys. The purpose of the key is to bind data together across tables without repeating all of the data in every table. Such an attribute is called a key attribute, and its values can be used to identify each entity uniquely. For example, the Name attribute is a key of the COMPANY entity type because no two companies are allowed to have the same name. For the PERSON entity type, a typical key attribute is SocialSecurityNumber. Sometimes, several attributes together form a key, meaning that the combination of the attribute values must be distinct for each entity. If a set of attributes possesses this property, we can define a composite attribute that becomes a key attribute of the entity type. The various types of key with e.g. in SQL are mentioned below, (For examples let suppose we have an Employee Table with attributes ‘ID’ , ‘Name’ ,’Address’ , ‘Department_ID’ ,’Salary’)

(I) Super Key –:

An attribute or a combination of attribute that is used to identify the records uniquely is known as Super Key. A table can have many Super Keys.

E.g. of Super Key

1 ID	2 ID, Name
3 ID, Address	4 ID, Department_ID
5 ID, Salary	6 Names, Address

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7 Names, Address, Department_ID …… So on as any combination which can identify the records uniquely will be a Super Key.

(II) Candidate Key –:

It can be defined as minimal Super Key or irreducible Super Key. In other words an attribute or a combination of attribute that identifies the record uniquely but none of its proper subsets can identify the records uniquely.

E.g. of Candidate Key

1 Code 2 Names, Address

For above table we have only two Candidate Keys (i.e. Irreducible Super Key) used to identify the records from the table uniquely. Code Key can identify the record uniquely and similarly combination of Name and Address can identify the record uniquely, but neither Name nor Address can be used to identify the records uniquely as it might be possible that we have two employees with similar name or two employees from the same house.

(III) Primary Key-:

A Candidate Key that is used by the database designer for unique identification of each row in a table is known as Primary Key. A Primary Key can consist of one or more attributes of a table. E.g. of Primary Key - Database designer can use one of the Candidate Key as a Primary Key. In this case we have "Code" and "Name, Address" as Candidate Key, we will consider "Code" Key as a Primary Key as the other key is the combination of more than one attribute.

(IV) Foreign Key –:

A foreign key is an attribute or combination of attribute in one base table that points to the candidate key (generally it is the primary key) of another table. The purpose of the foreign key is to ensure referential integrity of the data i.e. only values that are supposed to appear in the database are permitted.

E.g. of Foreign Key – Let consider we have another table i.e. Department Table with Attributes "Department_ID", "Department_Name", "Manager_ID", "Location_ID" with Department_ID as an Primary Key. Now the Department_ID attribute of Employee Table (dependent or child table) can be defined as the Foreign Key as it can reference to the Department_ID attribute of the Departments table (the referenced or parent table), a Foreign Key value must match an existing value in the parent table or be NULL.

(V) Composite Key–:

If we use multiple attributes to create a Primary Key then that Primary Key is called Composite Key (also called a Compound Key or Concatenated Key). E.g. of Composite Key, if we have used "Name, Address" as a Primary Key then it will be our Composite Key.

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(VI) Alternate Key–:

Alternate Key can be any of the Candidate Keys except for the Primary Key. E.g. of Alternate Key is "Name, Address" as it is the only other Candidate Key which is not a Primary Key.

(VII) Secondary Key–:

The attributes that are not even the Super Key but can be still used for identification of records (not unique) are known as Secondary Key. E.g. of Secondary Key can be Name, Address, Salary, Department_ID etc. as they can identify the records but they might not be unique.

SQL Commands- :

SQL have the different type of commands that are given below -

1. **DDL (Data Definition Language)-:** A data base schema is specifies by a set of definitions expressed by a special language called DDL. Example of DDL commands are given below-:
   - ✓ **CREATE** - to create objects in the database.
   - ✓ **ALTER** - alters the structure of the database.
   - ✓ **DROP** - delete objects from the database.
   - ✓ **TRUNCATE** - remove all records from a table, including all spaces allocated for the records are removed.
   - ✓ **COMMENT** - add comments to the data dictionary.
   - ✓ **RENAME** - rename an object.
2. **DML (Data Manipulation Language)-:** This language that enable user to access or manipulate data as organized by appropriate data model. Procedural DML or Low level: DML requires a user to specify what data are needed and how to get those data. Non-Procedural DML or High level: DML requires a user to specify what data are needed without specifying how to get those data.
   - ✓ **SELECT** - retrieve data from the a database
   - ✓ **INSERT** - insert data into a table
   - ✓ **UPDATE** - updates existing data within a table
   - ✓ **DELETE** - deletes all records from a table, the space for the records remain
   - ✓ **MERGE** - UPSERT operation (insert or update)
   - ✓ **CALL** - call a PL/SQL or Java subprogram
   - ✓ **EXPLAIN PLAN** - explain access path to data
   - ✓ **LOCK TABLE** - control concurrency
3. **DCL-:** Data Control Language (DCL) statements. Some examples:
   - ✓ **GRANT -** gives user's access privileges to database
   - ✓ **REVOKE** - withdraw access privileges given with the GRANT command
4. **TCL-:** Transaction Control (TCL) statements are used to manage the changes made by DML statements. It allows statements to be grouped together into logical transactions.
   - ✓ **COMMIT -** save work done
   - ✓ **SAVEPOINT -** identify a point in a transaction to which you can later roll back
   - ✓ **ROLLBACK -** restore database to original since the last COMMIT
   - ✓ **SET TRANSACTION -** Change transaction options like isolation level and what rollback segment to use
5. **VDL (View Definition Language) -:** It specifies user views and their mappings to the conceptual schema.
6. **SDL (Storage Definition Language)-:** This language is to specify the internal schema. This language may specify the mapping between two schemas.

Single Linear Questions

- ❖ The most common method of entering text and numerical data into a computer system is through the use of a **keyboard.**
- ❖ Unsolicited commercial email is commonly known as **Spam.**
- ❖ Which device is used for dividing a network into segments- **Switch**
- ❖ **Executing** is the process of carrying out commands.
- ❖ Editing a document consists of reading through the document you've created, then- **Correcting your errors.**
- ❖ Most mail programs automatically complete the following two parts in an e-mail- **From and To.**

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- Different applications and documents of windows desktop are represented by **Icon.**
- Which area in an Excel window allows entering values and formulas- **Formula Bar?**
- Fax machines and imaging systems are examples of- **Scanning devices.**
- The particular field of a record that uniquely identifies each record is called the **key field.**
- In order to tell Excel that we are entering a formula in a cell, we must begin the entry with an operator-**=(Equal)**
- **Booting** is the process when the computer is turned on and the operating system is loading.
- Numbers in table columns are usually- **Right Alignment.**
- Character in table columns are usually- **Left Alignment.**
- To combine two or more cells into a single cell is called – **Merging**
- In a relational database, this is a data structure that organizes the information about a single topic into rows **(**Tuple) and columns (Attributes) - **Table**
- The first computers were programmed using- : **Machine language.**
- A series of instructions that tells a computer what to do and how to do it is called a- **Instruction**
- You can use the **Address bar** to type a URL and display a web page, or type a keyword to display a list of related web pages.
- When communication in both directions and both the devices can simultaneously transmit the data known as-: **Full duplex**
- **Collaborative software:** Groupware, such as Lotus Notes or Microsoft Exchange
- **Certification:** Skills and knowledge assessment process.
- **Computer Crime:** The act of stealing, cheating or otherwise defrauding an organization with the use of a Computer.
- **Cryptography:** Method used to protect privacy and security on the internet
- **DBMS:** An acronym for the database management system. A program that maintains and controls the access to collection of related information in electronic files.
- **Data:** Facts coded and structured for subsequent processing, generally using a computer system.
- **Digital signature:** Encrypted signature used for providing security for the messages/data transferred through the internet.
- **Digital computer:** A device that manipulates discrete data and performs arithmetic and logic operations on these data.
- **Data transmission:** The movement of data from one location of storage to another. If the locations are geographically far away, generally done via satellites.
- **Disk Mirroring:** The data is written on two or more hard disks simultaneously over the same channel
- **Disk Duple Xing**: The data is written on two or more hard disks simultaneously over the different channel
- **Dumb Terminals**: Hardware configuration consisting of a keyboard and monitor that is capable of sending and receiving information but has no memory or processing capabilities.
- **Download**: Process of transferring a file system from one system to another
- **E-commerce**: Business transactions conducted over extranets or the internet
- Enterprise, resource planning: An integrated system of operation application combining logistics, production, contract and order management, sales forecasting and financial and HR management
- **Data processing:** It is a method concerning with the systematic recording, arranging, filing, processing and dissemination of facts of business

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- The **Undo button** on the quick access Toolbar allows you to cancel your recent commands or actions.
- A gigabyte represents approximately **one billion** memory locations.
- **Merging cells** involves creating a single cell by combining two or more selected cells.
- The horizontal and vertical lines on a worksheet are called— **gridlines**
- To delete an incorrect character in a document delete key to erase to the **right of the insertion point**.
- During the boot process, the BIOS looks for the **system files**.
- **Multitasking** is the ability of an operating system to control the activities of multiple programs at the same timE.
- The unique signal, generated by a device, that tells the operating system that it is in need of immediate attention is called an- **Interrupt**.
- The blocks of code, included in the operating system, that software applications interact with are known as: **Application programming interfaces (APIs).**
- MS-DOS is a **command-driven operating system**.
- **SRAM** retains data as long as power is provided to the memory chip and need not be refreshed periodically. 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.**
- **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.**Examples of Impact Printers are** Character Printers and Dot Matrix Printers.
- **Non – Impact Printers** do not touch the paper when creating an image.**Examples of Non - Impact Printers are** Inkjet printers, Laser printers, Solid ink printers, Dye- sublimation, Thermal wax printers, Thermal auto chrome printers.
- An **Integrated Software** is a single application that combines major features of several types of application.
- A **Hyperlink** is a reference to data that the reader can directly follow either by clicking or by hovering or that is followed automatically
- 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. An example of a typical URL would be**" http://www.makemyexam.in".**
- An **interrupt handler** is a special numeric code that indicates the priority of a request.
- A **spooler** is a program that coordinates the print jobs that are waiting to print.
- **Virtual memory** is typically located on the hard drive.
- The purpose of **a swap (or page**) file is to hold a program's data or instructions in virtual memory when it can't fit in RAM.
- The definition of **thrashing** is swapping data between virtual memory and RAM too frequently.
- Verification of a login name and password is known as **authentication**.
- The correct sequence of actions that takes place during the **boot-up process**?
- **Activate BIOS -> Perform POST -> Load operating system -> Check configuration settings**
- The BIOS stored on a ROM chip, is responsible for loading the operating system from its permanent location on the hard drive into RAM.
- The memory resident portion of the operating system is called the— **kernel.**

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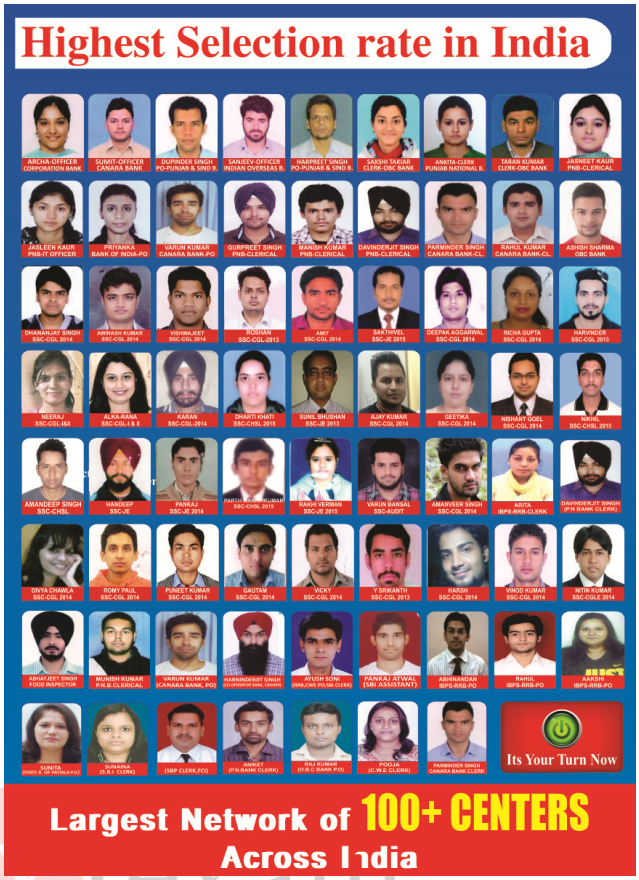

- The **World Wide Web** (abbreviated as WWW or W3, commonly known as the Web) is a system of interlinked hypertext documents that are accessed via the Internet.
- **CC (Carbon Copy**) in e – mail indicates those who are to receive a copy of a message addressed primarily to another. The list of CC recipients 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) power-on self-test **(POST)**
- Using Windows Explorer, a plus (+) sign in front of a folder indicates— the folder contains subfolders.
- In Windows XP, if you want to see the file size and modified dates of all files in a folder, the best viewing option is the **Details view**.
- The primary purpose of software is to turn **data** into Information.
- A directory within a directory is called-**Sub Directory**.
- A **compiler** translates a program written in a high-level language into Machine language.
- A programming language contains specific rules and words that express the **logical steps of an algorithm**.
- The simultaneous processing of two or more programs by multiple processors is Multiprocessing.
- The secret code that restricts entry to some programs-**Password**
- Computers use the **binary number** system to store data and perform calculations.
- **Executing** is the process of carrying out commands.
- Softcopy is the intangible output, so then what is hardcopy - **The printed output**
- An error in a computer program is called as- **Bug**
- **Backup** is - Protecting data by copying it from the original source to a different destination.
- In page preview mode-**You can see all pages of your document**
- A collection of interrelated records is called – **Database**
- To move to the beginning of a line of text, press the **Home** key.
- The term '**user interface'** refers to—What the user sees on the screen and how they can interact with it.
- Reusable optical storage will typically have the acronym-**RW**
- Text in a column is generally aligned – **Left**
- In Excel, Charts are created using which option **-Chart Wizard**
- The **Mouse pointer** becomes different shapes depending on the task you are performing.
- 'MICR' technology used for clearance of cheques by banks refers to—**Magnetic Ink Character Recognition**
- Modern Computers represent characters and numbers internally using one of the following number systems- **Binary**
- Smallest storage unit of a computer is-**Bit**
- A MODEM is connected in between a telephone line and a—**Computer**

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- **E-governance**-Delivery of public services through internet
- **'Buy Now–Pay Now'** is commonly used for -**Visa Cards**
- Correcting errors in a program is referred to as- **debugging**
- An assembler is used to translate a program written in- **Assembly language**
- The capability of the operating system to enable two or more than two programs to execute simultaneously in a single computer system by using a single processor is-**Multitasking**
- Which keys can be used together with other keys for special tasks - **Ctrl, Shift**
- Which is the part of a computer that one can touch and feel-**Hardware**
- A device that reads the information contained on a disk and transfers it to the computer's memory- **disk drive**
- The different styles of lettering in a word processing program-**font**
- Any letter, number, or symbol found on the keyboard that you can type into the computer- **character**
- A program which helps create written documents and lets you go back and make corrections as necessary- **word processor**
- A place that a user can create to store files- **folder**
- Start or restart the computer-**boot**
- A blinking indicator that shows you where your next action will happen-**cursor**
- Commands at the top of a screen such as: FILE-EDIT-FONT-TOOLS to operate and change things within programs- **menu bar**
- The command used to remove text or graphics from a document. The information is then stored on a clipboard so you can paste it- **cut**
- A removable magnetic disc that holds information-**hard drive**
- A command to get a file you worked on from the memory where it was stored-**open**
- To move down a page in a document-**scroll**
- A program that works like a calculator for keeping track of money and making budgets-**spreadsheet**
- All of the following are examples of real security and privacy risks EXCEPT- **spam.**
- A process known as **data mining** is used by large retailers to study trends.
- **Point-of-sale (POS)** terminals (formerly known as cash registers) are often connected to complex inventory and sales computer systems.
- The ability to recover and read deleted or damaged files from a criminal computer is an example of a law enforcement specialty called- **computer forensics**.
- Surgeons can perform delicate operations by manipulating devices through computers instead of manually. This technology is known as- **robotics.**
- Technology no longer protected by copyright, available to everyone, is considered to be-**proprietary.**
- **Nano science** is the study of molecules and structures whose size ranges from 1 to 100 nanometers.
- **Artificial intelligence (AI)** is the science that attempts to produce machines that display the same type of intelligence that humans do.
- The name for the way that computers manipulate data into information is called:-**processing.**
- In the binary language each letter of the alphabet, each number and each special character is made up of a unique combination of-**eight bits.**
- The term bit is short for- **binary digit.**
- The components that process data are located in the- **system unit**
- The CPU and memory are located on the- **motherboard.**
- Word processing, spreadsheet, and photo-editing are examples of-**application software.**

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- Software is a set of computer programs used on a computer to help perform tasks.
- The PC (personal computer) and the Apple Macintosh are examples of two different-**platforms.**
- Servers are computers that provide resources to other computers connected to a-**network.**
- **Supercomputers** are specially designed computers that perform complex calculations extremely rapidly.
- DSL is an example of a broadband connection.
- The difference between people with access to computers and the Internet and those without this access is known as the-digital **divide.**
- A byte can hold one **character** of data.
- The operating system controls the way in which the computer system functions and provides a means by which users can interact with the computer.
- **Embedded computers** are specially designed computer chips that reside inside other devices, such as your car or your electronic thermostat.
- The steps and tasks needed to process data, such as responses to questions or clicking an icon, are called: A. instructions-**the operating system.**
- The metal or plastic case that holds all the physical parts of the computer is the-**system unit.** Input devices are used to provide the steps and tasks the computer needs to process data, and these steps and tasks are called **instructions**.
- When you connect to the Internet your computer is communicating with a server at your **Internet service provider (ISP)**
- The earlier computers, which were massive in size, were based on **vacuum tubes.**
- Early computing machines, like the **ENIAC**, were actually meant to assist the armed forces.
- An improvement on the ENIAC, which pioneered 'stored program', was made possible with the help of the mathematician **John von Neumann**.
- The B-programming language was developed by **Ken Thompson**.
- Famous people, associated with the ENIAC, EDVAC, UNIVAC computers are **Eckert & Mauchly.**
- The 1st commercially produced and sold computer (1951) was **UNIVAC.**
- IBM was provided software for PCs by **Microsoft**.
- The transformation from heavy computers to PCs was made possible using **microprocessors**.
- The first microprocessor was developed in **1971 by Intel**.
- The term 'micro' (extremely small) denotes **10-6m**.
- The Harvard student, who chose to write computer programs and dropped studies was **Bill Gates**.
- A Pentium 4 (P-4) employs roughly **40 million transistors**.
- A program used to browse the web is called **Web browser**.
- An error in software designing which can even cause a computer to crash is called bug.
- The device which sends computer data using a phone line is called **MODEM**.
- The first home computer (1977), which was sold in millions of units was **Apple II.**
- **'PARAM-8000'** is a First supercomputer in India.
- A website containing periodic posts is called **blog**.
- The unwanted or non-requested emails are called "spam".
- A computer framed to give various network services is called **server.**
- The first computers were programmed using **Machine language.**
- A filename is **a unique name** that you give to a file of information.
- A series of instructions that tells a computer what to do and how to do it is called a **program.**
- **Super computers** refers to the fastest, biggest and most expensive computers

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- The rectangular area of the screen that displays a program, data, and or information is a **window**
- The process of a computer receiving information from a server on the internet is known as **downloading**
- You can use the tab key to move a cursor **across the screen, indent a paragraph**.
- A collection of related files is called **record.**
- Storage that retains its data after the power is turned off is referred to as **non-volatile storage.**
- **Testing** is the process of finding errors in software code.
- Syntax contains specific rules and words that express the logical steps of an algorithm.
- Changing an existing document is called the **editing documentation**
- The windows key will launch the **start buttons.**
- To move to the beginning of a line of text, press the **home key**.
- Information travels between components on the motherboard through **buses**.
- A tool bar contains **buttons and menus** that provide quick access to commonly used commands
- One advantage of **dial-up internet** access is it utilizes existing telephone security
- Protecting data by copying it from the original source is **backup**
- In a **relational database**, table is a data structure that organizes the information about a single topic into rows and columns.
- When the pointer is positioned on **a hyperlink** it is shaped like a hand .
- A **compiler** translates higher level programs into a machine language program, which is called object code
- The ability to find an individual item in a file immediately **Direct access** .
- Each box in a spread sheet is called a **cell.**
- Network components are connected to the same cable in the **bus topology.**
- **Scanner** will translate images of text, drawings and photos into digital form.
- **MS-DOS** is a single user operating system
- **Ethernet** is used for high speed telecommunications
- **FORTRAN** is a scientific computer language
- Connections to the internet using a phone line and a modem are called **dial-up connections**
- Restarting a computer that is already on is referred to as **warm booting**
- A cluster represents a group of **sectors**
- **Boot sector viruses** are often transmitted by a floppy disk left in the floppy drive
- A goal of normalization is to minimize the number of **redundancy**
- A **proxy server** is used to process client request for web pages
- When data changes in multiple list and list are not updated, this causes **data inconsistency**
- Granting an outside organization access to internet web pages is often implemented using a extranet
- The code that relational database management systems use to perform their database task is refer to as **SQL**
- **Data integrity** means that the data contained in the database is accurate and reliable
- The IBM made the first electronic computer in **1953**
- **Control panel** is used for increasing and decreasing the speed of the cursor of mouse
- The **.mpeg** is the format of a movie file
- The memory address sent from the CPU to the main memory over a set of wires is called **address bus**
- The enhanced keyboard contains 101 keys
- **Cache memory** is a part of main memory
- The central host computer or file server in a star network maintains control with its connecting devices through **polling**
- The integration of all kinds of media such as audio, video, voice, graphics and text into one coherent presentation combined is called **multimedia**

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- A technique for searching special databases, called data warehouses, looking for related information and patterns is called **data mining**
- **Batch processing** is a technique in which a number of similar items or transactions are processed in groups or batches during a machine run
- **Browser** is a link between the computer and the internet. It's actually a program that provides a way to look in the hand interact with all information on the internet. A browser is a client program that uses the Hypertext Transfer Protocol (http)
- **Computer Crime:** The act of stealing, cheating or otherwise defrauding an organization with the use of a computer
- **Cryptography:** Method used to protect privacy and security on the internet
- **Digital signature**: Encrypted signature used for providing security for the messages/data transferred through the internet.
- **E-commerce**: Business transactions conducted over extranets or the internet
- **Electronic data interchange (EDI)** : Electronic transmission or documents through point to point connections using a set of standard forms, message and data elements, this can be via leased lines private networks or the internet

Important Abbreviations

ANSI—American National Standards Institute
ARPANET—Advanced Research Projects Agency Network
ASCII—American Standard Code for Information Interchange
ISCII— Indian Standard Code for Information Interchange
ASP—Active Server Pages
BASIC—Beginner's All-Purpose Symbolic Instruction Code
CDMA—Code Division Multiple Access
CD-R—CD-Recordable
CD-RW—CD-Rewritable
COBOL—Common Business-Oriented Language
DBMS—Database Management System
DVD—Digital Versatile Disc or Digital Video Disc
ENIAC—Electronic Numerical Integrator and Computer
EDSAC—Electronic Delay Storage Automatic Calculator
EDVAC—Electronic Discrete Variable Automatic Computer

USB—Universal Serial Bus
VLAN—Virtual Local Area
RDBMS–Relational Database Management System

EEPROM—Electronically Erasable Programmable Read-Only Memory
EPROM—Erasable Programmable Read-Only Memory
FDD—Floppy Disk Drive
GUI—Graphical User Interface
HDD—Hard Disk Drive
HTML—Hypertext Markup Language
HTTP—Hypertext Transfer Protocol
HTTPs—Secure Hypertext Transport Protocol
ISO—International Organization for Standardization
ISP—Internet Service Provider
Kb—Kilobit
KB—Kilobyte
LCD—Liquid Crystal Display
LIFO—Last In First Out
MAC—Media Access Control
MAPI—Messaging Application Programming Interface
MTA—Mail Transfer Agent
OSS—Open-Source Software
PAN—Personal Area Network
PERL—Practical Extraction and Reporting Language
XML–Extensible Markup Language
ASP–Active Server Pages
API–Application Programming Interfaces

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CSS–Cascading Style Sheets
ASCII–American Standard Code For Information Interchange
XSL- Extensible Style Sheet Language
AVI – Audio Video Interleaved
CDA – Compact Disk Audio
DLL – Dynamik Link Library
JPEG – Joint Photographic Expert Group
VHF – Very High Frequency.
UHF – Ultra High Frequency.
ALU- Arithmetic Logic Unit
URL – Uniform Resource Locator.
AMD – Advance Micro Device
ASPI – Advacne Scsi Programming Interface
ASIC – Application Specific Integrated Circuit
USB – Universal Serial Bus.
VIRUS – Vital Information Resource Under Seized.
MIME–Multipurpose Internet Mail Extensions
JAD – Java Application Development
MIDI – Musical Instrument Digital Interface
MPEG – Motion Picture Experts Group
PDF – Portable Document Format
SQL—Structured Query Language
SRAM—Static Random Access Memory
TTL—Transistor-Transistor Logic
UML—Unified Modeling Language
RAID—Redundant Array of Independent Disks
RDBMS—Relational Database Management System
RISC—Reduced Instruction Set Computer
GIF – Graphics Interchange Format

IMPORTANT COMPUTER MCQ
Based on Previous Year Exam

IMPORTATNT M.S.OFFICE MCQ

.1. Which of the following is word processing software?
a) Microsoft Word
b) Microsoft Excel
c) Microsoft Internet Explorer
d) Microsoft Windows Explorer

Q. 2 By Default, How many worksheets available in a single Workbook?
a) 3 b) 8
c) 255 d) None of above

Q.3 When entering in a lot of text in capitals you should use the-
a) Enter key b) Big letter key
c) Num Lock key c) Caps lock key

Q.4 To move the text to the right side of the page you would use....
a) Align left b) Align over one space
c) Align right d) Align top

Q.5 To save a file under a different name you should use....
a) Save as b) Save
c) Save all d) Save new

Q.6 You would use the indent option when....
a) You are in the middle of a document
b) You are at the end of the document
c) You are starting a new paragraph
d) None of the above

Q.7 To send the same document addressed to 10 different people you should use-

a) Multiple merge b) Mail merge
c) Merge d) None of the above

Q.8 To ensure that you do not lose all of your files you should always make a
a) Back up copy b) Back down
c) Back over d) Back under

Q.9 Landscape mode is when the paper is-
a) Taller than it is wider
b) Wider than it is taller.
c) Smaller than normal
d) Bigger than normal

Q.10 The ____ is an area in the top margin of each page in a document where you can insert text or graphics.
a) Head note b) Top margin
c) Footer d) Header

Q.11 To move a block of text you would use...
a) Cut and copy
b) Copy and paste
c) Cut and paste
d) Move block

Q.12 To see how a spreadsheet will print out, you should use-
a) Page overview b) Page preview
c) Page break d) Look at the page

Q.13 What are the steps to changing the tab color in a spreadsheet?
a) Right click on the sheet, select the color and click ok
b) Right click on the menu bar, select the color and click yes
c) Right click on the sheet tab, select tab color, select the color, click ok
d) Right click and select the color.

Q.14 To keep table headings visible you can use-
a) Hold panes b) Line panes
c) Freeze panes d) Spreadsheet panes

Q.15 The values in cells A1 to A5 are all 10. If we used the Auto SUM function, what is the value of =SUM(A1:A5)?
a) 5 b) 50
c) 500 d) 100

Q.16 Which key deletes the character to the right of the cursor?
a) End b) Home
c) Backspace d) Delete

Q.17 Which enables you to move directly to specific location in a document?
a) Cross-references b) Outlines
b) Subdocuments d) Bookmarks

Q.18 How do you add a clip-art picture into your slide in ms pawer-2007?
a) File, insert, picture b) Insert, Picture
b) Insert, Clipart d)Insert, Picture, Clipart

Q.19 How do you add animation/ effects to your presentation?
a) File, Slide, Animation
b) File, Animation
c) Slideshow, Animation
d) Sideshow, custom animation.
e) View, Animation

Q.20 Which option can be used to set custom timings for slides in a presentation?
a) Slider Timings b) Slider Timer
c) Slide Show Setup d) Rehearsal.

Q.21 Which key on the keyboard can be used to view Slide show?
a) F1 b) F2
c) F5 d) F10

Q.22 You can print-
a) An entire workbook
b) A range of cells by range name
c) A single worksheet
d) All of the above

Q.23 What is the function of the autofit ?
a) Automatically change the width of a column to fit the longest entry or change the height of a row to fit the font
b) A way of arranging data in a particular order
c) A symbol that represents a specific action
d) None of the above.

Q.24 When creating an Excel formula, what does the cell reference with dollar signs like A1 do?
a) Changes the cell format to currency with a dollar sign as the default
b) Allows only numbers to be input into the cell

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c) Generates an error
d) Creates an absolute reference.

Q.25 What does the LEN() function do?
a) All of the choices
b) Splits the Cell contents
c) Counts the number of characters in a cell
d) Deletes Trailing spaces

Q.26 What is the keyboard shortcut for creating a chart from the selected cells?
A. F11 B. F7
C. F9 D. F3

Q.27 The view that puts a blue line around each page that would be printed is the _____.
a) Print Preview b) Normal
c) Page Break Preview. d) Split View

Q.28 The cell reference for a range of cells that starts in cell B1 and goes over to column G and down to row 10 is _____.
a) B1-G10 b) B1.G10
c) B1;G10 d) B1:G10

Q.29 If you have data that runs across five columns, from column A to column E, one way to centre a title across the top of the data would be to:
a) Type the data in A1 and Merge cells A1:A5
b) Type the data in A1 and Merge cells A1:E1.
c) Type the data in C1
d) Choose Centre from the Format menu

Q.30 Which function converts miles to kilometers, kilograms to pounds, and so on?
a) Product b) Change
c) Convert. d)All of above.

Q.31 You can select the current Row by pressing-
a) Alt spacebar
b) Shift + spacebar.
c) Control + spacebar
d) Shift + Tab

Q.32. A function inside another function is called a ____ function.
a) Complex b)Nested
c) Round d)None of the above

Q.33 What is the correct forumla to calculate an average between cells B3 and B6?
a) =AVERAGE(B3:B6).
b) =AVE(B3+B4+B5+B6)/4
c) =AVERAGE(B3+B4+B5+B6)/4
d) =AVE(B3:B6)

Q.34 Which function does not exist in Excel's function library?
a) Lower b) Proper
c) Upper d)Uppercase.

Q.35 What is the keyboard shortcut for Edit a Cell in MS Excel ?
a) F2 b)F7
c) F3 d)F9

Q.36 Which of the following formulas would find the sum of the cells in column J between rows 1 and 8 in an Excel spreadsheet?
a) =SUM J:1-8
b) =J:1+J:8
c) =ADD(J1-J8)
d) =SUM(J1:J8)

Q.37 What is the short key to enter the current date in a cell?
a) CTRL+ ; (semicolon.)
b) CTRL+SHIFT+: (colon)
c) CTRL+F10
d) None of these

Q.38 What is the short key create a new line within a cell?
a) CTRL+ Enter b) Alt + Enter
c) CTRL+F10 d)None of these

Q.39 To format a cell like an already formatted one you can use --------- .
a) The Fill down command
b) The Format Painter command.
c) The Autosum command
d) None of the above.

Q.40 Which is the part of the Excel screen where you can find all the commands or buttons, depending on the tab you selected before?
a) Tab b)Formula Bar
b) Ribbon d)None of the above

Q.41 You can use an operator to concatenate (join) text from two cells into one cell. Which operator is that?
a) + (Plus) b) $ (Dollar)
c) Alt spacebar d) & (ampersand).

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Q.42 To open the Format Cells dialog box, press-
a) Alt + 1 b) Ctrl + 1
c) Ctrl + Shift + 1 d)F1

Q.43 What would be the effect of the formula shown below in an Excel spreadsheet assuming cells A1 & A2 contain numbers?
=A1^A2 (A1=5 and A2=2)
a) Multiply the value in A1 by the value in A2
b) A2 is the power of A1
c) Change cell values in A1 and A2 to text
d) Compare the values in A1 and A2 and display the larger one

Q.44. Most database systems make it very easy to create a database via ?
a) A visual interface
b) A user interface
c) Tabs
d) Speech recognition

Q.45 The column that contains the unique identifier is referred to as the?
a) Secondary key b) Product Key
b) Primary Key d) Delete Key

Q.46 Which tab on the ribbon shows what fonts are available for use?
a) View b) Page Layout
c) Home d) Gate

Q.47 Using the ribbon, where would you go to activate the Ruler on your document?
a) View> Toolbars b)File> Open
c) View> Ruler. d)Insert>Reference

Q.48 On what tab can you find the "columns" feature for your text?
a) Home b) Insert
c) Page Layout. d) View

Q.49 In order to select a single word in Word, how many times must you click it?
a) 1 b) 2
c) 3 d) 4

Q.50 Which bar is usually located below that Title Bar that provides categorized options?
a) Status Bar b) Scroll bar
c) Menu bar. d) Tool bar

ANSWER KEY

1a	2a	3d	4c	5a
6c	7b	8a	9b	10d
11.c	**12.b**	**13.c**	**14.c**	**15.c**
16.d	**17.d**	**18.c**	**19.d**	**20.d**
21.c	**22.d**	**23.a**	**24.d**	**25.c**
26.a	**27.c**	**28.d**	**29.b**	**30.c**
31.b	**32.b**	**33.a**	**34.d**	**35.a**
36.d	**37.a**	**38.a**	**39.b**	**40.c**
41.d	**42.b**	**43.b**	**44.b**	**45.c**
46.c	**47.c**	**48.c**	**49.b**	**50.c**

Q.1. The basic architecture of computer was developed by
a) John Von Neumann
b) Charles Babbage
c) Blaise Pascal
d) Garden Moore
e) None of these

Q. 2 Which of the following is the name of the part of a computer that one can touch and feel?
a) Program b)Software
c) Hardware d)Output
e) None of these

Q.3 Computers use the _____ number system to store data and perform calculations.
a) Decimal b)hexadecimal
c) binary d)octal

Q.4 Which keys can be used together with other keys for special, tasks?
a) Insert, Delete
b) Ctrl, Shift
c) Left Arrow, Right Arrow
d) Page up, Page Down
e) None of these

Q.5 The capability of the operating system to enable two or more than two programs to execute simultaneously in a single computer system by using a single processor is called -
a) Multiprocessing
b) Multiprogramming
c) Multitasking
d) Multiexecution
e) None of these

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Q.6 The device that allow you to put information into the computer are called –
a) input devices b)output devices
c) type devices d)print devices
e) None of these

Q.7 Which application is not typically included in an MS Office suite?
a) word processor b)spreadsheet
c) antivirus d)presentations
e) None of these

Q.8 Portrait and Landscape are
a) Page Orientation b)Paper Size
c) Page Layout d)All of above
e) None of these

Q.9 Which of the following is not a type of page margin?
a) Left b)Right
c) Center d)Top
e) None of these

Q.10 What is the smallest and largest font size available in Font Size tool on formatting toolbar?
A) 8 and 72 B) 8 and 64
C) 12 and 72 D) None of above

Q.11 IPv6 works on _____bit.
a) 32 b) 64
b) 16 d) 128
c) 256

Q.12 Which of the following function key activates the speller?
a) F5 b) F7
c) F9 d) Shift + F7

Q.13 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

Q.14 .....cells involves creating a single cell by combining two or more selected cells.
(a) Formatting b)merging
c) Embedding d)Splitting
e) None of these

Q.15 What is the shortcut key you can press to create a copyright symbol?
a) Alt+Ctrl+C b)Alt + C
c) Ctrl + C d)Ctrl + Shift + C
e) None of these

Q.16 What is the process of copying software programs from secondary storage media to the hard disk called ?
(a) configuration b)download
d) Storage c)upload
e) installation

Q.17 The translator program used in assembly language is called
(a) Compiler b)Interpreter
c) Assembler d)Translator
e) None of these

Q.18 Junk e-mail is also called :
(a) spam b) spoof
c) sniffer script d) spool
e) None of these

Q.19 Sending an E-mail is similar to :
(a) writing a letter
(b) drawing a picture
(c) talking on the phone
(d) sending a package
(e) None of these

Q.20 When the pointer is positioned on a ....., It is shaped like a hand.
(a) grammar error b)hyperlink
c) screen tip d)spelling error
e) formatting error

Q.21 If you type a word that is not in Word's dictionary, a wavy ..... underline appears below the word.
(a) red b)Green
c) Blue d)Black
e) None of these

Q.22 Word processing, spreadsheet and photo-editing are examples of ..... .?
(a) application software
(b) system software
(c) operating system software
(d) platform software
(e) None of these

Q.23 To save an existing file with a new name or to a new location, you should use the ..... command.
(a) Save b)Save and replace

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c) save as d)new file
e) None of these

Q.24 The copy command saves to :
(a) the desktop b)clipboard
c) Microsoft Word d)Paste
e) None of these

Q.25 By default, Excel positions text in a cell .....?
(a) left – aligned b)right – aligned
c) centered d)justified
e) None of these

Q.26 In HTTPs protocol S stands for
a) Source b)Secure
c) Set d)Simple
e) None of these

Q.27 In order to tell Excel that we are entering a formula in cell, we must begin with an operator such as-
a) $ b)@
c) + d)=
e) #

Q.28 Who invented the CDC-6600 computer?
a) Seymour Cray
b) JH Van Tassell
c) Charles Ginsberg
d) Charles Babbage
e) None of these

Q.29 The size of commonly used floppy disk is-
a) 4.5“ b)3.5"
c) 3.25“ d)5.5"
e) None of these

Q.30 Which network protocol is used to send e-mail?
a) FTP b)SSH
c) POP3 d)SMTP
e) None of these

Q.31 How do you display current date only in MS Excel?
a) date () b)Today ()
c) now () d)time ()

Q.32. Excel displays the current cell address in the .....
a) Formula bar b)Status Bar
c) Name Box d)Title Bar

Q.33 Which of the following methods can not be used to edit the contents of a cell?
a) Press the Alt key
b) Clicking the formula bar
c) Pressing the F2 key
d) Double clicking the cell
e) None of the above

Q.34 URL stands for –
a) unique Representation Location
b) Uniform Resource Locator
c) Uniform Resource Location
d) Unique Resource Locator
e) Universal Resource Location

Q.35 Founder of Artificial Intelligence
a) John McCarthy
b) Tim Berners-Lee
c) Douglas Engelbart
d) Sergey Brin
e) Ajay V.Bhatt

Q.36 Stack is the _____structure.
a) Last in first out (LIFO)
b) First in First out (FIFO)
c) First in Last out (FILO)
d) First come First served (FCFS)
e) None of these

Q.37 Layer one of the OSI model is:
a) Physical layer b)Link layer
c) Transport layer d)Network layer
e) None of these

Q.38 POST stands for_____.
a) Power On Selfie Test
b) Power One Self-Test
c) Power On Self-Test
d) Power on Self-Testing
e) Powering On Self-Test

Q.39 _____ is data that has been organized or presented in a meaningful way.
A. A process B. Information
C. Software D. Storage

Q.40 In Excel, Chart are created using which option?
a) Chart Wizard b)Pivot Table
c) Pie Chart d)Bar Chart
e) None of these

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Q.41 In Excel on an excel sheet the active cell is indicated by.
a) A dark wide border
b) A dotted border
c) A blinking border
d) All of the above
e) None of these

Q.42 Which of the following is the appropriate format of URL of email?
a) www_mail.com
b) WWWmail@com
c) www@mailcom
d) www.mail.com
e) None of these

Q.43 A device operating at the physical layer called a
(a) Bridge (b) Router
(c) Repeater (d) All of the above
(e) None of these

Q.44 What shows the contents of active cell.
(a) Name box (b) Row heading
(c) Formula bar (d) Task pan
(e) None of these

Q.45 Which of the following is not a toggle key
(a) Num lock key (b) Caps lock key
(c) Both (A) & (B) (d) Ctrl key
(e) None of these

Q.46 MS-Excel offers _____ different chart types
(a) 11 (b) 15
(c) 20 (d) 25
(e) None of these

Q.47 Which gate is known as Universal gate?
a) AND gate b) NAND gate
c) NOT gate d) XOR gate
e) None of these

Q.48 _____ is the combination of a scanner and special software which converts the printed or handwritten data to ASC II.
a) OCR
b) MICR
c) OMR
d) Kimball tag reader
e) Other than the given options

Q.49 Which domain name does belong to Military or Defence organization?
a) .mili b) .mil
c) .edu d).military
e) .biz

Q.50 Which among the following is the Extension of MS Access?
a) .txt b) .xls
c) .doc d).accdb and .mdb
e) None of these

ANSWER KEY

1a	2c	3c	4b	5b
6a	7c	8a	9c	10a
11d	12b	13c	14b	15a
16c	17c	18a	19a	20b
21a	22a	23c	24b	25a
26b	27d	28a	29b	30d
31b	32c	33a	34b	35a
36a	37a	38b	39b	40a
41a	42c	43c	44d	45d
46a	47b	48a	49b	50d

Q1. Windows Explorer is a _____?
A. Drive B. Browser
C Network D. Data Base
E. File Manager

2. Which of the following users tunnelling protocols to securely send private network data over the network?
A. VPN B. WAN
C. LAN D. GPS
E. MAN

3.What is Redhat?
A. Firmware B. Malware
C. antivirus D. An application software
E. Open Source Operating System

4.Usually installation files have the extension _____?
A. .jpeg B.gif
C. .doc D. .exe
E. .png

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5. The individual dots that from the image on a monitor are called_____.

A. Bits B. Bytes
C. Pixels D. Pintes
E. None of the above

6. _____ refers to the unauthorized copying and distribution of software?

A. Software Piracy B. Plagiarism
C. Hacking D. Software Literacy
E. None of these

7.EDVAC computer belongs to which Generation?

A. 1st Gen B. 2nd Gen
C. 3rd Gen D. 4th Gen
E. 5th Gen

8. POP stands for_____

A. Peer to peer Protocols B. Peer to Post Protocol
C. Peer Office Protocols D. Post office Protocols
E. None of these

9.Which of the following is used for cable network ?

A. VPN B. WAN
C. LAN D. GPS
E. MAN

10. Information travels between components on the motherboard through_____?

A. CMOS B. Buses
C..Peripherals D. Flash Memory
E.None of the above

11. Internet Explorer is a _____?

A. Drive B. Browser
C. Network D. Data Base
E. File Manager

12. Which one is the correct order of memory units-?

A.TB>MB>YB>GB>KB
B.MB>YB>GB>TB>KB
C.YB>TB>GB>MB>KB
D.GB>MB>KB>TB>YB

13. How many bits in MAC address?

A. 48 bits B. 64 bits
C.128bits D.16bits
E. 32bits.

14. Which one is called as modifier key?

A. Caps Lock key B. Num Lock key
C. CTRL key D. Esc key

15. In OSI Model Router used in which layer?

A.Application Layer B.Session layer
C.Network layer D. Data link layer
E.Physical layer

16. Magnetic disk is coated by?

A.Silicon B.Iron oxide
C.Aluminum D.Glass
E.None of the above

17. In HTTPs protocol S stands for

A.Source B. Secure
C.Set D.Simple
E.None of these

18. If you see #### in a cell the meaning is that –

A.Row width is low
B.Column width is low
C.Both row and column width is low
D.Column and row width is high
E. None of these

19.A computer provides database services to other computers,then it will be called as ?

A. Application server B. Database server
C. File server D.Web server
E. Proxy server

20. GUI stands for -

A.Graphical user Instrument
B.Graphical unified Interface
C.Graphical unified Instrument

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D.Graphical user Interface
E.Graphically user Instrument

21. 1 KB=? Bits-
A.8193 B.8916
C.8192 D.1024
E.4024

22. The copy command saves to:
A. the desktop B. the clipboard
C. Microsoft Word D. Paste
E. None of these

23. Vacuum Tube is the invention ……generation.
A. 1st generation B. 2nd gen
C. 4th gen D. 5th gen
E. None of these

24. The computer size was very large in ____
A. First Generation B.Second Generation
C. Third Generation D. Fourth Generation
E. None of these

25. ____ is responsible for overall control and co-ordination of instruction execution.
A. CPU B. ALU
C. RAM D. Control Unit
E. None of these

26. Which of the following is the fastest type of computer?
A. Minicomputer B. Mainframe computer
C. Supercomputer D. Digital computer
E. None of these

27. Find out the technology of third generation?
Avecuume tube B.trangister
C.I.C's D.Microprocessor
E.None of the above

(28-32).In a code language, the symbol for '0' is '#' and for '1' is '$'. Numbers greater than one is to be written only by using the two symbols that given abovE. Follow some instruction that are given below -

A.0 is written as #, B.1 is written as $,
C.2 is written as $#, D.3 is written as $$,so on

28. Which of the following will represent 22?
A.##$$# B.$#$$$
C.$#$## D.$#$$#
E.None of the above

29. Which of the following will represent 53?
A.#$$$$# B.$#$##
C.$$#$#$ D.$#$$##
E.None of the above

30. Which of the following will represent the value of -(#$$# + $#$$ * #$$)= ?
A.35 B.36
C.37 D.38
E.39

31. Which of the following will represent the value of- (#$#$#$ + $$$$#÷ #$$#)= ?
A.28 B.57
C.26 D.55
E.None of the above?

32. $(3457)_8 = (?)_{16}$
A.725 B.7215
C.72F D.72E
E.None of the above.

33. In NormalizationBCNF is needed because:
A.BCNF is need when the Data is deleted tuples may be lost
B.Otherwise tuples may be duplicated
C.Updating is otherwise is difficult
D.When there is dependent attributes in two possible composite keys one of the attribute is unnecessarily duplicated in the tuples.
E.None of these

34. In OSI model Data link layer is dived into -
A.MAC and Session layer

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B.MAC and LLC layer
C.MAC and Physical layer
D.LLC and Transport layer
E. None of the these

35. 255.255.255.0 subnet mask of which class?
A.Class A B.Class B
C.Class C D.Class D
E.Class E

36. _____ is a set of programs, located at a network gateway server that protects the resources of a private network from other networks:
A. Root kit B. Firewall
C. Sandbox D. Password Cracker
E. None of these

37.Which of the following is not an input device?
A. OCR B. Optical scanners
C. Voice recognition device
D. COM (Computer Output to Microfilm)
E. None of these

38. Who among the following is the odd one_____?
A. Mouse B. Scanner
C. Printer D. Keyboard
E. None of these

39. Which is not a storage device?
A. Printer B. CD
C. Hard disk D. Floppy Disk
E. DVD

40. ____ ___technologies is used by banks for faster processing of large volumes of cheques.
A. OCR B. OMR
C. MICR D. Bar code
E. None of these

41. Who invented Analytical engine?
A. Blaise Pascal B. George Bool
C. Charles Babbage D. Dr. Herman Hollerith
E. None of these

42. Memory which forgets everything when you switch off the power is known as_____.
A. Corrupted B. Volatile
C. Non-Volatile D. Non-Corrupted
E. NonE.

43. Which of the following code used in present day computing was developed by IBM Corporation?
A. ASCII B. Hollerith Code
C.EBCDIC Code D. Baudot Code
E. None of these

44. An image editing software in which we can draw and edit images is?
A. PageMaker B. MS-Paint
C. Coral Draw D. Photo Image E. Front

45. Physical components that make up your computer are known as_____.
A. Software B. Operating Systems
C. Hardware D. Web Browsers
E. None of these

46. What is warm booting?
A. When a computer is turned on after it has been completely shut down.
B. When a computer is restarted by pressing the restart

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button or pressing (ctrl + Alt + Del) key.
C.A. or B.
D. NonE.

47. Which of the following is a function of Operating System (OS)?
A. Process & Memory Management
B. File Management
C. Input/Output Management
D. All of the above

48. Which of the following is an example of Single User Operating System?
A. MS-DOS B. Windows 9X
C.A.&B. D. None

49. Which of the following is an example of Multi User Operating System?
A. UNIX B. LINUX
C. Windows 2000/2007 D.A.&B.&C.

50.MICR stand for?
A. Magnetic Ink character Register
B. Magnetic Ink Code Reader
C. Magnetic Ink Code Register
D. Magnetic Ink character Recognition
E. Magnetic Ink cases Reader

51. Virtual memory is_____?
A. Memory on the hard disk that the CPU uses an extended RAM.
B. Access the page table
C. CPU generates a physical address
D. Automatic storage allocation E. None of thesE.

52. What is the full form of SIM?
A. Station Identity Module
B. System Identity Module
C. Subscriber Identity Module
D. Subscriber Trunk Dialing
E. None of these

53. A _____is a software program used to view Web pages.
A. Site B. Host
C. Link D. Browser
E. None of these

54. Micro-programming introduced by_____?
A. John Mauchley B. Maurice Wilkies
C. William Shockley D. Blaise pascal
E. None of these

55. Numbers and formulae entered in a cell are called _____.
A. Labels B. Numeric entries
C. Intersection D. Text
E. Fellers

56.TCP /IP protocol stack is –
A.Combination of TCP and IP Protocol
B.A Family of protocol that connect to PCs
C.Part of internet
D.Both b and c
E.None of these

57. When talking of software budget –
A.It includes only direct development cost
B.Productivity loss that occurs during IT Training
C.Indirect cost of budget include training cost
D. both a and c
E.None

58. Which of the following makes a network insecure?
A. Encryption B. NIC (Network interface card)
C. Static keys D. Either B or C
E. None of these

59. Artificial Intelligence can be used in every sphere of life because of its
A.Ability to work in hazardous places
B. Ability to think like human beings
C. Ability to work in artificial environments
D. All of the above
E. None

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60. Software Quality assurance is for
A. Error prevention B. Error detection
C. Error correction D. Either a or C.
E. None of these.

61. IN OOPS technology hiding the complexity of characteristics is called as –
A. Abstraction B. Inheritance
C. Object D. Polymorphism
E. Encapsulation

62. The IP Address 135.0.10.27 belong to the address class_____?
A. Class A B. Class B
C. Class C D. Class D
E. Class E

63. Which of the following is not a binary system?
A. EBCDIC B. ASCII
C. HEX D. Both a and b
E. None

64. 1 AND 1 will give
A.1 B.0
C. Both A and B D. 10
E. None

65. Computer to Computer communication for business transaction is called as-
A. PIN B.EDI.
C.AIM D.Both a and c
E. None

66. Fax machines are used to send documents through a?
A. Telephone line B. Modems
C. Co-axial wire D. All of these
E. None of these

67. Date and time are available on the desktop at_____.
A. Keyboard B. Recycle bin
C. My computer D. Task bar
E. None of these

68. To save an existing file with new name at a new location we should use_____command.
A. Save B. Save and replace
C. Save as D. New file
E. None of these

69. A red wavy line under a word indicates that the word_____.
A. Is too long for the line of text
B. Is not in the dictionary file and therefore might be spelt incorrectly
C. Is not appropriate for that particular sentence
D. Is a verb
E. None of these.

70. Windows xp, windows 7, windows 10 are known as…….?
A. Processors B. Domain names
C. Modems D. Operating system
E. None of these.

71. _____ is when the more power-hungry components, such as the monitor and the hard drive are put in idle.
A. Hibernation B. Power down
C. Standby mode D. shutdown procedure
E. None of these.

72. Which of the following is an operating system?
A. Linux B. Debugger
C. Mozilla D. Google chrome
E. Intel 8085

73. Which of the following cables can transmit data at high speeds?
A. Flat cables B. Coaxial cable
C. Optic fiber cable D. Twisted pair cable
E. UTP cable

74. What is the base of hexadecimal number system?
A. 2 B. 8
C. 16 D. 10
E. None of these..

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75. RTGS stand for_____.
A. Real Time Gross Settlement
B. Real Time General Settlement
C. Run Time Gross Settlement
D. Regular Time General Settlement
E. None of these

76. What is the name given to the temporary storage area that a web browser uses to store pages and graphics that it has recently opened?
A. Niche B.Cookies
C. Cache D. Cellar
E. None of these

77. Oracle is an example of _____ application software.
A. Database B. Word processing
C. Project management D. Presentation graphics
E. Desktop

78. MySQL is_____?
A. A hierarchical model B. A RDBMS
C. A relational model D. A Database
E. None of these

79. Primary key is a _____?
A. Common key B. Unique key
C. Input key D. Output key
E. None of these

80. Which of the following computer language is a mathematically oriented languages used for scientific problems?
A. FORTRAN B. COBOL
C. LISP D. PROLOG
E. APPLE

81. Which of the following is NOT a computer programming language?
A. C B. C++
C. Java D. COBOL
E. Microsoft

82. Which of the following is not an operating system?
A. DOS B. UNIX
C. MAC(OS) D. DBMS
E. Windows XP

83. One nibble is equal to how many bits?
A. 4 bits B. 8 bits
C. 12 bits D. 16 bits
E. None of these

84. Verification of a Login name and password is known as_____.
A. Configuration B. Accessibility
C. Authentication D. Logging in
E. None of these

85. Which of the following can be used to select the entire document?
A. Ctrl+A B.Alt+F5
C. Shift+A D.Ctrl+K
E.Ctrl+H

86. Which of the following will you require to hear music on your computer?
A. Video Card B.Sound Card
C. Mouse D.Joy Stick
E. None of these

87. Layer which converts data frames into bits and also convert bits into frames is known as…….
A. Data Link Layer B. Transport Layer
C. Session Layer D. None

88. Layer which deals with router.....
A. Network Layer B. Transport Layer
C. Session Layer D. None

89. Layer which manages MAC address ……
A. Presentation Layer B. Transport Layer
C. Session Layer D.Data Link Layer

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90. Layer which establishes, maintains & terminates a connection while communicating with other client is known as……

A. Presentation Layer B. Transport Layer
C. Session Layer D. None

91. Layer which translates data format & deals with compression of data and network security is known as……

A. Presentation Layer
B. Application Layer
C. Session Layer
D. None

92. Layer which is the user interface to access the network services such as file transfer/ database access is known as……

A. Presentation Layer
B. Application Layer
C. Session Layer
D. None

93. A long message that needs to be transmitted is broken into smaller packets of fixed size for error free transmission is termed as……..

A. Data Sequencing
B. Flow Control
C. Error control
D. None

94. ICMP stands for_____?

A. Internet Control Message Protocol
B. Internet Connection Management Protocol
C. Internet Control Management Protocol
D. None

95. What is the meaning of OSI, in terms of computers?

A. Open Software Interrelation
B. Open System Interrelation
C. Open System Interconnection
D. Open Software Interconnection
E. None of these

96. USB in data cables stands for?

A. Unicode smart Bus B. Universal structural Bus
C. Unicode Serial Bus D. Universal serial Bus
E. None of these

97. You must install a (n) _____ on a network if you want to share a broadband Internet connection.

A. router B. modem
C. node D. cable
E. None of these

98. To reload a web page, press the _____button.

A. Redo B. Reload
C. Restore D. Ctrl
E. Refresh

99. _____ mouse uses laser rays for the movement of curser.

A. Mechanical mouse B. Optical mouse
C. Magnetic mouse D. Normal mouse
E. None of these

100. Disk access times are measured in _____?

A. minute B. Milliseconds
C. Hours D. seconds
E. None of these

101. Blaise Pascal has introduced_____?

A. Adding machine B. Abacus

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C. Calculator D. difference engine
E. None of these

102. Sending an e-mail is similar to _____.
A. Petering an event B. Narrating a store
C. Writing a letter D. Creating a drawing]
E. None of these

103. You can use the _____bar to type a URL and display a webpage or type a keyword to display a list of related webpages.
A. Menu B. Title
C. Search D. Web
E. Address

104. A web _____consists of one or more Web pages located on a Web server.
A. Hub B. Site
C. Story D. Template
E. None of these

105. _____are used to identify a user who returns to a Website.
A. Cookies B. Plug-ins
C. Scripts D. ASPs
E. None of these

106. The _____specifies the operation to be performed and the operands provide the data on which the operation is to be performed:
A. source code B. opcode
C. object code D. program code
E. None of these

107. Which of the following is Open Source Software?
A. Windows B.Linux
C. IOS D. Adobe Photoshop
E. None of these.

108. What is the name of the software that allows us to browse through web pages called?
A. Browser B. Mail client
C. FTP client D. Messenger
E. None of these

109. When you purchase a product over a Mobile Phone, the transaction is called_____.
A. Web commerce B. e- commerce
C. m-commerce D. Mobile Purchase
E. None of these.

110. Named collection of fields which represent a complete unit of information is called_____.
A. Field B. Record
C. Table D. File
E. None of these

111. A _____ is a grid with labeled columns and rows.
A. Dialog box B. Worksheet
C. Clipboard D. Toolbar
E. None of these.

112. An example of a telecommunication device is a_____.
A. Keyboard B. Mouse
C. Modem D. Printer
E. Scanner

113. Programs that automatically submit your search request to several search engines simultaneously are called_____.
A. Metasearch engines B. Webcrawlers
C. Spiders D. Hits
E. None of these

114. What kind of Protocol is used to provide Internet access from mobile?
A. TCP/IP B. ISD
C. WAP D. HTTP
E. None of these

115. What is the slowest transmission medium?
A. Twisted pair wire B. Coaxial cable

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C. Fiber optic cable D. All of above
E. None of these

116. What is an e-mail attachment?
A. A receipt sent by the recipient
B. A separate document from another program sent along with an e-mail message
C. A malicious parasite that feeds off of you messages and destroys the contents
D. A list of CC and BCC recipients
E. None of these

117. The _____program compresses large files into a smaller file.
A. WinZip B. WinShrink
C. WinStyle D. Microsoft
E. None of above

118. The _____folder retains copies of message that you have started but are not yet ready to send.
A. Inbox B. Outbox
C. Drafts D. Sent Items
E. Address Book

119. Which is not an internet protocol?
A. HTTP B. FTP
C. STP D. UDP
E. None of these

120. What kind of server converts IP addresses to domain names?
A. DNS B. MNS
C. UTP D. RTP
E. None of these

121. POST stands for_____.
A. Power OnSelfie Test
B. Power One Self-Test
C. Power On Self-Test
D. Power On Self-Testing
E. None of these

122. Which of the following is a network in which computers are located physically close together, often in the same building?
A. LAN B. WAN
C. RAM D. ROM
E. None of these

123. Programs such as Mozilla Firefox that serve as navigable windows into the Web are called_____.
A. Internet B. Data card
C. Web browsers D. RAM
E. None of these

124. Start or restart the computer means ___.
A. exit B. kick
C. boot D. kick-start
E. None of these

125. You click at B to make the text _____.
A. Italics B. Underlined
C. Italics and under lined D. Bold
E. None of these

126. Each _____ on a menu performs a specific action.
A. Client B. Server
C. Node D. Command
E. None of these

127. An e-mail address typically consists of a user ID followed by the ____ sign and the name of the e-mail server that manages the user's electronic post office box.
A. @ B. #
C.& D. *
E. None of these

128. _____are devices used to transmit data over telecommunications lines.
A. Drives B. Drives bays
C. Modems D.Platform
E. None of these

129. What is the file extension of MS-Power point?

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A. .exe B. .xls
C. .ppt D..pst
E. None of these

130. The information stored in the catalog is called _____.
A. Meta-data B. Mini-world
C. Record D. All of these
E. None of these

131.Which type of memory holds only the program and data that the CPU is presently processing?
A.CMOS B.ROM
C.RAM D.Pen Drive
E.None of these

132.Pick the odd one-
A.Mouse B.Touch Screen
C.Keyboard D.Scanner
E.Light Pen

133.Computer Literacy day is celebrated on ____?
A.1 December B.5 December
C.2 December D.5 September
E.8 October

134.Which of the following can only have Sequential Access?
A.Disk B.CD-ROM
C.Tape D.DVD-ROM
E.None of these

135.A Central Computer that holds collections of data and programs for many PC's Workstations, and other computers is a(n) _____
A.Super computer B.Mini computer
C.Laptop D.Server
E.Palmtop

136.TCP stands for
A.Transmission Control Protocol
B.Telnet Control Protocol
C.Transmission Channel Protocol
D.Transmission Cross Protocol
E.None of the above

137.An email feature, which is used to send a copy of an email to one or many other people at the same time that you are sending it to the main recipient/s is called
A.CC B.BCC
C.To B.From
E.None of the above

138. Which of the following uses the handheld operating system?
A.Supercomputer B.Personal Computer
C.Mainframe D.PDA
E.None of the above

139.The software that is used to create text based documents are referred to as-
A.DBMS B.Word processors
C.Spreadsheet D.Presentation software
E.None of the above

140._____is the process to detect and remove the errors in software code.
A.Testing B.Compiling
C.Debugging D.Programming
E.None of the above

141.Computers that control processes, accept data in a continuous.....
A. data traffic pattern B. data highway
C. infinite loop D. feedback loop

142. A language reflects the way people think mathematically is.....
A. cross platform programming
B. functional
C. event driven programming
D. 3GL business programming

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143. A mistake in an algorithm that causes incorrect results is called A....
A. logical error B. syntax error
C. procedural error D. compiler error

144. A device for changing the connection on a connector to a different configuration is....
A. a converter B. a component
C. an attachment D. an adapter

145. Technique that is used to send more than one call over a single line is
A. Digital transmission B. Infrared transmission
C. Streaming D. Multiplexing

146. Which of the following would you find on LinkedIn?
A. Games B. Connections
C. Chat D. Applications

147. The method of Internet access that requires a phone line, but offers faster access speeds than dial-up is thE.....Connection
A. Cable access
B. Satellite access
C. Fiber optic service
D. Digital Subscriber Line (DSL)

148. .....is a form of denial of service attack in which a hostile client repeatedly sends SYN packets to every port on the server using fake IP addresses.
A.Cyber crime B. Memory shaving
C.Synflooding D. Software Piracy

149. A program either talk or music that is made available in digital format for automatic download over the internet is called A.....
A. wiki B. broadcast
C.vodcast D. podcast

150. A USB communication device that supports data encryption for secure wireless communication for notebook users is called A...
A. USB Wireless Network adapter
B. wireless switch
C. wireless hub
D. router

151. The connection between your computer at home and your local ISP is calleD.....
A. the last mile B. the home stretch
C. the home page D. the vital mile

152 ....are attempts by individuals to obtain confidential information from you by falsifying their identity through e-mails.
A. Phishing trips B. Viruses
C. Phishing scams D. Spyware scams

153. ERP is an acronym for....
A.Enterprise Relationship planning
B.Enterprise Resource planning
C.Enterprise Reorder planning
D.None.

154. Collecting personal information and effectively posing as another individual is known as the crime of ..
A. spooling B. spoofing
C. hacking D. identity theft

155. Which ports connect special types of music instruments to sound cards?
A. BUS B. CPU
C. USB D. Musical Instrument
D.Digital Interface (MIDI)

156. Where you are likely to find an embedded operating system?
A. On a desktop operating system
B. On a networked PC
C. On a PDA
D. On a Mainframe.

156. Name of the fist computer in India-
A. Sidharth B. Param 10,000
C. CDC-6600 D. C-DAC

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158. Which of the following places the common data elements in order from smallest to largest?
A. Bit, byte, character, record, field, file, database
B. Database, file, record, field, character
C. Character, file, record, field, database
D. Character, field, record, file, database

159. Which protocol provides e-mail facility among different hosts?
A. File Transfer Protocol (FTP)
B. TELNET
C. Simple Mail Transfer Protocol (SMTP)
D. Simple Network Management Protocol (SNMP)

160. Which of the following memory is non-volatile?
A. DRAM B. SRAM
C. ROM D. None of the above

161. What is embedded system?
A. The programme which arrives by being wrapped in box.
B. The programme which is the permanent part of the computer
C. T1he computer which is the part of a big computer.
D. Some combination of computer hardware and software.

162. Which device connects a LAN to the Internet?
A. Adapter B. Repeater
C. Router D. None of the above

163. Signals can be analog or digital and a computer that processes the both type of signals is known as?
A. Analog computer B. Digital Computer
C. Hybrid Computer D. Mainframe Computer

164. Human beings are referred to as Homo sapiens, which device is called Silico Sapiens?
A. Monitor B. Hardware
C. Robot D. Computer

165. EBCDIC can code up to how many different characters?
A. 256 B. 16
C. 32 D. 64

166. Different components of the motherboard of a PC unit are linked together by sets of parallel electrical conducting lines. What are these lines called?
A. Conductors B. Buses
C. Connectors D. Consecutive

167. Which is the first automatic electronic digital computer?
A. ENIAC B. MARK I
C. Z3
D. ABC (Atanasoff –Berry Computer)

168. India's first supercomputer is
A. Cyber 205 B.Aaditya
C.Anupam D. PARAM 8000

169. The metal disks, which are permanently housed in, sealed and contamination free containers are called?
A. Hard disks B. Floppy disk
C. Winchester disk D. Flexible disk

170. What was the name of the first commercially available microprocessor chip?
sA. Intel 308 B. Intel 33
C. Intel 4004 D. Motorola 639

171. The first digital computer built with IC chips was known as
A. IBM 7090 B. Apple - 1
C. IBM System / 360 D. VAX - 10

172. RATS stands for
A. Regression Analysis Time Series
B. Regression Analysis Time Sharing
C. Real Analysis Series
D. All of above

173. The magnetic storage chip used to provide non-volatile direct access storage of data and that have no moving parts are known as
A.Magnetic core memory
B.Magnetic tape memory
C.Magnetic disk memory
D.Magnetic bubble memory

174. A computer program that converts an entire program into machine language is called a/an
A. Interpreter B. Simulator
C. Compiler D. Commander

175. A language translator that analyses and executes the source code in-line-by-line manner without looking at the entire program is called a/an
A. Interpreter B. Simulator
C. Compiler D. Commander

176. Who designed the first electronics computer (ENIAC)?
A. Von Neumann
B. John Eckert & John Mauchly
C. Joseph M Jacquard
D. None of the above

177. A device driver acts like a……. between the device & OS
A. inverter B. converter
C. translator D. None

178. Computers can be divided into…..major categories.
A. Four (Micro, Mini, Mainframe, Super)
B. Three C. One
D. None

179. SAN stands for
A. Storage Area Network
B. Super Array Network
C. Shared Area Network
D. None

180. NAS stands for
A. Network Area Service
B. Network Attached Storage
C. Network Attached Service
D. None

181. To produce high quality graphics (hardcopy) in color, …… is used
A. RGB monitor B. Plotter
C. Ink-jet printer D. Laser printer

182. The scrambling of code is known as
A. Encryption B. a firewall
C. Scrambling D. None

183. A type of message that web servers pass to your web browser when you visit the website
A. Cache B. Spam
C. None D. Cookie

184. Software that you can use free of charge for a set perioD. After that you have to buy it to keep working is known as
A. Freeware B. Shareware
C. Software D. None

185. A type of virus (malicious code) that looks for security loopholes in a system and uses that to replicate itself is known as
A. Worm B. Threat
C. Trojan Horse D. None

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186. RAID stands for_____
A. Reproduce Array of Intelligent Disks
B. Reproduce Array of Inexpensive Disks
C. Redundant Array of Inexpensive Drives
D. Redundant Array of Inexpensive Disks

187. Software that monitors your online computer activities is known as
A. Malware B. Spyware
C. Freeware D. None

188. Software that is made available at no cost and is sometimes used to entice a user to purchase the unbranded version with no advertising.
A. Malware B. Spyware
C. Freeware D. None

189. Which is used to display one or more web pages within another normal web page?
A. IFRAME B. Hyperlink
C. Home page D. None

190. storage area used to store data to a compensate for the difference in speed at which the different units can handle data is
A. Memory B. Buffer
C. Accumulator D. None

191. Computer is free from tiresome and boardroom. We call it
A. Accuracy B. Diligence
C. Versatility D. None

192. Integrated Circuits (ICs) are related to which generation of computers?
A. First generation B. Second generation
C. Third generation D. None

193. Which type of computers uses the 8-bit code called EBCDIC?
A. Minicomputers B. Microcomputers
C. Mainframe computers D. None

194. The ALU of a computer responds to the commands coming from
A. Primary memory B. Control section
C. External memory D. Cache memory

195. A physical connection between the microprocessor memory and other parts of the microcomputer is known as
A. Path B. Address bus
C. Route D. All of the above

196. A technique used by codes to convert an analog signal into a digital bit stream is known as
A.Pulse code modulation B.Pulse stretcher
C.Query processing D.Queue management

197. The terminal device that functions as a cash register, computer terminal, and OCR reader is the?
A. Data collection terminal
B. OCR register terminal
C. Video Display terminal
D. POS terminal

198. A set of flip flops integrated together is called ____

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A. Counter B. Adder
C. Register D. None of the above

199. A register organized to allow moving left or right operations is called a ____
A. Counter B. Loader
C. Adder D. Shift register

200. How many address lines are needed to address each machine location in a 2048 x 4 memory chip?
A. 10 B. 11
C. 8 D. 12

201. Multi user systems provided cost savings for small business because they use a single processing unit to link several
A. Personal computers B.Workstations
C. Dumb terminals D. Mainframes

202. The difference between memory and storage is that memory is ___ and storage is __
A. Temporary, permanent
B. Permanent, temporary
C. Slow, fast
D. All of the above

203. Which of the following is the first computer to use Stored Program Concept?
A. UNIVAC B. ENIAC
C. EDSAC D. None of above

204. 1 nibble equals to
A. 1 bits B. 2 bits
C. 4 bits D. 8 bits

205. The most commonly used standard data code to represent alphabetical, numerical and punctuation characters used in electronic data processing system is called
A. ASCII B. EBCDIC
C. BCD D. All of the above

206. Hard disk is coated on both sides with
A. Magnetic metallic oxide
B. Optical metallic oxide
C. Carbon layer
D. All of the above

207. The contents of information are stored in
A. Memory data register
B. Memory address register
C. Memory arithmetic registers
D. Memory access register

208. The programs which are as permanent as hardware and stored in ROM is known as
A. Hardware B. Software
C. Firmware D. ROM ware

209. Which of the following memories must be refreshed many times per second?
A. Static RAM B. Dynamic RAM
C. EPROM D. ROM

210. In which mode, the communication channel is used in both directions at the same time?
A. Full-duplex B. Simplex
C. Half-duplex D. None of the above

211. Which of the printers used in conjunction with computers uses dry ink powder?
A.Daisy wheel printer B. Line printer
C. Laser printer D. Thermal printer

212. Daisy wheel printer is a type of
A. Matrix printer B. Impact printer
C. Laser printer D. Manual printer

213. Which of these is considered intelligent CASE tool?
A. Workbench B. Toolkit
C. Upper CASE D. Lower CASE

214. Origin of internet can be tracked from
A. Satellite networks B. Radio networks

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C. ARPANET (Advanced Research Projects Agency Network)
D. None

215. System proposal is prepared in ……phase of SDLC.
A. Conception B. Initiation
C. Analysis D. Design

216. A data warehouse
A. Contains numerous naming conventions and formats
B. Is organized around important subject areas
C.Contains only current data
D.None

217. To connect networks of similar protocols, ……..are used
A. Routers B. Gateways
C. Bridges D. None

218…….. is one reason for problems of data integrity
A. Data availability constraints
B. Data inconsistency
C. Data redundancy
D. None

219. Which of the following is an advantage of mounting an application on the web?
A. the possibility of 24-hour access for users
B. creating a system that can extend globally
C. standardizing the design of the interface
D. All of these

220. Which of the following domains is used for profit businesses?
A. .com B. .edu
C. .net D. None

221. Which of the following domains is used for non-profit organizations?
A. .org B. .edu
C. .net D. None

222. Browsers can be classified into two types. They are
A. Graphical & Text B. Graphical & Navigational
C. Text & Pictorial D. None

223. The displayed data over internet can be classified into two types. They are
A. Static & Dynamic B. Graphical &Text
C. Data & Voice D. None

224.Which is an open source development environment to develop dynamic web pages?
A. PHP (Hypertext Preprocessor) B. XML
C. VB Script D. None

225. A protocol that allows a user to log on to a remote computer which is also known as remote login is…..
A. FTP B. Telnet
C. HTTP D. None

226. A set of rules that enables a user to log on to another computer and transfer information between it & his/ her computer.
A. HTTP B. FTP
C. WWW D. None

227. PSTN stands for
A. Public Switched Transformation Network
B. Public Switched Telephone Network
C. Public Serviced Telnet Network
D. None

228. Home Page is also known as
A. Index Page B. Front Page
C. Back Page D. None

229. GPRS stands for
A. Global Packet Radio Service
B. Global Positioning Radio Service
C. General Packet Radio Service
D. None

230. GSM stands for
A. Global System for Mobile
B. Global Service for Mobile
C. Global System for Mobile communication
D. None

231. TCP stands for
A. Transmission Control Protocol
B. Telnet Control Protocol
C. Transmission Channel Protocol
D. None

232. Proprietary Software is also called as
A. Closed Source Software
B. Open Source Software
C. Commercial Software
D. None

233. A product that is owned exclusively by a single company that can only function properly, if it is used with other products owned by the same company?
A. Proprietary Software
B. Public Domain Software
C. Commercial Software
D. None

234. Which of the following activity can be termed as software piracy?
A. Soft loading B. Counterfeiting
C. Renting D. All of these

235. Linux is a type of …….. Software
A. Open Source B. Public Domain
C. Commercial D. None

236. A coding language that is compatible with windows servers which is used for increased functionality on a website or to work with a database
A. HTML B. ASP
C. XML D. None

237. A code that represents English characters as numbers and ranging from 0 to 127.
A. ASCII B. EBCDIC
C. BCD D. All of above

238. An email feature, which is used to send a copy of an email to one or many other people at the same time that you are sending it to the main recipient/s is called
A. CC B. BCC
C. To D. None

239. An email feature which is used to send someone a BCC email, their email address will not show in the "to" field
A. CC B. BCC
C. CC & BCC D. None

240. GUI stands for
A. Graphic Uninstall/Install
B. Graphical User Interface
C. General Utility Interface
D. None

241. A….. is a design tool that graphically shows the logic in a solution algorithm.
A. Hierarchy Chart B. Flow Chart
C. Structure Chart D. None

242. Programs designed to perform specific tasks related to managing computer resources are called
A. System Software B. Utility Software
C. Application Software D. None

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243.A ….. contains buttons & menus that provide quick access to commonly used commands.
A.menubar B. toolbar
C. window D. None

244. What is the split – MAC Architecture?
A. The split-MAC architecture uses MAC addresses to create a forward/filter table and break up collision domains.
B. The split-MAC architecture uses MAC addresses to create a forward/fliter table
C. Both A.&B.
D. None

245. In …..normal form, all non-key fields of data structure are dependent on the whole key.
A. First B. Second
C. Third D. None

246. Which of the following are tasks that may be completed when configuring your e-mail client?
A. Provide the IP address of your ISP's mail server
B. Provide the name of your e-mail account
C. All of these
D. None of these

247. A pixel is a……
A. picture element or dot on a screen
B. point of ink on a laser printed page
C. point of ink on an ink jet printed page
D. None

248. Expansion cards are inserted into
A. CPU B. Slots
C. Peripheral devices D. None

249…….. is a communication technology used by some incoming mail servers.
A. TCP B. POP3
C. FTP D. None

250. Which of the following format for storing & backing up computer data on tape that evolved from Digital Audio Tape (DAT) technology?
A. Data Aggregation B. Digital Data Storage
C. Virtual Tape System D. None

251. The two basic parts of URLs are
A. TCP & IP B. the protocol & the domain name
C. TCP & FTP D. None

252. The storage locations in the internal storage of a CPU is called
A. reference points B. addresses
C. locations D. None

253. ATM machines run ……. OS
A. Open Source B. Closed Source
C. embedded D. None

254. The fraudulent practice of sending emails purposing to be from reputable companies in order to induce individuals to reveal personal information(Credit & Debit card details) is called
A. Hot swapping of devices B. Pharming
C. Phishing D. None

255. NIC stands for
A. Network Internal Card
B. Network Interconnection Channel
C. Network Interface Card
D. None

256. ---- Is the Virus that overwrites the files or a few parts being replaced?
A. Virus B. File infectors
C. worm D. None

257. An Internet service that translates domain names to the IP addresses is called
A. CMS B. ASP
C. DNS D. None

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258. A hacker installs malicious code on a personal computer or server. This code then redirects clicks you make on a Web site to another fraudulent Web site without your consent or knowledgE. It is known as….
A. Phishing B.Smishing
C. Pharming D. None

259. The act of using the telephone in an attempt to scam the user into surrendering private information that will be used for identity theft.
A. Pharming B.Smishing
C.Vishing D. None

260. A type of phishing attack where mobile phone users receive text messages containing a Web site hyperlink is called
A. Pharming B.Smishing
C.Vishing D. None

261. The creation of Internet Protocol (IP) packets with a forged source IP address, with the purpose of concealing the identity of the sender or impersonating another computing system is called ……..
A. Pharming B. Spoofing
C.Vishing D. None

262. A malware program that can be used by a black hat cracker to remotely take control of a system for further attacks like spam emails or Denial of Service attacks, without a user's knowledge is called……
A. Zombie B. Spoofing
C.Vishing D. None

263. Ethical hackers who use their skill to secure the integrity of computer systems or networks is called
A. Black Hat B. White Hat
C. Green Hat D. None

264. Spam over instant messenger is called spim while spam over Internet telephony is known as
A. Malware B. Spit
C. Pharming D. None

265. The unauthorized activities of malicious software is called
A. Pharming B. Payload
C. Phishing D. None

266. Unauthorized access to restricted systems or resources is referred as
A. Pharming B. Penetration
C. Phishing D. None

266. Which Key is used for editing a cell?
A. F2 B. F5
C. F3 D. F4

268. Unauthorized access to information by using a terminal that is already logged on with an authorized ID is called
A. Piggybacking B. Penetration
C. Phishing D. None

269. Any deliberate damage to operations or equipments is called
A. Piggybacking B. Sabotage
C. Phishing D. None

270. Sending large numbers of unwanted e-mail messages to a single recipient or to a group of such recipients is termed as
A.Logic bomb B. Mail bombing
C. Time bomb D. None

271. Malicious modification or destruction of data such as changing information on Web sites is called
A. Super zapping B. Vandalism
C. Spamming D. None

272. Overwhelming or saturating resources on a target system to cause a reduction of availability to legitimate users is termed as
A.DistributedDoS attack
B. Denial of Service (DoS) attack
C. Data Diddling
D. None

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273. Creating a false identity using someone else's identifying information Computer Questions Thinking of Gov. Job Think IBT
A.DistributedDoS attack
B. Identity Theft
C. Data Diddling
D. None

274. A program or batch file that waits for a specific time before causing damage is……
A.Logic bomb
B. Time bomb
C. Mail bombing
D. None

275. A method for exploiting a vulnerability to take control of a system or otherwise compromise it is termed as…….
A.Logic bomb
B. Exploit
C. Mail bombing
D. None

276. The most widely used type of database management system is the
A. Flat databasE.
B. Network databasE.
C. Relational database
D. Hierarchical databasE.

277.IBM 370 belongs to which generation?
A. 1st generation B.2nd generation
C. 3rd generation D.4th generation
E.None of the above

278. Which of the following will connect you to the Internet?
A.HTTP
B. Internet service provider
C. A network connection
D. None

279. A method in which multiple communication devices are connected to one another efficiently is known as……
A. Switching B. Redundancy
C. Capacity D. None

280. What is considered as the 'backbone' of the World Wide Web?
A. URL B. HTML
C. HTTP D.None

281. MIME stands for
A. Multipurpose Internet Mail Extension
B. Multicasting Internet Mail Extension
C. Multiple Internet Mail Extension
D. None

282. FPI stands for____
A. Figure per inch
B. Frames per inch
C. Faults per inch
D. None

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283. The process of analyzing large data sets in search of new, previously undiscovered relationships is known as:
A. data mining
B. data marting
C. data maintenance
D. data warehousing

284. Collection of interrelated data and set of program to access them is called
A. Database
B. Database Management System
C. Data Structure
D. data warehousing

285. A repository of data that is designed to serve a particular community of knowledge workers is called
A.datamart
B. data maintenance
C. data warehousing

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D. None

286. Keys that are used in combination with some other key, they have been programmed to perform certain tasks is called
A. Function keys B. Alphanumeric keys
C. Modifier keys(Alt, Ctrl)D. None

287. Which is used to connect a computer to the cabling used in LAN?
A. Network Interface Card
B. Router
C. Modem
D. None

288. A device that regenerates the signal transmitted on a cable in a network is called
A. Repeater B. Router
C. Bridge D. None

289. A networking device that is used to receive signals from one Computer & transmit them on to other computers in a network is called……..
A. Repeater B. Hub
C. Bridge D. None

290. An intelligent Hub that has the ability to determine the destination of a packet sent across the network is called……
A. Repeater B. Switch
C. Bridge D. None

291. A most Sophisticated relay device used in a network that can be used to interconnect systems with different protocols, formatting languages and architecture is called……
A. Gateway B. Switch
C. Bridge D. None

292. CSMA/CD stands for
A. Carrier Sense Multiple Access with Correction Detection
B. Code Sense Multiple Access with Collision Detection
C. Carrier Sense Multiple Access with Collision Detection
D. None

293. A……is required at each end to absorb the signal so that it does not reflect back across the bus.
A. gateway B. terminator
C. bridge D. None

294. Bus Topologies can be classified into two types. It includes
A. Regular Bus B. Local Bus
C. Both A.&B. D. None

295. A list of rules for transferring data over a network is called?
A. Protocol B. Program code
C. Rules D. None

296. Star topologies are normally implemented using a
A. Unshielded Twisted Pair cable
B. Twisted Pair cable
C. Fiber Optic Cable
D. None

297. A set of stations connected serially by cable is known as
A. Star topology B. Bus topology
C. Ring topology D. None

298. OSI stands for
A. Open Systems Interconnection
B. Open Source Interconnection
C. Open Service Interconnection
D. None

299. Layer which deals with the transportation of binary data and defines cable & electrical specifications is known as…….
A. Data Link Layer
B. Physical Layer
C. Session Layer

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D. None

300. IDRP stands for
A. ICMP Repeater- Discovery Protocol
B. ICMP Router- Discovery Protocol
C. IDRP Router- Discovery Protocol
D. None

301.RSS Stands for
A. Rich Site Summary
B. Really Simple Syndication
C.A. or B.
D. None

302. What is the full form of UDP?
A. Upper Divisional Protocol
B. User Datagram Protocol
C. Under Divisional Protocol
D. None

303. An Interface refers to a specification by which programs can communicate with a web server is called
A. Graphical User Interface (GUI)
B. Musical Instrument Digital Interface (MIDI)
C. Common Gateway Interface (CGI)
D. None

304. VoIP stands for
A. Video Over Internet Protocol
B. Voice Over Internet Protocol
C. Voice On Internet Protocol
D. None

305. The two application protocols most commonly associated with
A. Network File System (NFS)
B. Common Internet File System (CIFS)
C. Both A.&B.
D. None

306. An attacker outside your network pretends to be a part of your network or legal terminal is called…
A. Password Attacks
B. IP Spoofing
C. Identity Theft
D. None

307. What is Real Time Operating System (RTOS)?
A. More than one processes can be executed concurrently.
B. Processing is done with a time constraint
C. A type of OS which do not interact with a computer directly.
D.An OS which use multiple central processors to serve multiple real time applications.

308. What is Batch Processing Operating System (RTOS)?
A. More than one processes can be executed concurrently.
B. Processing is done with a time constraint
C. A type of OS which do not interact with a computer directly.
D.An OS which use multiple central processors to serve multiple real time applications.

309. What is Distributed Operating System (RTOS)?
A. More than one processes can be executed concurrently.
B. Processing is done with a time constraint
C. A type of OS which do not interact with a computer directly.
D.An OS which uses multiple central processors to serve multiple real time applications.

310. Core of the OS which supports the process by dividing a path to peripheral devices?
A. Kernel B. Shell
C. Fork D. None

311. The program which interprets commands given by the user?
A. Kernel B. Shell
C. Fork D. None

312. A system call of OS which is used to create a new process is known as?

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A. Kernel B. Shell
C. Fork D. None

313. A process which is not executing due to any waiting event is called?
A. Kernel B. Shell
C. Deadlock D. None

314. Which provides an interface between process & OS?
A. Kernel B. System Calls
C. Deadlock D. None

315. User Interface can be divided into two types. They are
A. Graphical User Interface
B. Character User Interface
C.A.&B.
D. None

316. which one of the following is an MS-DOS external command?
A. COPY B. FORMAT
C. DIR D. None

317. In Windows ME, what does ME stands for?
A. Micro-Expert B. Millennium-Edition
C. Multi-Expert D. None

318.In OSI architecture, the routing algorithm is performed by
(A) Data Link Layer (B) Network layer
(C) Physical layer (D) Transport layer
(E) None of these

319. There are a total of…….actions button in PowerPoint.
A. 12 B. 15
C. 18 D. None

320. Attributes can be defined for
A. pages B. entity
C. macro D. None

321. What is the default size of the data type in MS Access?
A. 50 B. 60
C. 70 D. None

322……. means that the data contained in a database is accurate & reliable
A. Data redundancy B. Data integrity
C. Data consistency D. None

323. The smallest unit of information about a record is called a……
A. cell B. field
C. record D. NonE.

324. Which combines efficient implementation techniques that enable them to be used in extremely large database?
A. Data Mining
B. Data Manipulation
C. Data reliability
D. NonE.

325. A program that generally has more user-friendly interface than a DBMS is called a
A. back end
B. front end
C. form
D. NonE.

326. A collection of conceptual tools for describing data, relationships, semantics & constraints is referred as….
A. data model
B. ER model
C. DBMS
D. NonE.

327..Dr.EFCodd represented……. rules that a database must obey if it has to be considered truly relational.
A. 4 b B. 8
C. 12 D. NonE.

328…….. is one reason for problems of data integrity

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A. Data availability constraints
B. Data redundancy
C. Data reliability
D. NonE.

329. ……provides total solutions to reduce data redundancy, inconsistency, dependence & unauthorized access of data.
A. Table
B. Protection password
C. Data reliability
D. None.

330…….. are distinct items that don't have much meaning to you in a given answer
A. Fields B. Data
C. Queries D. None.

331. A collection of related files is called……..
A. field B. record
C. database D. None.

332. A logical schema
A. is the entire database
B. is a standard way of organizing information into accessible part
C.A.&B.
D. NonE.

333. To locate a data item for storage is
A. field B. fetch
C. feed D. NonE.

334..Find out the perfect pair of input devices?
A. keyboard, touch screen, mouse
B. Mouse, Fax Machine, Light Pen
C. Light Pen, Keyboard, Joysticks.
D.Keyboard, Mouse, Digital Camera
C. None of thesE.

335.Which one is true according to speed?
A. LAN>WAM>MAN
B. WAN>MAN>LAN
C. LAN>MAN>WAN
D. MAN<LAN<WAN
E. None

336. An E-R diagram is a graphic method of presenting
A. entity classes & their relationships
B. primary keys & their relationships
C. primary keys & their relationships to instances
D. NonE.

337. An entity set that does not have sufficient attributes to form a primary key, is a…..
A. primary entity set
B. weak entity set
C. simple entity set
D. NonE.

338. A computer checks …….. of username & password for a match before granting access.
A. website B. network
C. database D. None.

339. ….. is a primary key of one file that also appears in another file?
A. Physical key B. Foreign key
C. Logical key D. None.

340. Key to represent relationship between tables is called
A. Physical key B. Foreign key
C. Logical key D. NonE.

341.In a relational database, a data structure that organizes the information about a single topic into rows & columns, is….
A. block B. record
C. tuple D. table

342. Hub is associated with…….. network
A. bus B. ring
C. star D. mesh

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343.Multiplexing involves…….path and…. channel
A. single path & multiple channel
B. Single path & single channel
C. multiple path & multiple channel
D. mesh

344. P2P is a……application architecture
A. distributed B. client/server
C. 1-tier D. None

345. In OSI architecture, the routing is performed by
A. network layer
B. data link layer
C. transport layer
D. None

346. Which of the following is considered a broad band communication channel?
A. Coaxial Cable
B. Fiber Optics Cable
C. Microwave Circuits
D. All of these

347. How many bits are there in the Ethernet address?
A. 48 bits B. 64 bits
C. 16 bits D. None

348. Ethernet, token ring and token bus are types of
A. LAN B. WAN
C. MAN D. None

349. Which of the following items is not used in LANs?
A. Interface card B. cable
C. computer D. Modem

350. which is the name of the network topology in which there are bidirectional links between each possible nodes?
A. Mesh B. Ring
C. Bus D. None

351. An alternate name for the completely interconnected network topology is
A.Mesh B. Ring
C. Bus D. None

352. Telnet is……based computer protocol
A. sound B. image
C. text D. None

353. through……an administrator or another user can access someone else's computer remotely.
A. Web server B. Web application
C. telnet D. None

354. How many ways you can save a document?
A. 5 B. 4
C. 3 D. None

355. The maximum zoom % in MS Power Point is…….
A. 400 B. 100
C. 200 D. None

356. In Excel, charts are created using which option?
A. Pie Chart B. Chart Wizard
C.Bar Chart D. None

357. In order to include picture data type must be?
A. OLE B. hyperlink
C.A. or B. D. None

358. A…….. is the term used when a search engine returns a web page that matches search criteria
A. blog B. hit
C. link D. None

359. Which is required to create an html document?
A. Internet B. text editor
C. Browser D. None

360. Which of the following will be used if a sender of e-mail wants to bold, italics etc, the text message?
A. Rich text B. Rich signature
C. Reach format D. None

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361. Which stores information about the user's web activity?
A. Spam B. Cookie
C. Cache D. None

362. Each IP packet must contain
A. Source address B. destination address
C.A.&B. D. None

363. Vendor-created program modifications are called——
A. patches B. antiviruses
C. holes D. None

364. If your computer rebooting itself then it is likely that
A. It has a virus
B. It does not have enough memory
C. There has been a power surge
D. None

365. The …….. of a Threat measures its potential impact on a System
A. vulnerabilities B. degree of harm
C. susceptibility D. None

366. A digital signature is
A. scanned signature
B. encrypting information
C. signature in binary form
D. None

367. A firewall operated by
A. the pre-purchase phase
B. isolating intranet from extranet
C. screening packets to/from the network & provide controllable filtering of network traffic.
D. None

368. Which one of the following is a cryptographic protocol used to secure http concession?
A. Transport Layer Security
B. Explicit Congestion Notification
C. Resource Reservation Notification (RRN)
D. None

369. Which of the following inputs a computer's memory, but unlike a virus, it does not replicate itself?
A. Trojan Horse B. Logic bomb
C. Firewall D. None

370. Which one of the following is a key function of firewall?
A. Monitoring B. deleting
C. moving D. None

371. The load instruction is mostly used to designate a transfer from memory to a processor register known as
A. Program counter B. instruction register
C. accumulator D. None

372. The most frequently used instructions of a computer program are likely to be fetched from
A. cache B. cookie
C. main memory D. None

373. Arithmetic Logic Unit(ALU) and control sections have special purpose locations called
A. secondary memory B. registers
C. accumulator D. None

374.Who was the Inventors of Computer Chip (IC)
A.Jack Kilby B.Robert Noyce
C.Jack Kilby and Robert Noyce D.John McCarthy
E.Martin Cooper

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375.Gigabyte represents approximately _____memory locations.

A.one billion B.one million
C.one trillion D.two million
E.none of the above

376.In a worksheet lines between cells are called as_____.

A.Cross lines B.Gridlines
C.Parallel lines D.Adjacent
E.None of thesE.

377.EDVAC stands for_____.

A.Electronic Disc Variable Automatic Computer
B.Electronic Discrete Variable Automatically Computer
C.Electronic Discrete Variable AutomaticComputer
D.Electronic Discrete Versatile Automatic Computer

378. Binary equivalent to 87 is:

A.1010111
B.1101111
C.1011111
D.10111111

379. Stack is the _____structure.

A.Last in first out (LIFO)
B.First in First out (FIFO)
C.First in Last out (FILO)
D.First come First served (FCFS)
E. None of these

380. Which layer is reasonable for the user interface?

A.Physical Layer B.Application Layer
C.Data Link Layer D.Network Layer
E.Session Layer

381.A _____ network has a central (hub) computer that is responsible for managing the network

A.star B.ring
C.Bus D.Mesh
E.None of the above

382. IPv6 works on _____bit.

A.32 bit B.64 bit
C.16 bit D.128 bit
E.256 bit

383..How many maximum columns insert in MS word table?

A.32 B.61
C.63 D.65
E.67

384. AND gate output with three inputs, A, B, and C, is HIGH when _____.

A. A = 1, B = 1, C = 0
B. A = 0, B = 0, C = 0
C. A = 1, B = 1, C = 1
D. A = 1, B = 0, C = 1
E. A = 0, B = 1, C = 1

385. Which one of the following image represents a NOR gate?

A.

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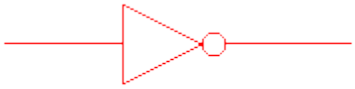
B.

C.



D.

386. What will be the one's complement of (10101)

A.01010 B.11111

C.00010 D.11000

E.10100

387. What will be the two's complement of (10101)

A.01010 B.11111

C.01011 D.11000

E.10100

388. Which of the following represent Associative Law?

A.(A.B).C = A.(B.C)

B.(A.B).C = A.C + A.B

C.A.B=B.A

D.A.(B.C) = A.B + A.C

E.None of the above

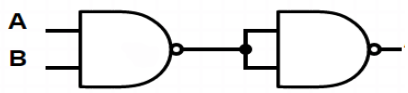
389. How many Keywords available in 'C' Language?

A.25 B.23

C.32 D.36

E.39

390. Result of this given the image is equal to ------



A.AND Gate B.OR Gate

C.NOT Gate D.NOR Gate

E.None of the above

391. Convert $(577)_8 = (?)_{16}$

A.17F B.16E

C.17E D.15D

E.16F

392. Convert $(111111110010)_2 = (?)_{16}$

A. $(EE2)_{16}$

B. $(FF2)_{16}$

C. $(2FE)_{16}$

D. $(FD2)_{16}$

E. None of these

393. Convert $(8B3F)_{16} = (?)_2$

A. 35647

B. 011010

C. 1011001111100011

D. 1000101100111111

E. 1001111110011000

394. Father of 'C' programming language_____.

A. Dennis Ritchie B. Prof Jhon Kemeny

C. Thomas Kurtz D. Bill Gates

E. None

395. Which of the following is not a method of accessing the web?

A. modem B. ISDN

C. DSL D. CPU

E. None of these

396. Yahoo (www.yahoo.com) is a _____.

A. Website for Consumers

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B. Portal
C. Organization that allocates web addresses
D. Super Computer
E. None of these.

397. Time during which a job is processed by the computer is___.
A. Execution Time B. Delay Time
C. Real Time D. Waiting Time
E. None of these

398. Internet Explorer is a _____.
A. Web Browser
B. Graphing Package
C. News Reader
D. Any person browsing the net
E. None of these

399. 1st microprocessor in the world _____ .
A. 8085 B. 8086
C. I-4004 D. 8286
E. None of these

400. Which memory is used to store the data untill the light is on _____?
A. RAM B. ROM
C. PROM D. CACHE
E. None of these

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ANSWER KEY

1 (E)	2 (A)	3 E	4 (D)	5 (C)	6 (A)	7 (A)	8 (D)	9 (E)	10 (B)
11 (B)	12 (C)	13 (A)	14 (C)	15 (C)	16 (B)	17 (B)	18 (B)	19 (B)	20 (D)
21 (C)	22 (B)	23 (A)	24 (A)	25 (D)	26 (C)	27 (C)	28 (D)	29 (C)	30 E
31 (C)	32 (C)	33 (D)	34 (B)	35 (C)	36 (B)	37 (D)	38 (C)	39 (A)	40 (C)
41 (C)	42 (B)	43 (A)	44 (C)	45 (C)	46 (B)	47 (D)	48 (A)	49 (D)	50 (D)
51 (A)	52 (C)	53 (D)	54 (B)	55 (B)	56 (D)	57 (D)	58 (C)	59 (D)	60 (C)
61 (A)	62 (B)	63 (C)	64 (A)	65 (B)	66 (A)	67 (D)	68 (C)	69 (B)	70 (D)
71 (C)	72 (A)	73 (A)	74 (C)	75 (A)	76 (B)	77 (A)	78 (B)	79 (B)	80 (A)
81 (E)	82 (D)	83 (A)	84 (C)	85 (A)	86 (B)	87 (A)	88 (A)	89 (D)	90 (C)
91 (A)	92 (B)	93 (B)	94 (C)	95 (C)	96 (D)	97 (A)	98 (E)	99 (B)	100 (B)
101 (A)	102 (C)	103 (C)	104 (B)	105 (A)	106 (B)	107 (B)	108 (A)	109 (C)	110 (B)
111(B)	112 (C)	113 (A)	114 (C)	115 (A)	116 (B)	117 (A)	118 (C)	119 (C)	120 (A)
121 (C)	122 (A)	123 (C)	124 (C)	125 (D)	126 (D)	127 (A)	128 (C)	129 (C)	130 (A)
131 (C)	132 (B)	133 (C)	134 (C)	135 (D)	136 (A)	137 (A)	138 (D)	139 (B)	140 (A)

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141 (D)	142 (B)	143 (A)	144 (D)	145 (D)	146 (B)	147 (D)	148 (C)	149 (D)	150 (A)
151 (A)	152 (A)	153 (B)	154 (D)	155 (D)	156 (C)	157 (A)	158 (D)	159 (C)	160 (C)
161 (D)	162 (C)	163 (C)	164 (D)	165 (A)	166 (B)	167 (D)	168 (D)	169 (C)	170 (C)
171 (C)	172 (A)	173 (D)	174 (C)	175 (A)	176 (B)	177 (C)	178 (A)	179 (A)	180 (B)
181 (B)	182 (A)	183 (D)	184 (B)	185 (A)	186 (D)	187 (B)	188 (C)	189 (A)	190 (B)
191 (B)	192 (C)	193 (C)	194 (B)	195 (B)	196 (A)	197 (D)	198 (C)	199 (D)	200 (B)
201 (C)	202 (A)	203 (C)	204 (C)	205 (A)	206 (A)	207 (A)	208 (C)	209 (B)	210 (A)
211 (C)	212 (B)	213 (A)	214 (C)	215 (B)	216 (B)	217 (C)	218 (A)	219 (D)	220 (A)
221 (A)	222 (A)	223 (A)	224 (A)	225 (B)	226 (B)	227 (B)	228 (A)	229 (C)	230 (C)
231 (A)	232 (A)	233 (A)	234 (D)	235 (A)	236 (B)	237 (A)	238 (A)	239 (B)	240 (B)
241 (B)	242 (B)	243 (B)	244 (A)	245 (B)	246 (A)	247 (A)	248 (B)	249 (B)	250 (B)
251 (B)	252 (B)	253 (C)	254 (C)	255 (C)	256 (B)	257 (C)	258 (C)	259 (C)	260 (B)
261 (B)	262 (A)	263 (B)	264 (B)	265 (B)	266 (B)	267 ( )	268 (A)	269 (B)	270 (B)
271 (B)	272 (B)	273 (B)	274 (B)	275 (B)	276 (C)	277 (C)	278 (B)	279 (A)	280 (C)
281 (A)	282 (B)	283 (A)	284 (A)	285 (A)	286 (C)	287 (A)	288 (A)	289 (B)	290 (B)
291 (A)	292 (C)	293 (B)	294 (C)	295 (A)	296 (A)	297 (C)	298 (A)	299 (B)	300 (B)
301 (C)	302 (B)	303 (C)	304 (B)	305 (C)	306 (C)	307 (B)	308 (C)	309 (D)	310 (A)
311 (B)	312 (C)	313 (C)	314 (B)	315 (C)	316 (B)	317 (B)	318 (B)	319 (A)	320 (B)
321 (A)	322 (B)	323 (B)	324 (A)	325 (C)	326 (A)	327 (C)	328 (A)	329 (B)	330 (B)
331 (B)	332 (A)	333 (B)	334 (C)	335 (C)	336 (A)	337 (C)	338 (B)	339 (B)	340 (B)
341 (D)	342 (C)	343 (A)	344 (B)	345 (A)	346 (D)	347 (A)	348 (A)	349 (D)	350 (A)
351 (A)	352 (C)	353 (C)	354 (C)	355 (A)	356 (B)	357 (A)	358 (B)	359 (B)	360 (A)
361 (B)	362 (C)	363 (A)	364 (A)	365 (B)	366 (B)	367 (C)	368 (A)	369 (B)	370 (A)
371 (C)	372 (A)	373 (B)	374 (C)	375 (A)	376 (B)	377 (B)	378 (A)	379 (A)	380 (B)
381 (A)	382 (D)	383 (C)	384 (C)	385 (B)	386 (A)	387 (C)	388 (A)	389 (C)	390 (A)
391 (A)	392 (B)	393 (D)	394 (A)	395 (D)	396 (A)	397 (A)	398 (A)	399 (C)	400 (A)

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