

INFORMATION TECHNOLOGY QUESTIONS & THEORY FOR CA-IPCC.

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THIS BOOK CONTAINS 3 PARTS:

PART A: FILL IN THE BLANKS.

PART B: TRUE & FLASE STATEMENTS.

PART C: DIFFERENCES.

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PART: A

FILL IN THE

BLANKS

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Chapter 1: Concepts of Data Processing

1. _____ is the singular form of data.
2. _____ denotes a simple numeric character 0, 1, 2...9.
3. _____ indicates a compilation of related data records maintained in some pre arranged order.
4. _____ is the restructuring or reordering of data.
5. _____ is the transcribing of data into a permanent form.
6. _____ is the arrangement of data in some order.
7. _____ involves consolidating data emphasizing main points.
8. _____ is the ultimate step of all data processing activities.
9. _____ is defined as a group of interrelated components that seek to attain a common goal by accepting inputs and processing output.
10. The other name for unit Record Method is _____.
11. _____ can be defined as an electronic data processing device capable of receiving input, storing instructions, for solving problems and generating output with speed and accuracy.
12. _____ Computers process data input in a continuous form.
13. _____ proposed to IBM that a machine could be constructed which would automatically sequence the operations and calculations.
14. The first super computer was made by Burroughs was _____.
15. Super computers can process _____ number of bits and a time.
16. CPU's used for workstations are based on different architecture, called _____
17. _____ are copies of currently used master files kept in the computer library.
18. The arrangement of data or transactions in ascending or descending order is called _____.
19. Binary number system uses only two digits _____ and _____.
20. Using 9 Bits, one can represent _____ number of unique characters.
21. _____ is a positional system.
22. _____ Coordinates various parts of computer system and controls the flow of data.
23. An 8-bit code that represents an extension of a 6-bits "BCD" is _____.
24. BCD System uses _____ bits to represent a decimal digit.
25. _____ is used to provide a check on the integrity of data representation.
26. _____ Bytes can be stored in the primary storage unit of 40K computer.
27. Every computer comes with certain amount of physical memory, usually referred to as _____ or _____.
28. _____ is a compilation of related data records maintained in some pre-arranged order.
29. _____ Method of data processing is practical for small to medium sized business firms.

30. _____ is the smallest unit of data that can be handled by CPU.
31. _____ was the first general purpose electrical computer available in the first generation era.
32. _____ are copies of currently used master files kept in the computer library as a measure of security.
33. Each storage cell in the computer is associated with a unique _____.
34. _____ Computer is made of both analog and digital components.
35. The number of bits that a computer can process at a time in parallel is called its _____.
36. _____ And _____ are two engineering advances through which the fifth generation computers are different than other generation computers.
37. The Zone bits of alphabetic characters in 6-bit BCD code are _____.
38. _____ is simply an input/output device that is attached to a mainframe computer.

Chapter 2: Anatomy of computers

1. _____ consists of programs, operating system and the data that reside in the memory and storage devices.
2. _____ is the speed at which processor executes instructions.
3. Some micro processors are _____, which means that they can execute more than one instruction at a time.
4. To ensure proper data flow through, CPU includes a kind of _____ mechanism.
5. The most powerful member of Intel family of microprocessors is _____.
6. Pentium pro processor contains of _____ transistors.
7. A maze of golden electric circuits etched on both sides of the motherboard is called _____.
8. Intel designed _____ bus specifically to make it easier to integrate new data types such as audio, video and graphics.
9. _____ Type of memory chips are used in Arithmetic Logic unit and high speed buffer storage sections of CPU.
10. _____ Technology is used in the main memory section.
11. _____ is the most common type of main memory.
12. _____ is used mainly is a special are of memory called cache.
13. Data can be loaded onto PROM using _____.
14. _____ is an electrical path that connects the CPU, memory, and the other hardware devices on the motherboard.
15. Every computer comes with certain amount of physical memory, usually referred to as _____.
16. The time at which the computer is not available for processing is called _____.
17. The control unit of a computer obtains _____ from main memory, interprets them and decides the action to be taken.
18. _____ computers process data, input in a continuous form.

19. _____ is a high speed memory capable of keeping up with the CPU
20. Semi conductor devices provide _____ storage.
21. _____ is a volatile memory.
22. Temporary storage areas within the CPU are called _____.
23. _____ RAM retains the stored data as long as the power remains on.
24. _____ is a register which accumulates the results of arithmetic or logic operations.
25. _____ Storage chips have no moving parts and they provide nonvolatile direct-access storage of data.
26. Data are loaded from secondary memory to RAM in a _____ read process.
27. _____ is a hardware device that allows a series of bits to be transferred for data input and output.
28. _____ acts as the system's expressway and transmits data between various components on the motherboard.
29. _____ stores pre-written routines that enable several devices to share communication line.
30. _____ is located on the motherboard to power CMOS as well as BIOS.
31. _____ is a dedicated slot meant to provide faster access to AGP based graphic accelerator cards.

Chapter 3: Computer Input Media & Devices

1. _____ refers to equipments in computer based system.
2. In large system computing _____ terminals were used.
3. The philosophy of _____ is that a computer should be readily available to an individual to perform work at any time.
4. In _____ system, individuals do their own work on personal computers but are linked to other computers.
5. _____ permits rapid entry of numeric data entry.
6. _____ is a small box, from the bottom of which protrudes a small ball bearing.
7. Touch screens are widely used in _____.
8. Light pen is a _____ device.
9. _____ is an input/output device that provides for data entry and information exit but has no additional capability.
10. Images are formed on monitor's screen by a card called _____.
11. Graphics are displayed on screen by using a technique called _____
12. _____ is a pointing device that works like an upside down mouse.
13. _____ And _____ are the 2 popular technologies under flat panel displays.
14. _____ is an intermediary device between CPU and monitor.
15. _____ system comprises of several keying stations, a mini-processor, magnetic unit and a supervisory console.

16. MICR is primarily used in _____.
17. OCR is based on the technology of _____.
18. OMRs are commonly used for _____.
19. Many companies that use _____ technology are making significant progress towards paperless offices.
20. _____ is part of a computer system that is used for communication between operators and the computer, usually by means of displays and manual control.
21. An _____ has inbuilt processing capability.
22. List of user options in GUI system is called _____.
23. _____ Mouse uses a light beam instead of a rotating ball to detect movement across a specially patterned mouse pad.
24. _____ refers to entry of data directly into computers through machine readable source documents.
25. _____ is an input device used mostly for computer games.
26. _____ Recognition refers to branch of computer science that involves reading text from paper and translating the images into a form that a computer can manipulate.
27. _____ is an input device that can read text or illustrations printed on paper and translate the information into a form that a computer can use.
28. _____ Monitors are used for text-only displays where the user does not need to view color graphics.
29. The _____ of a device is determined by the number of pixels used to form characters and images.
30. Terminals linked to the computer system by a direct cable are known as _____.
31. An _____ terminal has in built processing capability.
32. OCR eliminates the time consuming step of _____.

Chapter 4: Computer Output

1. _____ provides permanent visual record of the data output from the computer to the user.
2. Printers can be broadly classified into _____ and _____.
3. Regardless of the type of character generation, _____ printers print one character at a time.
4. Dot Matrix Printers were developed in early _____.
5. In case of _____ printer, pins are formed into the shape of a character and pressed against an inked ribbon.
6. The 2 most commonly found matrices of pins in Dot Matrix printers are _____ and _____.
7. _____ is a moulded metal or plastic disc shaped printing element.
8. _____ Printers allow users to change the typeface elements quickly.
9. Solid ink jet printers are also known as _____.
10. In case of chain printers, the chain consists of a complement of 48 numbers, alphabets, special symbols cast on _____ no. of times.

11. DPI stands for ____.
12. The speed of a Dot Matrix Printer is measured in terms of ____.
13. A Non impact printer forms character by ____ or ____ means.
14. In case of Thermal printer, when the pins touch the paper, the area heated by the pins changes colour, usually to ____ or ____.
15. In case of colour printers the 3 primary colours used are ____.
16. ____ Printers use ink cartridges from which they spray ink onto the paper.
17. ____ Printers use solid ink sticks that are melted into a reservoir & sprayed in precisely controlled drops onto the page.
18. The most commonly used laser printers have resolution of ____.
19. ____ reduces characters 24, 42 or 48 times smaller than would be produced from a printer.
20. Information in COM is recorded on ____ or ____.
21. A microfiche is cut into the size of ____ sheet.
22. Each microfiche can store up to ____ page sized images.
23. The most complicated part of a sound output system is ____.
24. The two types of plotters are ____ and ____.
25. Plotters are now increasingly used in applications like ____.
26. Printers which utilize some form of striking device to transfer ink from an inked ribbon onto the paper being printed to form images or characters is called ____.
27. Laser printers come under the category of ____ printers.
28. Line printers come under the category of ____ printers.
29. A printout on a paper is also known as ____ copy.
30. Daisywheel and dot-matrix printers are ____ type of printers with regard to its character generation method.
31. ____ are computer graphics device that use either drum or flatbed paper.
32. A plotter can be connected to a PC through ____ port.
33. Some organization use ____ response system that directly respond to human inquiries that are transmitted to a central computer over telephone lines.
34. ____ Printers are nearly obsolete.
35. ____ translates digital sounds into electric current that is sent to the speakers.
36. ____ is composed of charged particles of ink that are fixed to the paper in a laser printer.

Chapter 5: Auxiliary Storage Devices

1. Magnetic tapes provide _____ type of access to data.
2. Floppy discs were first invented by _____ in _____.
3. The first floppy disk was _____ inches in diameter.
4. 5.25" diskette will be encased in a flexible _____.
5. Floppy diskettes spin at around _____ R.P.M.
6. The process of mapping a diskette is called _____.
7. _____ is the smallest unit with which any drive can work.
8. _____ refers to number of bits that can be recorded on a diskette in one inch circumference of the innermost track.
9. _____ is a small program that runs when the computer is started.
10. The part of the disk that remains free after boot sector, FAT and root folder have been created is called _____.
11. In hard disc, original data is automatically erased when new updated record is being deposited in its place. This is called _____.
12. The process by which computer pulls itself by its bootstraps is called _____.
13. _____ Disks and drives attempt to combine the speed and capacity of a hard disk with portability of a diskette.
14. _____ Hard disks allow the user to remove a hard disk and insert another while the computer is still on.
15. In optical discs, the read/write head is replaced by _____.
16. Magnetic discs offer _____ type of access of data.
17. CR-Rewritable was invented by _____.
18. _____ integrate optical and magnetic disk technology to enable read-writer storage.
19. The two types of auxiliary storage device are _____ and _____.
20. Placing several records into one larger record is called _____.
21. Once the data has been written on to the _____, it can only be read, not be updated or changed.
22. The time taken for Read-Write head to move to the correct track on the magnetic disk is called _____.
23. There are two types' auxiliary storage devices, namely _____ and _____.

Chapter 6: Software

1. _____ refers to means of controlling computer equipment.
2. _____ includes those _____ programs that control and support the computer system and its data processing applications.
3. _____ is used in writing programs to direct processing steps to be carried out by a computer.

4. Each programming language will have some specific standards and rules called ____.
5. The only language which a computer can understand without translation is called ____.
6. The other name for Assembler language is ____.
7. In Assembler languages, translation was done by a special program called ____.
8. Compiler languages are also known as ____.
9. Production oriented 4th generation languages are used by ____.
10. User oriented 4th generation languages are used by ____.
11. ____ is a predefined set of program code that, after having been written and tested, will always behave the same way, so that it can be used for other applications.
12. ____ are designed to optimized man machine capabilities.
13. ____ can keep track of the amount of time used by each user.
14. The type of OS routines that are occasionally used are called ____.
15. In most operating systems, a file name consists of 2 parts ____ & ____.
16. In a file name, prefix is separated from suffix by ____ or ____.
17. ____ is the most commonly used operating system on IBM mainframes.
18. ____ is defined as execution of 2 or more programs that all reside in primary storage.
19. ____ refers to the operating ability to execute 2 or more tasks of a single user concurrently.
20. ____ refers to the use of 2 or more central processing units, linked together, to perform coordinated work simultaneously.
21. The other name of multiprocessing is ____.
22. ____ is a subset of instructions that appear over and over again in the program or finds applications in several programs.
23. ____ Programs are system programs that perform general system support tasks.
24. ____ Programs allow user to copy the entire contents of one diskette to another diskette.
25. ____ Programs allow a user to copy just one file or group of files.
26. ____ Programs allow a user to view the names of data and program files which are stored on a disk/diskette.
27. ____ translates the entire program into machine language before the program is executed.
28. The program submitted for compilation is called ____.
29. ____ refers to a computer system's ability to support more than one process (program) at the same time.
30. The actual machinery in a computer is called ____ and the instructions and data are called ____.
31. ____ allows more than one program to run concurrently.
32. ____ converts source code to machine code and executes immediately, statement by statement.
33. The set of instructions which controls all operations of the computer is called ____.

34. The interleaved execution of two or more different and independent programs by the CPU of the computer is called ____.
35. Some of the fundamental tasks that can be performed by micro programs are called ____.
36. The program designed to govern the computer hardware system is called ____.
37. ____ Programming refers to technique in which the logical parts of a problem are divided into a series of individual routines so that each may be programmed independently.
38. ____ refers to a computer system's ability to support more than one process (program) at the same time.
39. ____ may be defined as an integrated system of programs which supervises the operation of CPU.
40. The area on the disk where the program results are sent is commonly called ____.
41. ____ are programs that allow text in a file to be created and modified.
42. ____ binds the object module of the program to object modules of any subprograms that must be used to complete the processing.

Chapter 7: Data Storage & Retrieval

1. ____ refers to an environment in which data are physically organized into files.
2. ____ concerns the problems of inefficient data storage and wastage in storage space.
3. The lack of ____ results from the fact that updates to data stored in one file may not be made to the other files containing the same data.
4. ____ is a software package that lets users & programmers to organize data into files & then process those files.
5. ____ involves arranging data in storage device so that they may be easily accessed.
6. ____ Access refers to accessing records in the sequence in which they are physically stored.
7. ____ Access refers to accessing data in a manner that is relatively independent of the way the data are physically stored.
8. In files, that follow ____ organization, records are arranged one after another in a predetermined order.
9. The field on the basis of which records are sequentially arranged is called ____.
10. Under ____ method a record key is used as its relative address.
11. ____ is the hybrid between sequential and direct access file organizations.
12. ____ combines the best features of sequential organization with best features of direct access by means of an index.
13. In ____ transactions can be processed in any order and written at any location through the stored file.
14. In Random access, CPU can directly go to the desired record using ____ procedure.
15. ____ refers to the number of additions or deletions to the file in a given period of time.
16. ____ refers to the proportion of master file records that are actually used or accessed in a given processing run.

Chapter 8: Some Advanced Systems

1. Real time systems are subset of ____.
2. ____ is simply the number of transactions in a batch.
3. ____ is the total of a financial data field over the batch.
4. ____ is the total of such an odd data field as is not normally totaled over the entire bath.
5. Aside from transaction processing and file updating, inquiries can also be handled by ____.
6. In ____ processing, continuous dialogue exists between the user and the computer.
7. The order name of interactive processing is ____.
8. ____ refers to the technique of updating files with transaction data immediately after the event to which it relates occurs.
9. ____ are information processing systems frequently used by accountants, mangers and auditors to assist in decision making.
10. In DSS, ____ performs the communication function within the DSS
11. ____ is the brain of the DSS
12. ____ is a software that tries to emulate aspects of human behavior such as reasoning, communicating, seeing and hearing.
13. ____ can convert data in main storage to vocalized sounds understandable to human beings.
14. ____ presents the user with a hands-free voice interactive computer interface.
15. ____ uses interconnected processors that perform many operations simultaneously and interact dynamically to learn from data as it is processed.
16. ____ is a computerized information system that allows non-experts to make decisions comparable to those of an expert.
17. Engineering or structural drawings can be read from actual paper documents or entered into tables or terminal screens by a device called ____.
18. ____ is a program that contains the logic and reasoning mechanisms that simulate the expert logic process and deliver advice.
19. ____ is a program which supports a variety of problems requiring decisions.
20. ____ System allows access to CPU and file through many remote terminals.
21. ____ System provides different types of information for different types of managers.

Chapter 9: Telecommunication & Networking

1. In ____ transmission, the bits of each byte are sent along a single path one after another.
2. In ____ transmission mode, bits are transmitted at a fixed rate.
3. In ____ communication mode, data flows in one direction only.

4. In ____ communication mode data can be transmitted back and forth between 2 stations, but in one direction only, at any given point of time.
5. ____ is a collection of computers and terminals devices connected together by a communication system.
6. ____ covers a large geographical area, with various communication facilities such as long distance services, satellites etc.
7. In any communication system, there will be ____ basic components.
8. ____ provides the connection for network cabling to servers and work stations.
9. ____ converts digital signal into analog signal and vice versa.
10. Speed of a modem is measured in ____.
11. ____ enables several devices to share 1 communication line.
12. ____ is a set of rules required to initiate and maintain communication between the sender and the receiver's device.
13. ____ Devices solve the snag of signal degradation which results as data is transmitted along various cables.
14. ____ are usually used to link LANs of different topologies.
15. ____ is a medium that connects the sender and the receiver in data communication network.
16. ____ refers to channel's information carrying capacity.
17. ____ is the end point of any branch in a computer.
18. ____ is a communication path between 2 nodes.
19. The most common structure of topology is ____.
20. ____ topology is popular for LANs
21. In ____ topology, the network cable passes from one node to another until all nodes are connected in the form of a loop.
22. In military installations, ____ topology is preferred.
23. In ____ systems most of the processing is done in the memory of individual PCs.
24. PC+LAN card = ____.
25. ____ cables are commonly used to connect computers and terminals in a local area such as an office, floor, building or campus.
26. ____ Cables use light as a medium of communication.
27. In ____ architecture, there will be certain machines and devices that are especially dedicated to provide various services to other computers.
28. In ____ architecture, there are no dedicated servers.
29. The first layer in communication protocols is ____.
30. ____ is the standard protocol for EDI.
31. The protocols used on internet are called ____.

32. _____ will provide almost every digitally deliverable service to every person connected to the network.
33. TCP/IP stands for _____.
34. _____ is the geometric arrangement of computers in a network.
35. Terminals linked to the computer system by a direct cable are known as _____.
36. _____ is a device that enables several devices to share a communication line.
37. _____ creates temporary point to point link between two nodes on a network and send all data along the link.
38. Ethernet protocol currently uses _____ topology.
39. _____ are the modern banks that serve as gateways to the Internet.
40. A channel that transmits data in both directions at the same time is called _____.
41. _____ Type of modems are used in laptops.
42. Internet transmission is based on _____ protocols.
43. _____ is a set of rules to exchange data between two or more dissimilar devices.
44. _____ is a device that translates data from binary to analog that can be transmitted over the telephone network.
45. A collection of computers and terminal devices connected together by a communication system is called _____.
46. The word modem is the combined abbreviation of the two words _____ and _____.
47. _____ is primarily a data transmission system intended to link computers and associated devices within a restricted geographical area.
48. In _____ network, error detection procedures are required.
49. _____ is a dedicated, centrally managed, secure information infrastructure, which enables any-to-any interconnection of servers and storage systems.
50. _____ is the term that describes the transmission and receipt of data over communication links between one or more computer systems and a variety of input/output terminals.
51. _____ is a device that enables several devices to share communication line.
52. _____ is a measurement of data transfer speed.

Chapter 10: Internet & Emerging Technologies

1. The original name for Internet was _____.
2. _____ makes Internet access available on a local telephone call and helps user to avoid direct long distance or international calls.
3. _____ is a component of the Internet that provides access to large amounts of information located on different servers.
4. _____ is the fundamental unit of web.
5. To view a web page, the user must use a special client software package called _____.

6. Web pages are created using _____ language.
7. _____ are used to address and access individual web pages and Internet resources.
8. When a user keeps hopping from one computer to another computer, it is called _____.
9. _____ Technology allows users to passively receive broadcast information rather than actively search the web for information.
10. _____ is the process of doing business electronically.
11. _____ is the main source of revenue for web sites.
12. _____ is a type of information system that facilitates communication within the organization, among widely dispersed departments, divisions and regional locations.
13. _____ is the name given to software used in a group decision support system, in which several people can jointly solve a problem.
14. _____ is the transmission, in a standard syntax of unambiguous, information of business or strategic significance between computers of independent organizations.
15. _____ is computer application to computer application transmission of business documents in a pre-determined standard format...
16. _____ is an extension of an Intranet that makes the latter accessible to outside companies or individuals with or without an intranet.
17. _____ are systems that control the flow of traffic between Internet and the firm's internal LAN systems.
18. _____ allows information to transit in the internet while being protected from interception by eaves droppers.
19. _____ makes sure that a message is really from whom it is supposed to be.
20. _____ is a software based approach that prohibits access to certain web sites that are deemed inappropriate by management.
21. _____ refers to electronic meeting that involve people who are physically located at different sites.
22. _____ refers to the use of television equipment to link geographically dispersed conference participants.
23. _____ is a centralized repository for the storage, management and dissemination of data and information.
24. When you connect to your ISP using a telephone line and modem, that type of connection is called _____.
25. _____ is a unit of measuring data transmission speed.
26. _____ is a protocol or set of rules that enables one computer to connect to another computer.
27. _____ is a piece of software that acts as an interface between the user and the inner-workings of the Internet, specifically the World Wide Web.
28. _____ lets you communicate with people from all over the world, in real-time.
29. _____ is a place where you can store the information about the people with whom you correspond.
30. One way of protecting the contents of e-mail is _____.
31. _____ identifies a person and a computer for the purpose of exchanging electronic mail messages.
32. _____ is the world's largest computer network, the network of networks, scattered all over the world.

33. _____ are used to access pages of the World Wide Web.
34. _____ is a single unit of information, often called a document, that is available via World Wide Web (WWW).
35. _____ is the process of visiting different websites on the Internet hosted by various companies, organizations, educational institutions etc.
36. _____ is an interactive tool to help people locate information available via World Wide Web.
37. Some organization use _____ response systems that directly respond to human inquiries that are transmitted to a central computer over telephone lines.
38. _____ are defensive barriers that fence off a private network from the Internet.
39. Every computer on the Internet has a numeric address called its _____.
40. First browser capable of displaying graphics within a Web page was _____.

Chapter 11: Database Management System

1. Independent data files contain lot of _____ data.
2. _____ is an integrated collection of logically related records and files.
3. _____ indicates that the database has one of the 3 file structures that enable programs to establish associations between records in a database.
4. _____ Databases store detailed data needed to support the operations of the entire organizations.
5. The other name for operational database is _____.
6. _____ Databases store data and information extracted from selected operational and external databases.
7. _____ stores data from current and previous years.
8. _____ are databases of local work groups and departments at regional offices, branch offices, manufacturing plants etc.
9. All records in a hierarchy are called _____.
10. The top parent record in the hierarchy is called _____.
11. _____ allow programmers, managers and other users to ask adhoc questions of the database, interactively without the aid of programmers.
12. _____ is a set of system software programs that manages the database.
13. _____ has the responsibility for data security which is vital in a database environment.
14. _____ contains the schema of the database.
15. _____ keeps track of where the data is stored on a disk.
16. _____ is a link between the logical and physical structure of the database.
17. _____ provide techniques for processing the database, such as retrieval, sorting, display and deletion of data or records.
18. _____ Programs provide the database manager with tools to make copies of the database.

19. _____ is responsible for defining the internal layout of the database and also for ensuring that the internal layout optimizes system's performance.
20. _____ specifies various rules which must be adhered to while describing data for a database.
21. Database may be divided into segments that are appropriate for certain locations. This is called _____
22. _____ Systems are used for the construction and interactive use of text databases.
23. A document listing and defining all items and processes represented in programs or used within a system is _____.
24. The DBMS uses two languages. One is called Data Definition Language and the other is _____.
25. A logical structure of a database is called _____.
26. _____ is a computer-based system to manage a database or a collection of databases or files.
27. _____ manages the interaction between the end user and the database.
28. _____ is a database, which contains data about definitions of the data elements and their relationships.
29. _____ are like questions that you use to locate records in a database.
30. To locate information in a database, you can use _____ operators.
31. _____ is a repository for collection of related data or facts.
32. _____ is a collection of records in relational database management system.
33. _____ is a group of data records arranged in an order, which is based on embedded pointers.

Chapter 12: Database Performance Monitoring

1. The Primary goal of physical database design is _____
2. The first step in physical database design is to estimate _____.
3. _____ is the smallest unit of application data recognized by system software, such as programming language or a database management system.
4. In many DBMSs _____ controls can be built into the physical structure of the fields and controls enforced by DBMS.
5. _____ is the value of field will assume unless a user enters an explicit value of that field.
6. _____ limits the set of permissible values a field may assume.
7. _____ is the process of transforming normalized relations into unnormalised physical record specifications.
8. _____ breaks a relation into multiple record specifications by placing different rows into different records based upon common column values.
9. _____ distributes the columns of a relation into separate files, repeating the primary key in each of the files.
10. In _____ the same data are purposely stored in multiple places in the database.
11. _____ is a named portion of secondary memory allocated for the purpose of storing physical records.
12. Each operating system supports one or more algorithms for storing and retrieving data and are called _____

13. _____ is a technique for physically arranging the records of a file on secondary storage device.
14. In _____ file organization, the records in the file are stored in a sequence according to primary key value.
15. In _____ file organization, records are stored either sequentially or none sequentially and an index is created.
16. An index that allows each entry to point to more than one record is called _____.
17. _____ Systems provide several functional capabilities to facilitate effective and efficient management of software inventory.
18. To modify the design of database on the basis of its observed performance after its implementation is known as _____.
19. The number of physical records per page is called _____.
20. _____ is the amount of data read or written in one secondary memory input or output operation.
21. TMS stands for _____.
22. DMS stands for _____.

Chapter 13: CAAT

1. The other name for Audit around the computer is _____
2. Under Black Box approach the reliance is completely on _____
3. The auditor can use _____ to test the system in operation.
4. _____ And _____ are not going to change when an audit is conducted in an EDP environment.
5. _____ consists of computer programs used by the auditor as a part of his audit procedures.
6. _____ Programs are computer programs designed to perform audit tasks in specific circumstances.
7. _____ Programs are used by entity to perform common data processing functions such as sorting, creating and printing files.
8. Under _____ a dummy unit is created to test the information system.
9. The effectiveness and efficiency and audit procedures can be improved through the use of _____.
10. _____ is the most widely known computer assisted audit techniques.
11. _____ are standard packages developed by software companies especially for the purpose of auditors.
12. _____ consists of program procedures written by the auditor, which are inserted into client's application programs and are executed simultaneously.
13. _____ consists of a separate computer application that performs the same function as that of installed program.
14. Utility programs are generally supplied by _____.
15. _____ Programs may be useful to auditors in the performance of compliance and substantive tests.
16. _____ may be defined as controlled application of auditor's test data to client application programs

17. _____ is a particular form of test data involving the establishment of a dummy entity through which data may be processed.
18. The other name for program code analysis is _____.
19. _____ are software packages which can be used either to construct the data to be tested or to create dummy master files.
20. _____ can be understood by examining the program flowcharts.
21. _____ may be used to help the auditor to plan the audit and evaluate the internal controls.

Chapter 14: Cyber Laws & IT Act 2000

1. The information Technology Bill received the assent of the President in _____.
2. In India, Cyber Laws are contained in _____.
3. It act came into force from _____.
4. It act consists of _____ sections.
5. It act consists of _____ chapters.
6. Generally appropriate government in IT act means _____.
7. _____ Key is used to verify digital signature.
8. Interconnection of one or more computers is called _____.
9. _____ means a system of a secure key pair consisting of a private key and a public key.
10. _____ means computer, computer system, computer network, data, computer database of software.
11. Generally, an electronic record is deemed to be dispatched at the place where.
12. Generally an electronic record is deemed to be received where _____.
13. If originator or addressee has more than one place of business _____ shall be the place of business.
14. If originator or addressee has no place of business _____ shall be deemed to be the place of business.
15. _____ shall be acting as repository of all digital signature certificates.
16. Controller can reject the application for digital signature certificate after _____.
17. The maximum fees to apply for digital signature certificate is _____.
18. _____ can be appointed as adjudicating officer.
19. Appeal to Cyber Regulation Appellate Tribunal can be made against the order of _____.
20. Cyber Regulations Appellate Tribunal Consists of one person only, called _____.
21. The maximum age limit for presiding officer is _____.
22. Appeal to Cyber Tribunal can be made within _____.
23. _____ shall have powers of civil court under code of civil procedure.
24. Appeal against the order of tribunal can be filed within _____.

25. Penalty can be recovered as _____.
26. A hacker is punishable with a fine up to _____.
27. Unauthorized access to protected system is punishable with imprisonment which may extend to _____.
28. Offences under IT act can be investigated by a police officer not below the rank of _____.
29. Network Service Provider means an _____.
30. SG can make rules to _____.
31. Cyber Regulations Advisory Committee shall be constituted by _____.

Chapter 16: Word Processing

1. Changing an existing document is called _____ the document.
2. _____ determines how close each line of a paragraph comes to the margins.
3. As one enters text into document, word automatically moves to the beginning of the next line, which is called _____.
4. _____ refers to those pages in a document that have the same number of columns and share a common margin, header and footer.
5. Header and footer option can be selected from _____ menu.
6. A _____ can be described as a computer program that helps in the production of a document.
7. _____ is a book in which words and phrases of similar meaning are grouped together.
8. The default language in Word is _____ English.
9. Tab stops are markers that are set by default at _____ intervals between the right and the left margins in a headings.
10. _____ Command allows user to switch between normal view and a view where you see just the document's headings.
11. Mail merge takes the data from _____ and inserts it into a _____ where specified by merge codes.
12. In a Find and Replace operation, in order to ignore a word from being replaced, you will click _____ button.
13. If you make use of _____, it will provide list of related words and different forms of the selected word.
14. _____ normally carry the information like page numbers, dates, company name etc.
15. _____ is a grid of rows and columns containing boxes of text or graphics.
16. _____ Button will format each column width to be as broad as the size of the text.
17. To zoom the document, use the Zoom option from _____ menu.
18. In MS Word, one can make search case sensitive by choosing _____ option.
19. _____ Indent is used to make headline prominent.
20. _____ Orientation is the default page orientation.

21. _____ Control of pagination prevents the first line of a paragraph appearing as the last line of a page and the _____ last line of a paragraph appearing alone at the start of a new page.
22. _____ software allows you to type text, make corrections without retyping the entire matter and make the text _____ look attractive with lots of pictures in between.

Chapter 17: Spreadsheet Basic

1. A spreadsheet package comes under _____ category of software.
2. The spread sheet pointer highlights the _____.
3. _____ is a type of formula that makes complex calculations easy.
4. _____ is a software tool for entering, calculating, manipulating and analyzing members.
5. In a worksheet, the active cell is indicated by _____.
6. _____ is any number that you enter or that results from a calculation.
7. A column letter and row number combine to form _____.
8. _____ are built-in-formulae that perform specialized calculations automatically.
9. _____ finds values for one or more cells that make the result of a formula equal to a specified value.
10. _____ Cell references are usually written with \$ sign.
11. The default number of worksheets in MS Excel workbook is _____.
12. You can move from one sheet I the workbook to another using _____.
13. A worksheet has _____ number of columns and _____ number of rows.
14. _____ in Excel guides you step by step for creating charts.
15. Commonly used operators in Excel are arithmetic, comparison and _____.
16. The formula palette displays functions, its description and _____.
17. _____ is known as concatenation operator in Excel.
18. In Excel, X-axis is known as _____ and Y-axis is known as _____.
19. _____ Chart sues a single data series for plotting data.
20. _____ Chart represents different values in percentage form.
21. _____ is a small program in office automation package that carries our pre-defined and pre-recorded series of steps.
22. Cell references and values that are used to complete a formula are known as _____.
23. _____ can be used to create formulae.
24. _____ are references that always refer to the same cell, regardless of the location of the formula.
25. The _____ function in Excel returns the periodic payment for an annuity.
26. _____ Application in office automation package is designed primarily to perform mathematical calculations.
27. Excel gives the option to select from a list of entries already in the column by pressing _____ shortcut key.

28. _____ is an equation that performs operations on a worksheet data.
29. In Excel, formulae have to begin with _____ sign.
30. _____ are the individual numbers in a worksheet cell within a data table.
31. If we press the Delete key in a cell, it deletes _____ of the cell.
32. There are 3 main types of operations in Excel. They are _____, _____ and _____.
33. If we want to insert data in between rows or columns of data without readjusting data in other rows or columns, we can insert _____.

Chapter 18: Business Project Management and Presentation Tools

1. Slide finder command in power point is available in _____ menu.
2. Tri-pane view includes Normal view, Outline view and _____ view.
3. It is ideal to sue _____ view when you start writing the text of your presentation.
4. _____ determines the format of text and design of the title slide.
5. The slide master can be accessed from the _____ menu.
6. One can modify the visual impact of a presentation by using _____ effects.
7. If you are likely to use certain clip frequently, you can place it in a category called _____.
8. To set a transition effect _____ view is very easy to use.
9. _____ Shortcut key is used to change the mouse pointer to pen.
10. _____ is ideal for creating your first presentation because it outlines a logical structure for your slides.
11. You can use _____ to give the background design for your presentation.
12. _____ is a simple way of looking at your presentation.
13. _____ lets you see how the text and objects you have created appears on each slide.
14. To make your first Power Point presentation you should use _____ as this provides both content and design for the presentation.
15. Once you are familiar with creating presentations in PowerPoint, you can use _____ or _____ to create a presentation.
16. In the tri-pane view you can see _____ and _____ views on a screen.
17. If you want to frequently switch between a slide design and the text, you should use _____ view.
18. To insert objects on your slide, you should use _____ view.
19. The slide master holds the _____ design and _____ formats for a presentation.
20. If you want to make changes to an individual slide you should do it in the _____ view.
21. The changes made to a slide in Slide view take _____ over the formats present in the slide master.
22. You can also convert _____ into a PowerPoint drawing object.
23. _____ are special sound and visual effects that you can add to text or objects on slide.

24. _____ is a single-screen image that contains text and images, often on a colorful background.

PART: B

TRUE & FLASE STATEMENTS.

Chapter 1: Concepts of Data Processing

1. Information is more valuable to the user than data.
2. Sorting can be done on numeric data field only.
3. When sorting is required to be done at 3 levels, sorting is done with the major field first followed by sorting with intermediate field and finally sorting with minor field.
4. Speed & Accuracy of unit Record Method is more than that of manual systems.
5. Electronic computer was first created as an exotic calculating device.
6. A computer can do anything by itself.
7. Digital computers process data input in a continuous form.
8. Desired level of accuracy can be achieved in analog computers.
9. Entire operations of computer are controlled by CPU
10. Magnetic disk offers fast access next to primary storage.
11. The first general purpose computer was UNIVAC.
12. 3rd generation computers can be used for both scientific and business applications.
13. A mainframe can support up to 10000 terminals.
14. Work stations are generally used by scientists and engineers.
15. Character is a single alphabetic, numeric or special symbol that is used to represent data.
16. Third generation computers employed transistors and other solid state device.
17. A single primary storage location in the processor unit is identified by a number that varies with the contents in the location.
18. The storage capacity of each numbered address in the processor unit is always able to hold a word consisting of four characters
19. ASCII is a 8 - bit BCD code used in IBM mainframes.
20. Computers can communicate with other computers and can receive and send data in various forms like text, sound, video, graphics, etc.,
21. Supercomputers can operate at speeds one thousand to one million times as fast as microcomputers.
22. One MB represents 1000KB.
23. First generation computers were based on single user environment.
24. Microsecond is one millionth of a second.
25. The basic computing unit of a microcomputer is an integrated circuit.

26. A byte is always shorter than or equal to a word.
27. With the advent of third generation computers, the trend was reversed to centralization.
28. A single primary storage location in the processor unit is identified by a number that varies with the contents of the location.
29. A digital computer is faster than an analog computer.
30. Odd parity consists of an odd number of 0's in a character.
31. Every odd number in the binary system ends in 1.
32. Mainframe is a powerful multi-user computer capable of supporting many hundreds of users simultaneously.
33. The storage capacity of each numbered address in the processor unit is always able to hold a word consisting of four characters.
34. When one talks of a 32-bit computer, it means that its word length is 32 bits.
35. In large organizations, EDP is the most practical means for processing data.
36. The zone bits for numeric character set in EBCDIC system is 1100.

Chapter 2: Anatomy of computers

1. A computer needs both hardware and software to function properly.
2. Different CPUs have different instruction sets.
3. A computer can perform only 2 types of operations – Arithmetic & Logical.
4. Higher the clock speed, faster the processor better the system performance.
5. More the L1 cache memory, slower the processor.
6. A 16 bit processor can process 16 instructions at a time.
7. SCSI-3 can support up to 7 devices to be chained on a single port.
8. Serial ports are used to connect Scanners/Printers.
9. Parallel ports use 9 pin RS-232c.
10. A Bus connects various components of PC with the CPU and the main memory.
11. Physically BUS consists of 2 parts-Data bus & address bus.
12. RAM is called so because access time in RAM is independent of the address of the word.
13. Dynamic RAM is costlier than static RAM
14. Data in EPROM can be erased by exposing the chip to ultra violet light.
15. Video RAM is used to accelerate the display of graphics on the screen.

16. The number of characters that can be stored in a given physical space is referred to as data density.
17. In a computer, user's program is stored in ROM.
18. Cache Memory acts as temporary memory and boosts processing power significantly.
19. Clock speed is measured in MB/sec.
20. Cache memory is a kind of static RAM.
21. 32-bit computers can process 3 characters at a time.
22. The use of extended memory exists in a operating system for the purpose of backward compatibility.
23. Uninterruptible power supply system is desirable for non-volatile storage.
24. A single primary storage location in the processor unit is identified by a number that varies with the contents in the location.
25. The storage capacity of each numbered address in the processor unit is always able to hold a word consisting of four characters.
26. Static RAM is a volatile storage.
27. ROM is a no-volatile memory.
28. Virtual memory is used to store data or programs on a disk instead of in RAM.
29. A serial port sends data out of the computer one bit at a time and a parallel port sends one byte at a time.

Chapter 3: Computer Input Media & Devices

1. If people work independently and rarely need to share their work with others, it is better to provide a network of computers.
2. A stand alone system is one which stands directly on floor.
3. Using cursor keys one can move one paragraph at a time.
4. Touch Screen was invented by Hewlett Packard.
5. An Intelligent terminal is not user programmable.
6. Terminals linked to the computer system by a direct cable are known as hard-wired terminals.
7. Smart terminals are user programmable.
8. MGA adaptor works with monochrome monitors only.
9. LCD provides better resolution than gas plasma.
10. Optical readers are not economically feasible unless the daily volume of transactions is relatively high.

11. An intelligent terminal is an input/output device that provides for data entry and information exit when connected to a computer but has no additional capability.
12. User programmable terminals that combine VDT (visual display terminal) with built-in microprocessor is called dumb terminal.
13. The screen-pointing device, which rolls on a small bearing and has one or more buttons on the top, is called a light pen.
14. A spooling software is used to compensate the speed difference between the computer and its peripheral devices.
15. Key-to-disk system uses a stand-alone data station.
16. Key-to-diskette system is based on the decentralized recording of data and centralized conversion to the magnetic tape for processing.
17. The most common device used for direct data entry is OMR.
18. The input device used for speech recognition is Microphone.
19. The most popular input device used today for interactive processing and for online entry of data for batch processing is mouse.
20. Mechanical mouse requires a special mouse pad that have grids drawn on them.
21. Tract ball is one type of pointing device.
22. Dumb terminal does not incorporate its own processing capabilities.
23. Remote job terminal uses a telephone line for communication.
24. The most common resolution for SVGA is 640 x 480.
25. LCD monitors typically offer a wider viewing angle than CRT monitors.
26. If your system uses 24 bits to display graphics, you can view over 16 million colours.

Chapter 4: Computer Output

1. Impact Printers are the most commonly used type of Printers.
2. Serial Printer print one character at a time.
3. The greater the number of bits printed on the paper the better the quality of copy.
4. The physical difference between a microfilm and a micro fiche is that a microfiche will be in a continuous form while a micro film is cut into pieces.
5. Microfiche allows direct access to data through hunt and storage procedure.
6. High speed impact line printers typically use rapidly moving chains or bands or print characters or some form of print drum to print lines of information on paper.
7. Thermal printer is an impact printer.
8. Dot Matrix Printer can also be used to print in colour.

9. Non-impact printers utilize some form of striking device to form images.
10. Dot-matrix printer is an example of draft printer.
11. Microfiche allows sequential access only.
12. The most common resolution for laser printer is 600 DPI.
13. It is not required to change the ink cartridge in ink jet printers.
14. In case of Thermal printers it is required to refill ink frequently.
15. Laser printers can only print one character at a time.
16. A document printed in ink jet printer will have longer shelf life than a document printed in dot matrix printer.
17. Ink jet printers are costlier than any other type of printers.
18. Dot Matrix Printers cannot print images.
19. Toner is used in Thermal printers.
20. Higher the resolution lower the quality.

Chapter 5: Auxiliary Storage Devices

1. Secondary storage is very fast when compared to primary storage.
2. Tracks on a disk will be in the form a spiral
3. When people refer to number of sectors on a disk, the unit they use is Sectors per Tract.
4. Double track drives can record 80 tracks on a diskette.
5. When files are fragmented, it will take more time to save and load.
6. The diskette should be inserted slowly into the disk only when power to the entire system is off.
7. Floppies offer both sequential and direct access to data.
8. Hard disks consist of rigid metal platters.
9. Not only o hard disks pack data more closely together, they also hold more data.
10. Read/write heads in hard disk can move independently.
11. Only one hard disk is connected to CPU and it will act as input and output.
12. CD-ROM's are quite slow when compared to hard disks.
13. Pits on a DVD are much smaller and are encoded much closer together than those on a CD-ROM.
14. In magnetic tapes, characters are recorded horizontally.
15. CD-RW can also be used as a backup storage.
16. The access speed of secondary storage is slower than that of primary storage.

17. Seek time is the sum of rotational time and access time.
18. Time required to position the movable read/write head over the desired track is termed as seek time.
19. 1.44 MD diskette has a total of 6000 sectors.
20. MCA640 is the name of magneto optical drive.
21. The number of characters that can be stored in a given physical space is referred to as data density.
22. Information is transferred to and from record through sectors in a disk.
23. Magnetic disk is a random access device.
24. Each surface of the disk is divided into concentric circles called tracks.
25. In magnetic disk, the read/write head touches the surface of the disk plate.
26. Sectors are memory locations in the CPU.
27. Sequential file processing is faster than direct access file processing for getting random information.
28. Disks provide sequential access and tapes provide random access.
29. Accessing data on tape is much slower than accessing data on disks.

Chapter 6: Software

1. Whatever is programmed can also be directly embedded into the computer circuitry.
2. Software includes standard programs supplied by manufacturer, programs developed by the user or procured by him from an organization dealing in software.
3. Programs written in machine language are machine independent.
4. Writing programs in machine language is difficult to humans.
5. A program written in Assembly language is very efficient in terms of execution time and main memory usage.
6. Programs written in assembly language are machine dependent.
7. An assembly language programmer will have to write large number of statements to solve a given problem than that of a programmer using other high level languages.
8. An organization would write frequently used programs in low level language and infrequently used programs high level language.
9. In a file name, prefix is supplied by the user and suffix is supplied by either user or computer.
10. Before 1980's micro computer operating systems were strictly command driven.
11. Multiprogramming is a facility available in operating system.
12. Multiprogramming depends upon the concept of concurrent execution of programs.

13. Operating system for IBM PCs and its clones is different from that of apple Macintosh computers.
14. Compilers are preferred in environment where execution speed is important.
15. Firmware is held in CPU in a special control storage device.
16. An interpreter requires less storage space than compiler.
17. Interpreters translate programs into machine language all at once before programs are run.
18. The use of spooling program and/or buffer hardware allows personal computer operators to do other processing work at the same time a printing operation is in progress.
19. Car designers have been using virtual reality techniques in designing, modifying and creating cars from 3D perspectives.
20. It is possible to have one sub routine in another sub routine.
21. Multiprogramming is the simultaneous execution of two or more sequence of instructions in a single computer.
22. Multiprocessing refers to the use of two or more central processing units to perform coordinated work simultaneously.
23. Windows 95/98 is based on 16 bit architecture.
24. DOS based software cannot be executed on Windows 95/98.
25. A program written in assembler language has to be translated into machine code.
26. A program written in assembler language is very efficient in terms of execution time and main memory usage.
27. Assembler language is also useful in writing business application software such as payroll, billing etc.
28. 4GLs use high level English like instructions to retrieve and format data for enquiries and reporting.
29. 4GL programs often consume significantly more machine cycles than 3GL programs that perform the same task.
30. File recovery program is an example of internal operating system procedure.
31. Multiprocessing offers data processing capabilities that are not present when only one CPU is used.
32. Interpreters are usually less expensive than compilers.

Chapter 7: Data Storage & Retrieval

1. Data files and programs that use them are developed independently. This is called program data independence.
2. There are 2 principal ways to access data – sequential & direct.

3. Tape is capable of sequential access only; where as magnetic disks can be used for both sequential & direct access.
4. Serial organization is commonly found with transaction data.
5. Direct access storage devices have the capability of directly reaching any location.
6. The advantage of self addressing method is that there is no need to store an index.
7. Indexed sequential file organization permits both sequential as well as random access.
8. In randomizing procedure, the record key number is converted into physical location represented by a disk address through computational procedure.
9. Where file activity is very high it is better to go for direct access methods.
10. Primary storage in a CPU provides direct access.
11. In self-addressing method, record must be of fixed length.
12. In airline reservation system, sequential file organization is best suited.
13. Arrangement of files of data in a sequence is called indexed sequential file.
14. The advantage of sequential file is that it needs no sorting.
15. Every record in a sequential file must possess a key field.
16. An index permits faster access to data in a large file.
17. Direct access file organization can be used on a magnetic tape.

Chapter 8: Some Advanced Systems

1. In batch processing both sequential and direct access storage device can be used.
2. Real time processing refers to processing of individual transactions as they occur from their point of origin as opposed to accumulating them.
3. On line processing system can't work with sequential access storage devices.
4. On line processing enables multi access to information files by users.
5. Batch processing ensures that records are in updated status at any time.
6. On line systems eliminate the need to punch and verify data.
7. In interactive processing, a transaction is completely dealt with before dealing with the next transaction.
8. In real time processing, the response of the system to the enquiry itself is used to control the activity.
9. Real time systems require dedicated processing capacity.
10. Decision support systems require routine data as input.

11. The user of a DSS is usually a manager with an unstructured or semi-structured problem to solve.
12. Developing large database of examples is the most difficult and costly part of developing a neural network.
13. Decision Support system is useful for structured problems.
14. It is not necessary that only sequential media are used in batch processing.
15. Online processing requires advanced file organization techniques such as random access.
16. Real time systems are basically on line systems with some specialty in inquiry processing.
17. In real time processing, files are stored on magnetic tape.
18. Time sharing system is suitable to large batch type operations.
19. Electronic spread sheets are examples of purpose planning languages.
20. Expert systems assist users in identifying potential decision making problems, which increases the probability that sound decisions will be made.

Chapter 9: Telecommunication & Networking

1. Data can be transmitted along a communication channel either in serial or in parallel mode.
2. To transfer data over long distances, parallel transmission is preferable to serial transmission.
3. Packet switching can use the transmission capacity of a network to the maximum extent.
4. In packet switching, transmission cost is by message or route or distance but not by packet.
5. In LAN, communication channels are generally privately owned.
6. PC MCIA modems are used with portable computers.
7. Protocol conversion can be accomplished via, hardware, software or a combination of hardware and software.
8. Routers are similar to bridges but have the added advantage of supplying the user with network management utilities.
9. In ring network, links are bidirectional.
10. Every device connected to LAN requires a LAN card.
11. Network cables and NIC cards need not match.
12. Data is more secure in fiber optic networks.
13. Gateways are used to link LANs of different topologies e.g., Ethernet and token ring so as to enable the exchange of data.
14. MODEM provides connection between server and workstation.
15. Two dissimilar devices in a network can communicate with each other using bridges.

16. Fiber optic cable uses light as a communication medium.
17. In packet switching, data packets are stored in secondary storage devices.
18. For periodic data transmission, leased line services are more suitable than dial-up.
19. Router provides network management utilities.
20. The phone network is a circuit-switched network.
21. Computers can communicate with other computers and can receive and send data in various forms like text, sound, video and graphics.
22. Two dissimilar devices in a network can communicate with each other using bridges.
23. Gateways are similar to bridges.
24. Failure of one node in peer-to-peer network can create problems in the network.
25. LAN is completely independent of public telephone authorities.
26. A network can be broadly classified as using either peer-to-peer or client/server architecture.
27. In a distributed data processing system, most of the processing is done in the memory of the individual PCs or workstations.
28. MAN uses fiber optic transmission to interconnect two different sites.
29. IP (Internet Protocol) breaks up a message into packets.
30. Twisted-pair wire is the oldest and still most common transmission line and consists of copper wire twisted into pairs.

Chapter 10: Internet & Emerging Technologies

1. Internet users can use regular dial up telephone lines or dedicated higher capacity lines to connect to nearest ISP.
2. Different web browsers interpret a HTML document in the same manner.
3. To access any information on the internet, one has to know the address of the server.
4. For corporate users with multiple users leased line is preferable to dial up connection.
5. All Internet subscribers in India get the e-mail facility free with each subscription.
6. The internet works in push environment.
7. In EDI, data can be transferred directly between companies using an agreed upon data protocol or it can be performed by a third party service vendor.
8. Both EC and EDI are targeted for global trading and is suited to anyone interested in online commerce.
9. Extranet provide the privacy and security of an Intranet while retaining the global reach of Internet.
10. Encryption can be either software or hardware based.

11. Computer conferences can't support large number of participants.
12. Sites that contain explicit objectionable material can be blocked to prevent employees from accessing these servers.
13. The business-to-business kind of e-commerce refers to a company setting or buying from other companies
14. FTP is a protocol, which allows files to be transferred between two computers.
15. It is not possible to send formatted documents, photos, sound files and video files as attachments through E-mail.
16. HTTP does not provide access to other Internet protocols like FTP, SMTP, NNTP, WAIS etc.
17. IRC is a multi-user chat system that allows many people to communicate simultaneously across the Internet in real time.
18. A mailing list is a way to share information via electronic mail with many people, usually on a specific topic or for a specific purpose.
19. Newsgroups are essentially public e-mail discussion forums where participants post their messages to be seen by all readers of the newsgroup.
20. Most individual users connect to the internet through an ISP.
21. Even if you use TCP/IP protocols, different types of computers cannot exchange data over the Internet.
22. Groupware lets people work together on projects over the Internet or other network
23. Internet offers access to data, graphics, sound, software, text and people through a variety of services and tools for communication and data exchange.
24. Internet explorer and Netscape navigator are two powerful text based browsers.
25. Two machines can have the same IP address.
26. Computer conferencing can be used within a single geographical area.
27. Internet usually has a system of access privileges controlled by passwords, restricting access to certain areas of the network.
28. Most part of the Internet is a push environment.
29. Electronic conference is a many to many type of communication.
30. Internet is a "one-to-many" type of communication.

Chapter 11: Database Management System

1. Traditionally files were designed to meet specific information and data processing requirements of a particular department.
2. A database is a repository of related data.
3. In a database environment routine reports and special reports can't be prepared quickly.
4. Management databases and information databases are different from each other.

5. Hierarchical database structure is considered to be most flexible and Relational database structure is considered to be most restrictive.
6. Different database systems have different ways of representing data physically on disk.
7. The role of DBA is more technical than that of DA.
8. Database can be partitioned on functional lines or geographical lines.
9. Multimedia data management systems are also known as hypermedia systems.
10. The goal of a concurrency management mechanism is to allow concurrency while maintaining the consistency of the shared data.
11. Adhoc queries are also supported by Network Database Structure.
12. A schema separates the physical aspect of data storage from the logical aspect of data representation.
13. In a database system redundancy can be controlled.
14. Information is data that have been put into a meaningful and useful context and communicated to a recipient who uses it to make decisions.
15. Data models present a process of abstracting real world entities into computer representations.
16. Maintenance of a data dictionary is the responsibility of a programmer.
17. A database is an organized collection of data files in which separate files cannot interact.
18. Database is collection of data which are related in a meaningful way and can be accessed in different logical orders but are stored once and only once.
19. Data in a database can be shared among different users and applications.
20. The smallest unit of data in a database is record.
21. Management databases store data and information extracted from distributed and end user databases.
22. Hierarchical model permits only one-to-one and one-to-many relationships.
23. Single user version of a microcomputer database system will not have concurrency protection.

Chapter 12: Database Performance Monitoring

1. Each primary key must have an integrity control that prohibits a null value.
2. Referential integrity guarantees that only some existing cross referencing value is used, not that it is the correct one.
3. Horizontal partitioning is more secured.
4. Database is tuned for optimum performance at the time of installation.
5. Explicit value of a field has a higher precedence over the default value.
6. Database design provides a means to represent the real world entities in a form that can be processed by a computer.

7. To develop a good design, one has to understand the meaning of information and the intended use of the information's stored representation within the computer system.
8. Tuning of the database is an activity that is undertaken at the time of DBMS installation.
9. Access methods are algorithms for storing and retrieving data which are supported by operating systems.
10. Telephone directory is an example of sequential file organization.
11. Memo field is an example of fixed length.
12. Data-volume statistics represent the size of the business calculated from past year period.

Chapter 13: CAAT

1. There are basically 3 approaches for auditing information system in a computerized environment.
2. Under black box approach, what is happening inside the computer is completely studied.
3. Under Black Box Approach, internal controls are reviewed; transactions are tested in the same manner as in non EDP system.
4. Computer Assisted Audit software, are readily available who call much expertise from the auditor.
5. The overall objective and scope of an audit do not change when an audit is conducted in an EDP environment.
6. When integrated test facility is used, it is not necessary to eliminate the text transactions subsequently.
7. The auditor should have sufficient knowledge to plan, execute and use the results of CAAT.
8. For running CAAT in the entity computer system, co-operation of entity personnel may be required.
9. Even if there is no visible evidence, it is possible to perform tests manually.
10. GAP's can't used over wide platform of hardware, operating systems, operation environments and database.
11. Generally test packs are reserved for situations where conventional testing is not practical.
12. ITF is not suitable for complex environments like on line real-time banking system,
13. Program comparison can be done either on source code or object code.
14. Program code analysis is very complex.
15. Test data generators are economical if large volumes of test data are needed.
16. The presence of the auditor is necessary at the computer facility during the running of the CAAT.
17. When CAAT is used it is not necessary to maintain audit working papers.
18. Where small volumes of data are processed, manual methods may be more cost effective.
19. CAAT can be used even if the auditor doesn't have any knowledge of the entity's computer system.

20. When the reliance is completely on the non-EDP segment of a system, it is commonly referred to as auditing around the computer.
21. Purpose written programs are computer programs designed to perform audit tasks in specific circumstances.
22. Program (parallel) simulation is the same as auditing through the computer.
23. Integrated Test Facility technique requires detailed knowledge of the complete system.
24. Program code analysis technique of audit requires higher level of technical skill.

Chapter 14: Cyber Laws & IT Act 2000

1. In May 2000 both the houses of parliament passed the Information Technology Bill.
2. IT bill received the assent of the president in August 2000.
3. IT act applies outside India also.
4. IT act applies to the whole of India except Jammu & Kashmir.
5. IT act does not apply to a power of attorney
6. IT act applies to a cheque.
7. IT act also applies to Indian Succession Act 1925.
8. The person who receives message is called addressee.
9. Information includes text only.
10. With the advent of IT act, information can be stored in electronic form also.
11. Digital signature can be affixed in any form.
12. Signing means affixing or hand written signature only.
13. It is not sufficient to publish any rule, regulation or notification in electronic form.
14. Documents to government departments should be submitted in electronic form only.
15. A person can insist any ministry of CG that documents should be accepted in an electronic form only.
16. "Usual place or residence" in relation to a body corporate means where its administrative office is located.
17. Controller can grant recognition to foreign certifying authorities directly.
18. After receiving application, the controller must accept the application.
19. The minimum fees for renewal of digital signature certificate are 5000.
20. License can be revoked by the controller, sumoto.
21. Every certifying Authority shall ensure that every person employed by him complies with the provisions of the act, rules etc.
22. The application fee for digital signature certificate is same for all applicants.

23. Tribunal can pass the order sumoto.
24. The appellant to tribunal must appear in person.
25. Appeal to high court shall be against question of law only.
26. Contravention under the act is compoundable (Partially true and partially false)
27. Penalty prescribed under IT act shall not interfere with the punishment provided in other acts.
28. The act will apply to negotiable instruments also.
29. A will can be written in electronic form.
30. A digital signature certificate can't be suspended by the certifying authority for a period exceeding 15 days unless the subscriber has been given an opportunity of being heard.
31. According to IT act, hacking is not a punishable offence.

Chapter 16: Word Processing

1. Line spacing determines the amount of vertical space between lines of text.
2. In word processing package, Header and Footer can be selected from the view menu.
3. Word offers a wide variety of formatting features to enable you to choose the options that best suits your specific needs.
4. Auto text allows us to store formatted text even in paragraphs and graphics.
5. In MS-WORD, if the font size is 10 points and the line spacing is set to 1.5, then line spacing will be approximately 15 points.
6. In MS Word, fonts are measured in points.
7. A common font size used in business documents is 10 points used by MS Word.
8. Cut, Copy and Paste are the editing features of MS Word through which user can make changes to the document.
9. In MS Word, Page sections can be inserted either manually or automatically.
10. Word automatically sets section breaks, when we change the number of columns and we want it to apply from a particular point forward in the document.
11. In MS Word, by default, the Tab stops are set at 1.0 inch interval from the left margin.
12. Word allows you to work in more than one document at the same time.
13. When you save a document for the first time, Word displays the Save As dialog box.
14. MS Word includes number of AutoCorrect entries. We can use these entries but cannot modify them.
15. The AutoCorrect feature corrects common typing errors.
16. Header and Footer are displayed in the Normal view of a Word.

17. In Word, a new column inserted in a table retains the format of the column next to which it is inserted.
18. The main document of mail merge contains the information that does not change from document to document.
19. We can give different header and footers on even and odd pages.
20. In mail merge, data source files is also known as form letters.
21. The default font in any MS Word document is Arial.
22. Indent refers to the distance of the text from the edges of the page.
23. We can drop the capital letter to maximum up to 5 lines.
24. We can specify the suitable alignment for the text in each tab.
25. To run a macro, click macro from Run menu.

Chapter 17: Spreadsheet Basic

1. In worksheet the cell 65231 to 256 the column will be referred as IV65231.
2. A workbook cannot have more than 16 worksheets.
3. The F2 key is used to edit the formula cell.
4. In MS-Excel, if a cell pointer points to a cell that contains data, then that data will also be displayed in the formula bar.
5. A graph created in Excel can be copied and linked to a power point presentation slide.
6. Formatting of numbers in Excel 2000 is similar to formatting in Word 2000.
7. Natural language formula was introduced by lotus 1-2-3.
8. The formula palette is used only when a formula contains a function.
9. When a column or row is deleted in Excel, all the contents of the column or row are deleted even in those cells that are not visible on the screen.
10. By default, Excel left aligns text and right aligns values.
11. The additional elements in a formula are called arguments.
12. A relative reference describes the location of a cell in terms of its distance, in rows and columns from another cell.
13. An absolute cell reference describes a specific cell address.
14. \$ Sign is used in relative cell addressing method.
15. Pie chart shows the relationship of parts as applied to the total values whereas area and line charts are best for showing the amount of change in values over times.
16. If you enter 12+XYZ in a cell, Excel displays an error message.

17. A cell pointer is the highlighted rectangle in the worksheet area where you enter data.
18. A line chart consists of a series of data at various points along the axis.
19. The category axis provides the scale used to measure the data in the chart.
20. In Excel, to join two strings the operator available is “%”
21. Pie chart represents two data series.
22. Default number of worksheets in a new workbook is 5.
23. Auto Complete feature to an Excel is applicable on date values.
24. Fill features of Excel can be accessed from View menu.
25. If you want to insert a column between column C and column D, then you should place the cell pointer in column C.
26. While using a Cut function in Excel, data will be removed from the cell and transferred to clipboard.
27. In Excel, a copy operation allows more flexibility while pasting than a cut operation.
28. Goal seek command in Excel is available in Edit menu.
29. Series is a group of data points appearing either within a column or row in a table.
30. In Excel chart, X-axis is known as value axis and Y-axis is known as category axis.
31. In a bar chart, the value axis is organized vertically while the category axis is arranged horizontally.
32. Stacked column and bar charts compare the percentage contribution of each data value of total across categories.

Chapter 18: Business Project Management and Presentation Tools

1. Voice recording has a higher precedence over the other sounds in PowerPoint presentation.
2. The default orientation for printing slides is portrait while for notes, handouts and outlines it is landscape.
3. You can view the handouts in the Handout master from slide option of the edit menu.
4. The default speed for slide transition is low.
5. Most of the AutoContent Wizard presentation slides have transitions and animations assigned to them
6. If a picture is of a Meta file format, it can be converted to a group of drawing objects.
7. If a picture is of a bitmap, you can convert it into drawing objects.
8. You can modify a picture selected from clip gallery.
9. If a user wished to add an object on a specific slide then he should select the slide sorter and add objects on them.

10. Objects can be inserted only through slide view and normal view.
11. AutoContent Wizard provides both the content and the background for a presentation.
12. Text can be arranged in bulleted format on a slide in 5 levels.
13. Design template provides only the background for a presentation.
14. The changes made in the slide will take precedence over the formatting imposed by the slide master.
15. Gradient colours of slide offers the shading pattern.
16. Normal view is a Tri-pane view.
17. Slide finder is used to preview the slides and allows to insertion into current presentation.
18. When we import a slide, PowerPoint imports text, design, pictures and other objects.
19. PowerPoint 2000 offers 16 auto layouts for creating new presentations.

PART: C

DIFFERENCES.

Differences in Information Technology

Q.No.1. Data vs. Information.

reading	Distinction	Data	Information
1.	Meaning	It is the smallest raw fact of life. It is the plural form of the word datum.	It is the processed data.
2.	Input/output	It is the input for processing.	It is the output of processing.
3.	Usefulness to the user.	It is not directly useful to the user.	It is directly useful to the user because of its presentation, format and design.
4.	How is it collected?	It is generally collected in vouchers or source documents from which they are entered into computer.	It is always presented in a well designed format, either on paper or on computer terminal.
5.	From where it is collected?	Data used for a single application is collected from several departments.	Information in the form of report is distributed to more than one department or business function.
6.	Volume	Data for business applications is generally voluminous.	Information is the way of summarizing data so that it has some use and value to the user. Summarization brings down the volume of information.
7.	Nature	Data should be accurate but need not be relevant, timely or concise.	Information must be relevant, accurate, timely, concise and complete and apply to the current situation.

Q.No.2. Analog Vs. Digital Computer.

No.	Analog Computer	Digital Computer
1.	Analog computers represent numbers by a physical quantity i.e. they assign numbers by physically measuring some physical property such as voltage, temperature, etc.	Digital computers represent data as numbers. Counting on fingers is the simplest form of digital computers.
2.	Analog computers process analog signals which are continuous in nature.	Digital computers process digital signals which are in discrete form.
3.	These Computers are not accurate and have limited storage capacity.	These computers are highly accurate up to several decimal places.
4.	These are very much suitable for scientific and engineering applications.	These are very much suitable for business data applications.

5.	They are cheap and easy to program.	They are costly and complex to program.
6.	Programming is easy and cheap.	Programming is complex and costly.
7.	Storage capacity is limited.	Can store huge volume of data.
8.	Single purpose.	Multipurpose.

Q.No.3. Bit Vs. Byte

No.	BIT	BYTE
1.	It is the smallest unit of storage measurement.	It is a collection of 8 bits.
2.	A bit can represent either '0' or '1'.	It can represent an alphabet, number or some special symbol.
3.	It is represented in the form of ON or OFF in the memory.	It is used to represent several combinations of bits that indicate a character.
4.	It is used to represent small amount of memory.	It is used to represent large amount of memory.

Q.No.4. Data Processing Vs. Data Processing System.

No.	Data Processing	Data Processing System
1.	Data Processing is the restructuring, manipulating or recording of data by people or machines to increase their usefulness and value for some particular purpose.	Data Processing System is a system that accepts data as input processes it into information and gives output.
2.	It refers to some operations, which are required to process data and to produce information. For example, classifying, sorting, summarizing etc.	It refers to some system which performs those functions.
3.	Processing involves some steps but does not include any components	The components in manual data processing system would be men. They will use simple tools such as paper, pencils and filing cabinets. Mechanical data processing systems utilize such mechanical devices as typewriters, calculating machines and book keeping machines. Automatic data processing implies the use of machines for data processing. It could be performed either by unit record method or electro mechanically by computer.
4.	The main objective of data processing is to increase the usefulness the data.	The system is designed to achieve the objectives of data processing.

Q.No.5. Data Processing System (DPS) Vs. Management Information System.

No.	Data Processing System (DPS)	Management Information System (MIS)
1.	It is a system that collects as well as processes data and distributes information in the organization.	MIS is a network of computer based data processing procedures developed in an Organization with manual or other procedures for the purpose of providing timely and effective information to support decision making and other necessary management functions.
2.	Data processing can be performed manually with the aid of such simple tools like paper, pencil and filing cabinets or Electro-mechanically with the aid of unit record machines or electronically with the aid of a computer.	MIS uses the information generated by DPS and external information as resource for effective and better achievement of organizational objectives.
3.	DPS is hardware oriented.	MIS are organizational and Application oriented.
4.	The source of data is internal.	The source of data is both internal and external.
5.	DPS acts as a subsystem to the MIS.	MIS uses the information from DPS with additional activities performed by people for collecting information.

Q.No.6. Different Generations of Computers.

Particulars	First	Second	Third	Fourth	Fifth
Year	1949-55	1956-65	1966-75	1976-95	1996 onwards
Size	Room Size	Cupboard Size	Desk Size Minicomputer	Typewriter Sized Computers & Laptops	Credit Card Sized Computers & Palmtops
Density	One Component per Circuit	100 Components per Circuit	1000 Components per Circuit	Hundreds of Thousands of Components per Circuit	Millions of Components per Circuit
Technology	Vacuum Tubes	Transistors	Integrated Semiconductor Circuits	Large Scale Integrated Semiconductor Circuits	Very Large Scale Integrated Semiconductor Circuits
Main Memory	Magnetic Drum	Magnetic Core	Magnetic Core	LSI Semiconductor Circuits	VLSI Superconductor circuits
Secondary Storage	Magnetic Drum Magnetic Tape	Magnetic Tape, Magnetic Disk	Magnetic Disk, Magnetic Tape	Magnetic Disk, Floppy Disk, Magnetic, Bubble, Optical.	Optical Disks & Magnetic Disks
Memory	10K - 20K Characters	4K - 64K Characters	32K - 4000K Characters	51K - 32000K Characters	Billions of Characters

Operating Speed	Milli Seconds 10^{-3}	Micro Seconds 10^{-6}	Nano Seconds 10^{-9}	Pico Seconds 10^{-12}	Still less than Pico seconds. 10^{-15}
External Speed	Few thousand Instructions	Upto 10 Lakh Instructions	Upto 1 Crore Instructions	100 mps	Billion Instructions /sec.
Input/output devices	Punched card, paper tape	Paper tape, Magnetic tape, VDU	VDU, MICR, OCR	VDU, MICR, OCR, Voice Recognition	Speech Input, Tactile Input, Graphics, Voice Responses
Cost	Very High	Lower than First Generation	Lower than Second Generation	Lower than Third Generation	Very Low
Other features	Generate heat, Relatively slow & rigid in operations.	Reliable & Accurate, fast	Faster, reliable, time sharing & Multi Processing Made possible	Sophistication & Complex usage, Improved storage	Sophistication & Complex usage, improved storage
Programming Language	Machine & Assembly Level Language	High Level Language FORTRAN, COBOL.	High level Languages: FORTRAN IV, COBOL 68, PL/1,	Fourth Generation Language: FORTRAN 77, PASCAL, C, C++, JAVA.	Fifth Generation Languages
Data Processing	Serial	Spooling	Multi-Programming	Multi-Processing	Multi-Processing

Q.No.7. Master File vs. Transaction File.

No.	Master File	Transaction File
1.	Master file contains relatively permanently records for identification and summarizing statistical information.	These are created from source documents used for recording events or transactions.
2.	It contains current or nearly current data, which is updated regularly.	These files generally contain information used for updating master files.
3.	It rarely contains detailed transaction data.	It contains detailed data.
4.	The product file, customer file and employee file are examples of master files.	Examples of transactional files are purchase orders, job cards, invoices etc.
5.	These are usually maintained on direct access storage devices.	These can be maintained on sequential as well as direct access storage devices.

Q.No.8. Workstation vs. Microcomputer.

No.	Workstation	Microcomputer
1.	Workstations are powerful desktop	It is a full-fledged computer system which

	computers designed to meet the needs of engineers, architects and other professionals who need good graphic displays.	uses a microprocessor as its CPU.
2.	It looks like a personal computer and is used by a single user. Its CPU uses Reduced Instruction Set Computing (RISC), which results in faster processing of instructions	It uses a microprocessor as its CPU. It is also a single user computer.
3.	Workstations generally run on Unix Operating System or a variation of it.	Microcomputers run on Dos, Unix, OS/2, MS Windows NT, etc. Microcomputers enable the users to switch between tasks known as Multitasking, which is a great time saver.
4.	Workstations are commonly used for Computer-Aided Design (CAD) and are used as servers for Local Area network (LAN)	It is multi purposeful. If the required software is available, it can be used for any application.
5.	Relatively fast in processing.	Relatively slow in processing.

Q.No.9. Special purpose computers Vs. General Purpose computers.

No.	Special purpose computer	General purpose computer
1.	A special purpose computer is designed to perform a special task.	General purpose computers can be used for business, scientific and other applications.
2.	The instructions are in-built in the computer circuitry by the manufacturers.	It can be programmed by the user for different purposes.
3.	These are also called dedicated computers.	These are also called versatile machines.
4.	More efficient machines.	Less efficient than special purpose computers.
5.	Programs in the machine cannot be changed or upgraded.	As and when necessary, programs can be amended or dropped.
6.	Costly.	Comparatively cheap.

Q.No.10. Third Generation Computers vs. Fourth Generation Computers.

No.	Third Generation Computers	Fourth Generation Computers
1.	They employed integrated circuits, in which all the elements are integrated on a tiny silicon wafer.	They appeared in 1970's. They still utilized still newer electronic technology and made the computer still smaller and faster than third generation computers.
2.	Mainframes, Mini Computers are one of	Micro computers and super computers

	the developments in this generation.	were introduced in this generation.
3.	They consume more power.	They consume less power.
4.	These are bigger in size.	These are smaller, compact in size.
5.	These are costlier.	These are low cost machines.
6.	Third generation computers are used by large organizations.	Fourth generation computers are used by small organizations or individuals.
7.	Processor's speed started to be measured in nano seconds.	Processor's speed started to be measured in pica seconds.
8.	Third generation computers offer many salient features such as better operating systems, multi programming and support of secondary storage tapes and disks.	User oriented software, concept of virtual storage which expands the main storage capacity etc. are the significant features of this generation computers.
9.	Support high level languages such as FORTRAN and COBOL.	Object oriented languages such as C++, Visual Basic, etc. were introduced.

Q.No.11. Hardware vs. Software.

No.	Distinction	Hardware (HW)	Software (SW)
1.	Meaning	Refers to components that constitute computer system.	Refers to means of controlling the computer equipment.
2.	Visibility	It refers to physical, visible components of a computer.	If refers to invisible components of a computer.
3.	Components	It is made up of input devices, output devices, C.P.U., storage devices, communication devices etc.	Software is made up of data and instructions.
4.	Producers	Hardware is produced by Hardware manufacturers. Eg. IBM, INTEL, HCL, WIPRO, HP, SONY, AMKETTEE.	System Software like WINDOWS is manufactured by big software companies like MICROSOFT. Some readymade application Software like "TALLY, Ex etc. are manufactured by Software companies like TCS, Infosys etc. Other application Software may be prepared by individual programmers and end users.
5.	Modularity	Most of the Hardware devices are purchased initially but few of them can be added later on.	Most of the Software can be purchased initially along with Hardware. But application software is procured in stages, depending on requirements.
6.	Changes/ Alteration	Hardware once procured does not go through frequent charges except for new additions or releases or updation.	System Software once procured does not go through frequent changes, except for updation. Application software goes through frequent changes whenever policies and procedures are changed.
7.	Virus	Do not get affected by computer virus.	Only Software gets affected by computer virus.

Q.No.12. Super computer Vs. Mainframe Computer.

No.	Super Computer	Mainframe
1.	Super computers are the largest and fastest computers available.	Mainframes are slower, less powerful and cheaper than super computers.
2.	These are used in specialized areas like defense, aircraft design, medical research etc. where huge processing speed is required.	These are used in handling all kinds of scientific and business applications.
3.	These computers can process up to 64 bits or more at a time.	Mainframes process 32 bits or less number of bits at a time.
4.	These can support up to 10,000 terminals.	These can support up to 1,000 terminals.
5.	Processes up to 1.2 billion instructions per second.	Processes up to 5 to 10 million instructions per second.
6.	These computers are very costly and are generally developed by government.	These are relatively cheaper and are owned by big companies.
7.	Not used in commercial data processing.	Useful in commercial data processing.
8.	CRAY, CDAC, Fujitsu, Thinking Machine Corporation, etc. are major suppliers.	IBM, Sun Microsystems, HP, NCR, Burroughs, etc. are major suppliers.

Q.No.13. Data Bus Vs. Address Bus.

No.	Data Bus	Address Bus (Or Memory Bus)
1.	The data bus is an electrical path that connects the CPU, memory & the other hardware devices on the motherboard.	The second bus that is found in every microcomputer is the address bus. The address bus is a set of wires similar to the data bus that connects the CPU & RAM & carries the memory addresses.
2.	Actually, the bus is a group of parallel wires. The number of wires in the bus affects the speed at which data can travel between hardware components.	The number of wires in an address bus determines the maximum number of memory addresses. For e.g. 1 byte of data is enough to represent 256 different values. If the address bus could carry only 8 bits at a time, the CPU could address only 256 bytes of RAM.
3.	It decides the data transfer speed between various peripheral devices attached to the computer.	It decides the data transfer speed between RAM and Micro Processor.
4.	It always carries data.	It always carries addresses.

Q.No.14. Dynamic RAM vs. Static RAM.

No.	Dynamic RAM	Static RAM
1.	It is the most common type of memory. It is dynamic because each memory cell quickly loses its charge. So, it must be refreshed for hundreds of times each second.	It is the rarely used type of memory. It is static because each memory cell does not lose its charge. So, it is not required to refresh the data continuously. The static RAM retains the stored data as long as power remains on.
2.	It is slow, small and less expensive.	It is faster, larger and more expensive than DRAM.
3.	Dynamic RAM is the most common type of main memory.	This is used mainly in a special area of memory called cache memory.
4.	They contain a transistor that acts as a switch and a capacitor which is capable of storing electric charge. Depending on the switching action of the transistor, the capacitor either contains no charge or does hold a charge.	It is not necessary to refresh the contents continuously.
5.	In DRAM, the computer does the refreshing process taking time out from other activities. So, processing gets slow down.	Processing will be fast because it is not necessary to refresh the data continuously.
6.	The power consumption of Dynamic RAM is less than that of Static RAM. Thus higher amount of integration is possible.	The power consumption of Static RAM is more than Dynamic RAM. Thus higher amount of integration is not possible.

Q.No.15. RAM Vs. ROM.

No.	Distinction	ROM	RAM
1.	Expansion	Read Only Memory.	Random Access Memory
2.	Changes to contents	Contents of ROM can be read and used but can't be corrected or erased.	Contents of RAM can be read, used, corrected or erased.
3.	Volatility	ROM is not volatile i.e. the contents are not lost when power is switched off.	It is volatile i.e. its contents are lost when the power is switched off.
4.	Size	Very small in size.	Very large in size.
5.	Contents	Contains important instructions which are needed to activate the system at the time of starting or Booting.	It contains data and instructions of the applications which are under process.
6.	Permanence	It is a permanent storage which	It is a temporary storage which gets

		contains same instructions at all times.	different sets of data and programmers at different times, depending on the application being processed.
7.	Who will load?	ROM instructions are loaded by the manufacturers.	RAM instructions are loaded by the user.
8.	Used by whom?	Programmers and machine use RAM.	Only machines use ROM.

Q.No.16. Virtual Memory vs. Main Memory.

Main memory is a part of the computer hardware, which stores programs and data that are in active use. Storage locations in main memory are addressed directly by the CPU's load and store instructions. Access is slower from main memory than from CPA registers because of large capacity and the fact that it is physically separated from the CPU.

Virtual memory, on the other hand, is a technique that allows the execution of a process, even though the logical address space requirement of the process is greater than the physical available main memory. The technique works by dividing a program on disk into fixed length pages or into logical, variable length segments. Virtual memory thus extends primary memory by treating disk storage as a logical extension of the main memory.

Virtual memory helps in efficient main memory utilisation. The programs can be loaded partially in the main memory, so more programs can be run at the same time. Hence, efficient CPU utilisation and better throughput is possible by using the concept of virtual memory. Virtual memory makes the task of programming much easier, because the programmer no longer needs to worry about the amount of physical or main memory available.

Following table indicates the difference between virtual memory and main memory.

No.	Virtual Memory	Main Memory
1.	Virtual Memory does not exist in reality. Its presence can be experienced logically but not physically.	It is also known as primary memory and it exists physically.
2.	It is a technique adapted by the operating system.	It is directly addressed and controlled by CPU.
3.	With the help of this facility even large files can be operated on small amount of RAM.	This memory will decide the speed of processing. More the amount of RAM faster will be the processing.
4.	Virtual memory is a concept which depends on the software that is being used.	Main memory will exist inside the system unit and is independent of software being used.
5.	In this memory parts of programs are called segments or pages.	Here parts of programs are known as blocks.

6.	It is not expandable and its size depends on the program being used. Thus virtual memory being used by the computer, changes from time to time.	It is expandable and its size is independent of the program being used.
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Q.No.17. Interface vs. Port.

Interface: A user interface, consisting of the set of dials, knobs, operating system commands, graphical display formats, and other devices provided by a computer or a program to allow the user to communicate and use the computer or program. A graphical user interface provides its user a more or less “picture-oriented” way to interact with technology.

- ▶ A programming interface, consisting of the set of statements, functions, options and other ways of expressing program instructions and data provided by a program or language for a programmer to use.
- ▶ The physical and logical arrangement supporting the attachment of any device to a connector or to another device.
- ▶ In case of hardware equipment, to interface means making an appropriate physical connection so that 2 pieces of equipment can communicate or work together effectively.

Port: On the other hand, an interface connection is called a port. A port is a socket on the back of the computer, which is used to connect external devices to the computer. When the user needs to add a new piece of hardware to the computer, he/she can plug the device into an existing port. Most computers have several types of ports, each with a different capabilities and uses. Most common types of ports available on computer these days are 25-pin serial port, 25-pin parallel port, keyboard port, 9-pin serial port and 15-pin game port. RS-232 is a de-facto serial port.

Following table indicates the difference between virtual memory and main memory.

No.	Ports	Interfaces
1.	A connection point for interface is called port.	It is a facility which consists of tools & other components to communicate with the Computer hardware or software.
2.	It is a socket on the back of the computer & is used to connect external devices to the computer.	It is making an appropriate physical connection to make two pieces of equipment to communicate or work together.
3.	It is related to Hardware alone.	It is related to both hardware & Software.
4.	Ports are used for the transmission of data, with in a computer system and its peripherals.	Interfaces are used to translate the external data into internal codes and vice versa.

Q.No.18. Main Memory vs. Cache Memory.

Main memory of a computer is very significant because it is used to store the operating system and an ever changing parade of programs and data. Main memory is a random access memory (RAM) since access time in RAM is independent of the address of the word i.e. each storage location (address) inside the memory is as easy to reach as any other location and takes the same amount of time. In a computer system, main memory is supported by cache memory.

Cache is a special area of high speed memory that is located between the CPU and main memory. When the processor needs data, it checks high-speed cache first to see if the data is there, If not, the processor then retrieves the data from the main memory.

Main memory generally uses dynamic RAM (DRAM) chip. It is dynamic because each memory cell quickly loses its charge, so it must be refreshed hundreds of times each second to prevent data from being lost. On the other hand, cache memory uses special chips often, static RAM (SRAM) chips. It is static because it is not required to be refreshed continuously. SRAM is faster, larger, and more expensive and consumes more power.

On some systems, cache memory is four times as fast as regular main memory. However, cache costs six times as much as main memory. On the other hand cache memory is used at 2 levels. Some amount of cache memory is loaded on the processor, known as level 1 cache. Some amount is loaded on the motherboard, known as level 2 cache.

Following table indicates the difference between main memory and cache memory.

No.	Main Memory	Cache Memory
1.	It is also known as primary memory.	It is also known as high speed buffer memory.
2.	It is directly addressed and controlled by the CPU.	It operates and exists between CPU and main memory.
3.	It is cheaper.	It is highly expensive.
4.	The operating speed low.	The operating speed is very high and it will run at the speed of CPU.
5.	It stores large segments of programmes.	It stores small segments of programmes.
6.	It can be addressed by the user.	It cannot be addressed by the user.
7.	The memory transfer rate is low.	The memory transfer rate is high.
8.	Its access time is high.	Its access time is low.
9.	These are produced using bi-polar semi-conductor technology.	These are produced using metal-oxide semi-conductor technology.

Q.No.19. Cathode Ray Tube (CRT) Vs. Flat Panel Display Devices.

No.	Cathode Ray Tube (CRT) Display Monitor	Flat Panel Displays
1.	These are also known as Visual Display Units.	There are 2 popular technologies - Liquid Crystal Display (LCD) & Gas Plasma Technology.

2.	CRT devices use a large glass tube known as the CRT Tube. The screen of the tube is coated with tiny dots of phosphor material which glows when electrically charged. A gun inside the CRT Tube lights up the phosphorescent pixels on the screen surface.	LCD has special molecules called Liquid Crystals deposited between two sheets of material, which generates the image when electric current passes through them. Gas Plasma uses a layer of gas instead of Liquid Crystals in the LCD monitor, which glows when voltage is applied and produces image.
3.	Resolution is limited and poor.	Offer better resolution.
4.	Reliable but bulky in size.	These are lightweight and compact.
5.	Relatively inexpensive.	Relatively expensive.
6.	Consumes more power and not suitable for portable devices.	Consumes less power and are very much suitable for portable devices.
7.	Can't work effectively in the areas of magnetic interference.	Can work effectively even in the areas of magnetic interference.

Q.No.20. Direct Data Entry Vs. Remote Data Entry.

No.	Direct Data Entry	Remote Data Entry
1.	Under this method data is entered directly into the computer using machine-readable source documents or through use of on-line terminals.	Data is entered and grouped in blocks for transmission to computer from a terminal, which is located at remote site.
2.	DDE devices have the capability of scanning source documents magnetically or optically. For e.g. MICR, OCR, OMR etc.	These terminals have capability of receiving back information from computer and printing.
3.	These terminals are connected to keyboard or other input devices for direct data entry.	These terminals are connected either directly or through communication lines with the computer.

Note: Remote job entry can also be done using Direct Data Entry devices.

Q.No.21. Dumb Terminal Vs. Intelligent Terminal.

No.	DUMB TERMINAL	INTELLIGENT TERMINAL
1.	A dumb terminal is an input / output device that provides for data entry and information exit when connected to a computer.	An intelligent terminal is an Input/output device that is user-programmable.
2.	It has no such additional capabilities.	An intelligent terminal is user programmable. It contains not only a storage area but also a microprocessor.
3.	It is totally dependent on the computer to which it is connected.	The terminal can be programmed to communicate with and instruct the user

		who is entering data.
4.	Dumb terminals do not have microprocessors. Therefore, they are simple input devices that can display output from the CPU to which they are connected.	It can also do some processing of data internally such as sorting, summarizing, checking both input and computed values for reasonableness and so on. Thus it does not rely on minicomputer or mainframe computer for processing. This feature can reduce the load on the central CPU.
5.	They immediately transmit each keyed data character to the main processor. When a keying error occurs, the operator may need to backspace to the error and then re-key all later characters.	Intelligent terminals can be used on a stand-alone basis or can be part of a distributed network of terminals.
6.	Cost is very low.	Cost is very high.

Q.No.22. Key to Disk Vs. Key to Diskette.

No.	Key to Disk	Key to Diskette
1.	In this system data from a source document is directly keyed to a magnetic storage device.	It is a system in which data is keyed into a standalone data station and recorded on floppy disks.
2.	The set up for a key to disk system comprises of several keying stations, a microprocessor, a magnetic storage unit and a supervisors console as a network.	It is a standalone data station and comprises of a keyboard with a visual display unit and a floppy disk drive with small memory to hold the keyed data.
3.	The data recorded in key to disk is subsequently transferred to a magnetic tape after the verification.	In this case data can be entered and verified later. The data recorded to floppy disk is later transferred to the magnetic tape.
4.	The key to disk system ensures the accuracy of input, security and monitoring of programs.	In key to diskette system the data is captured at source thereby reducing security and lack of monitoring.
5.	When there is a breakdown of mini-processor, the total network disturbs.	It works on standalone basis. If a particular data station fails, the entire network does not disturb.

Q.No.23. Smart Terminal Vs. Remote Terminal.

No.	Smart Terminal	Remote Terminals
1.	Smart Terminals are intelligent terminals that contain a microprocessor and storage facility.	They are also known as Remote Job Terminal or Remote Job Entry (RJE). They are placed in a distant location but can be accessed through telecommunication channels.

2.	They have local data editing and processing capability before transmitting to the Central Computer.	These terminals group data into blocks for transmission to a computer from a remote site. They have the capability to receive back and print the results of the application program.
3.	Smart Terminals are non-programmable by users.	These terminals are user programmable.

Q.No.24. MICR VS. OCR.

No.	MICR	OCR
1.	MICR stands for Magnetic Ink Character Recognition.	OCR stands for Optical Character Recognition.
2.	Magnetic ink is required for printing the characters, so that they may be interpreted for processing.	In case of OCR they can be interpreted both by human beings and by machines.
3.	MICR recognizes characters that were printed in a special type of font.	OCR recognizes characters in any format.
4.	MICR is an effective method of inputting data in banking industry for encoding, decoding, sorting and keep processing of cheques.	OCR is used for automatic transcription of source documents into machine understandable format.
5.	By reading magnetic ink patterns, MICR recognizes the characters and produces appropriate signals which are transmitted to computer.	Documents are passed through a light source where the matter is recognized by a photo electric device with the procedure of absorption or reflection.
6.	Under MICR, characters are printed using magnetic ink.	Under OCR, characters are not required to be printed using magnetic ink.
7.	Works on the principles of magnetism.	Works on the principles of optics i.e. light.

Q.No.25. OMR VS. OCR.

No.	OMR	OCR
1.	OMR stands for Optical Mark Recognition.	OCR stands for Optical Character Recognition.
2.	Under this system the document is required to be passed through an optical mark page reader. The page reader will read the printed marks by absorbing light emitted on the document. Reflected light is converted into electric pulses and are sent to recognition logic circuit, where signal is processed.	It is a method of recognition of printed characters by machines. OCR systems can recognize different OCR fonts, as well as type writer and computer printed characters.

3.	Recognizes marks.	Recognizes characters.
4.	These are used in scoring tests where the examinee has to select one among several options.	Used to process turn around documents and to enter data directly into the computer.
5.	It is very difficult to design the document.	It is easy to design the document.
Both work on the principles of optics i.e. light.		

Q.No.26. Impact Printers Vs. Non-Impact Printers.

No.	Distinction	Impact Printer	Non Impact Printer
1.	Hit	These printers use some form of sticking device (hitting device) to transfer ink from an inked ribbon to the paper.	In this type of printer there will be no direct contact between the paper and the printing head. These printers form characters by chemical or electronic means.
2.	Noise	These printers make noise while printing.	Does not make noise while printing.
3.	Copies	Multiple copies can be printed at the same time by using carbon papers.	This type of printers can print only one copy at a time.
4.	Multi colour	It is not possible in impact printers.	It is possible in most of the non impact printers.
5.	Usage	These are mainly used for printing text. Low quality graphics can also be printed with some of them.	This can print both high quality graphics and text.
6.	Different font sizes & styles.	Can print documents with different font sizes and styles.	Can permit documents with different font sizes and styles.
7.	Quality	Medium. (Draft or NLQ)	Very good. (Letter quality)
8.	Areas of usage.	Used in business data processing applications.	Used in the areas of advertising and publishing where quality should be very good.
9.	Stationery	Carbons, ribbons, cartridges are used.	Many of the printers use Tenor.
10.	Examples	DMP, DAISY WHEEL etc.	INKJET PRINTERS, THERMAL, LASER PRINTERS.

Q.No.27. Microfilm Vs. Microfiche.

No.	Microfilm	Microfiche
1.	Micro film stays in a continuous form.	Microfiche is cut into pieces.

2.	They are 16mm/35mm roll of film contained in cartridges which can hold 2000-5000 pages.	They are 105 mm film measuring 4 X 6 inches sheets which can reproduce more than 270 page sized images.
3.	It can provide sequential access only i.e. to access a particular record; one has to pass on previous records.	It can provide direct access i.e. to access a particular record, it is not necessary to access previous records.
4.	Access of information is slow.	Access of information is faster.
5.	Can store huge amount of data.	Less storage capacity.

Q.No.28. Serial Printers Vs. Line Printers.

No.	Serial Printers	Line Printers
1.	Serial printers are printers which can print one line at a time, usually from left to right. However, some printers can also print in bi-directional format.	Line printers are printers, which can print one line at a time.
2.	Serial printers are generally used with microcomputers.	Line printers are generally used with mainframe and mini computers.
3.	The quality of output is high.	Quality of output is poor.
4.	They are low speed printers.	They are generally high-speed printers.
5.	These are capable of graphic applications.	Their graphics capability is limited.
6.	There are two types of serial printers - Dot matrix printers and Daisy wheel printers.	There are two types of line printers - Drum printers and Chain printers.
7.	Speed is measured in Characters Per Second (CPS).	Speed is measured in Lines Per Second (LPS).
8.	It is used where volume of output is limited.	They are used where volume of output is very high.

Q.No.29. Floppy Disk Vs. CD-ROM.

No.	Floppy Disks	CD ROM's
1.	These are direct access storage devices.	These are direct access storage devices.
2.	Their storage capacity is very less.	Their storage capacity is very high.
3.	It is possible to read, write and rewrite data.	Generally the data can be written only once and can be read many times. There is no scope for rewriting (except in some cases)
4.	Cost for storing 1MB of data is very high.	Cost of storing 1MB of data is very low.

5.	Works on the principles of magnetism.	Works on the principles of optics (Light).
6.	It uses mechanical heads for reading and writing.	It uses laser light for accessing data.
7.	The access time is very high.	Access time is very low.
8.	Consists of very less number of tracks and sectors i.e. data density is very less.	Consists of large number of tracks and sectors i.e. data density is very high.
9.	Data gets disturbed when subjected to magnetic interference.	Data does not get disturbed when subjected to magnetic interference.

Q.No.30. Floppy Disk Vs. Hard Disk.

No.	Floppy Disk	Hard Disk
1.	A floppy consists of a single disk.	Consists of number of disks called platters.
2.	The read-write head touches a floppy.	A read-write head does not touch a hard disk
3.	A floppy disk is inexpensive. But cost per 1 MB of memory is very high.	A hard disk is expensive. But cost per 1 MB of memory is very less.
4.	Slow access to data.	Fast access to data.
5.	They can be removed at any point of time. So they come under portable storage devices.	Hard disks are fixed. So, they are not portable.
6.	Floppy disk is made of flexible material called Mylar.	The hard disk consists of rigid metal (aluminum) platters.
7.	Does not work in vacuum sealed chamber.	Work in vacuum sealed chamber.
8.	Less reliable.	More reliable.
9.	Very less storage capacity.	Very huge storage capacity.

Q.No.31. Magnetic Tape Vs. Magnetic Disk.

No.	Magnetic Tape	Magnetic disk
1.	It is a sequential access storage media.	It is a direct access storage media.
2.	Very much economical for making backup copies of data.	Most popularly used secondary storage device.
3.	Data is more secured.	Data is less secured than magnetic tape.
4.	Magnetic tapes are vulnerable to dust or careless handling.	Disks are relatively sturdier and less vulnerable to damage from dust.
5.	Easily portable.	Disk packs require special care during transportation.

6.	Cheap source of storage medium.	Costlier.
7.	Rarely used as it supports sequential access only.	It is widely used because it provides direct access to data.
8.	Slow access devices.	Faster access devices.

Q.No.32. Primary Storage Vs. Secondary Storage.

No.	Primary Storage	Secondary storage
1.	Added to the system as a part and parcel of the circuitry.	Added to the system as a supplementary to primary storage.
2.	It is electronic in nature and is usually supplied in the form of chips.	Magnetic or optical in nature and supplied in the form of tapes and disks.
3.	Provides Random access to data.	Provides Sequential / direct access to data.
4.	Volatile i.e. its contents are lost when power is lost.	Non volatile i.e. it does not lose its contents even when the power is lost.
5.	Low capacity.	High capacity.
6.	Fast access to data.	Slow access to data.
7.	High cost.	Low cost.
8.	Generally a computer consists of few MB's of memory.	Generally a computer consists of few GB's of memory.

Q.No.33. Application Program Vs. Utility Programs.

No.	Application Program	Utility Program
1.	Application programs are written for the purpose of solving specific business / scientific problems.	Utility programs are available for the purpose of supporting the data processing activity.
2.	It is developed using programming language.	It is used in developing application software.
3.	It is used in carrying out the data processing jobs.	It acts as a tool in carrying out the data processing job.
4.	It gives some general solutions for related problems.	It gives specific solutions for specific problems.
5.	Professional programmers write application programs.	Software manufacturers supply the utility programs.

Q.No.34. Interpreter Vs. Compiler. / Interpretation Vs. Compilation.

No.	Distinction	Interpretation	Compilation
1.	Meaning	It is a type of translation in which one line is translated at a	It is a type of translation where the entire source programmed is

		time.	translated at a time.
2.	Interpreter/ Compiler	The translation software which translates only one line at a time is called Interpreter.	The translation software which translates the entire source programme at a time is called compiler.
3.	Storage	In interpretation every line of source programme is read and translated. The object code is created and immediately executed. When the next line is read & translated, the object code created earlier is not stored.	The entire programme is read and translated at a time. The object programme is generated and stored in the secondary storage device. Using this object programme, the programme gets executed subsequently without compilation.
4.	Translation & Execution	In interpretation, programme translation and execution always happens together line by line.	Programme translation and execution need not happen together.
5.	Number of Translations	Translation has to be done every time the programme is executed.	Translation is one time activity. Future programme executions may be done with the object programme without having repeated translation.
6.	Speed	Programme execution is slow.	Programme execution is fast.
7.	Users/Preference	Interpreters are preferred by new learners. (Or) In case the data to be translated is less.	These are preferred by professionals, for business data processing applications at large centers.
8.	Future executions.	Source programme has to be permanently present for all future programme executions.	Source programme need not be present at all times. Future executions may be done only with object programme.
9.	Error detection	Syntax Errors are detected displayed and corrected line by line.	All syntax errors can be detected, displayed and corrected together.
10.	Security to applications	Gives less security to applications because easily correctable source programmes are permanently stored for all future programme executions.	Gives more security to applications.

Q.No.35, Multiprogramming Vs. Multitasking.

No.	Multi Programming	Multitasking
1.	Multiprogramming is a technique used to execute number of programs simultaneously by a single processor.	It is the logical extension of multiprogramming and refers to the operating systems ability to execute two or more of a single user's tasks concurrently.

2.	In multiprogramming, number of processes resides in main memory at a time.	The CPU switching between them executes multiple jobs. The CPU scheduler selects a job from the ready queue and switches the CPU to that job. When time slot expires, the CPU switches from this job to another job.
3.	The operating system picks and begins to execute one of the jobs in the main memory.	Here, different processes share the CPU time. The main advantage of multitasking is efficient CPU utilization.
4.	The purpose of multiprogramming is to increase the utilization of the computer system as a whole.	It provides single user with multiprogramming capabilities.

Q.No.36. Multiprogramming Vs. Time Sharing System.

No.	Multiprogramming	Time sharing system
1.	Multiprogramming is a processing mode in which several partially completed tasks are processed concurrently.	Time Sharing is a processing system with number of independent, relatively low speed, on line, simultaneously usable stations which are geographically remote from the computer and from each other.
2.	At any time, only one task or job is actually being executed, but within a larger time span of several minutes, the computer is processing several jobs or programs, alternating between actually executing, and performing input/output activities.	Each station provides direct access to the central processor for obtaining instant responses to the questions asked or statements made in an interactive conventional mode.
3.	When one job needs to do input/output another can begin execution. Thus two or more independent programs are executed in the same time span by interleaving their execution.	The speed of the system and the use of multiprogramming allows the central processor to switch from one using station to another and to do a part of each job in the allocated "time slice" until the work is completed.
5.	The advantage of multiprogramming is that overall performance of the system can be enhanced. The speed of the CPU can be used to avoid the delays in waiting for input or output operations.	The response is so fast that the user has the illusion that no one else is using the computer, which creates an impression of having a computer for one's sole use.

Q.No.37. Multiprogramming Vs. Multiprocessing.

Multi programming is the term used to describe a processing approach in which 2 or more independent CPU's are linked together in a coordinated system. On the other hand, multiprogramming refers to the processing mode in which interleaved execution of 2 or more different and independent programs is carried out by the same computer.

Multiprogramming is not defined as the execution of instructions from several programs at the same instant in time. Rather, it means that there are number of programs

available to the CPU and that a portion of one is executed, then a portion of another and so on. On the other hand, in multiprocessing, instructions from different and independent programs can be processed at the same instant time by different CPU's. Or, the CPUs may simultaneously execute different instructions from the same program.

Q.No.38. Source Code (Program) Vs. Object Code (Program).

No.	Distinction	Source program (Code)	Object programme (Code)
1.	Meaning	It is a set of instructions written in computer language.	It is a set of instructions written in machine language.
2.	Who will prepare?	It is written by the user in a computer language.	It is generated by a process called compilation or interpretation.
3.	Input/output	It is input to compilation process	It is the output of compilation process.
4.	Readability	It is readable by the user since it is written by himself using an English like computer language.	It is not readable by the user since it is in machine language.
5.	Modifications	They can be read and modified by the user directly.	They cannot be directly modified by the user. To correct the object programme the corresponding source programme should be modified and re-compiled.
6.	Direct Execution	It cannot be directly executed without compilation.	It can be directly executed.
7.	Errors	It can contain both syntax errors and logical errors.	It can contain only logical errors. They cannot contain syntax errors since compilation process removes all syntax errors.

Q.No.39. Syntax errors Vs. Logical errors.

No.	Distinction	Syntax Error	Logical Error
1.	Meaning	These are programme errors which occur on account of wrong usage of computer language and its rules or syntax.	These are content errors that can be detected from the output of a computer programme. Here the output is different from what is expected either in value or in design or in format.
2.	Where they can Present	These can only be present in object programme since compiler will not convert it into object programme until it is syntax error free.	They may be present both in source programme as well as object programme.
3.	How identified	Can be identified by compilation Software during compilation	Cannot be identified by compiler during compilation.

4. Both are errors that occur in computer system.

Q.No.40. System Software Vs. Application Software.

No.	Distinction	System SW	Application SW
1.	Meaning	It is an important type of SW which is essential for computer system to be used by the user. Used to improve the performance and maximum utilization of system resources.	It is an important type of software which are created to achieve the end users or applications of the computer system. Used to improve the speed and quality of business activity.
2.	Examples	Operating system, Computer languages, Compilation SW, Utility programmes, Library functions, Diagnostic SW etc.	Software for stores accounting, Financial accounting, Invoicing SW, Payroll programmes etc.
3.	Who produce?	May be prepared by large SW companies like MICROSOFT. Some may also be written by system programmers.	Application SW in the form of readymade application packages may be produced by SW companies. Tailor made application SW may also be written by programmers or end-users.
4.	How prepared?	Prepared using any low level language.	May be prepared using any higher computer language or specification SW like DBMS.
5.	When procured?	It is generally procured along with HW at the time of initial purchase. But few modules may be added later also.	Generally prepared in stages one after another based on user priorities.
6.	Pupations	Once prepared doesn't change frequently except for new additions or versions.	Goes through more frequent changes whenever policies and procedures relating to the applications are changed or when application programmes need to be improved for better performance.
7.	Knowledge of Hardware	Detailed knowledge of hardware is required.	This requires detailed knowledge of organization.
8.	HW Independence	System software varies from computer to computer.	Application software varies from organization to organization.

Q.No.41. Compiler Vs. Assembler.

No.	Compiler	Interpreter
1.	Compiler is a standard program supplied by the manufacturer.	Assembler is also a standard program supplied by the manufacturer.
2.	It converts the high level language	It converts an assembly language program

	program into machine code.	into machine code.
3.	Compiler will be loaded into the computer first and then source program will be input.	Assembler is available within the memory and accepts symbols and mnemonic codes.
4.	Compiler generates an object code of the source program as a result.	It generates machine codes as a result.
5.	Compilers scan the whole program at a time.	It scans the program line after line.
6.	Compiler generates one too many instruction relationship i.e. for one high level language instruction it may generate multiple machine language instructions.	Assembler converts on one to one basis i.e. for every instruction in source code it generates an equivalent machine code instruction.

Q.No.42. MS-Windows Vs. MS-DOS.

No.	MS-Windows	MS-DOS
1.	If offers graphical user interface. (GUI)	It offers character user interface. (CUI)
2.	Easy to operate (User friendly)	Cumbersome and difficult to use.
3.	Allows to execute multiple programs at a time.	Allows to execute only one program at a time.
4.	It enables to work with large database files, spread sheets and word processing files.	Cannot support large files. The file size will be limited by the availability of primary memory.
5.	Suitable when the processing is required on a specific set of records.	Suitable when the processing is required on a specific set of columns.
6.	Easy to learn. The user need not remember the commands.	Difficult to learn. The user has to remember the commands.
7.	It is a 32 bit operating system.	It is a 16 bit operating system.

Q.No.43. Third Generation Languages (3 GL's) Vs. Fourth generation Languages (4 GL's).

No.	Third Generation Languages	Fourth generation Languages
1.	These languages are intended for use by professional programmers.	These languages are used by non-programming end-users as well as professional programmers.
2.	These languages require to specify how to perform a particular task.	It is just sufficient to specify the task required to be performed.
3.	Requires that all alternatives should be specified.	Some default alternatives are built in. User need not specify these alternatives.

4.	To solve a particular problem, it requires large number of procedural instructions.	To solve a particular problem it requires less number of instructions.
5.	Program code is difficult to read, understand and maintain.	Code is easy to understand and maintain because of English like commands.
6.	Difficult to learn.	Easy to learn.
7.	Difficult to locate errors and debug.	It is easy to locate and debug errors.
8.	E.g. FORTRAN, COBOL, PASCAL, BASIC, C, etc.	E.g. Visual Basic, Java, C++ etc.

Q.No.44. High Level Language Vs. Low Level Language.

No.	Distinction	High Level Language	Low Level Language
1.	Hardware independence	It is a computer language which is hardware independent i.e. it can be used in all computers irrespective of their types, sizes and manufacturers.	It refers to hardware dependent computer language. The language differs from one model to another model of the computer.
2.	English like language	These are highly English like languages.	These are not English like languages.
3.	Learning	They can be learned faster with minimum effort and learning is a onetime activity.	These can be learned with more effort and time and learning has to be repeated whenever hardware changes.
4.	Coded languages	These are not coded languages.	These are coded languages which use special codes close to the machine language and are called mnemonic codes.
5.	Where used	Used for developing all types of general applications.	Used only for the following specialized requirements. a. To programme and control internal devices of computer. b. To connect or link computers with other equipment. c. In special purpose computers like ATM.
6.	Execution	Slow	Fast
7.	Who uses?	These are used by all software development professionals or application programmers.	These are used only by specialized system programmers.

Q.No.45. Self (Direct) Addressing Method Vs. Indexed Sequential File organization.

No.	Self (Direct) Addressing Method	Indexed Sequential File organization
1.	In this method a record key is used as its	The indexed sequential file organization or

	relative address. Therefore, we can compute the record's address directly from the record key and the physical address of the first record in the file.	indexed sequential access method (ISAM) is a hybrid between sequential and direct access file organizations. The records within the file are stored sequentially but direct access to individual records is possible through an index.
2.	To access a particular record some calculations are required to be performed.	To access a particular record it is not required to do any calculations.
3.	It does not use any indexes.	It uses cylinder and track indexes for locating records.
4.	There is no simple relationship between the keys of adjacent records.	There exists some simple relation between the keys of two adjacent records.
5.	Insertions and deletions can be easily made.	Insertions and deletions take more time because every time it is required to update the index.

Q.No.46. Fixed Word Length Vs. Variable Word Length.

No.	Fixed Word Length	Variable Word Length
1.	In this system all words will have same length.	In this system words will vary in number of bytes.
2.	In fixed word length system every storage location is identified by a specific address.	In this system each set of bytes will have one unique address.
3.	Machines operating with fixed word length have faster calculating capabilities.	The calculating speed of variable word length machines is low.
4.	Fixed word length system maintains memory with less efficiency i.e. lot of memory will be wasted.	Variable word length machines utilizes the systems memory with higher efficiency.
5.	Access time (time required to access a particular data) is low.	Access time is high.

Q.No.47. Sequential File Organization Vs. Direct access File Organization.

No.	Sequential File Organization	Direct File Organization
1.	Data are arranged / stored in sequence either in ascending or descending order of the record key.	Data are arranged / stored without any sequence or in any specific order.
2.	Only sequential access is possible.	Accessing can be either sequential or direct.
3.	This type of organization is efficient only when there is no need for accessing records in between.	This method is suitable for accessing records in between process runs.
4.	It is suitable for batch processing system.	It is suitable for online and real-time systems.
5.	Identifying individual records is time	Identifying individual records requires no

	consuming.	time.
6.	Does not require any calculation or index for storing and accessing records.	Requires either calculation or index for storing and accessing records.

Q.No.48. Sequential File Organization Vs. Indexed Sequential Organization.

No.	Sequential File Organization	Indexed Sequential Organization
1.	In sequential file organization, records are written in the same sequence in which they are collected, but they are organized into certain order.	Indexed Sequential Organization is a combination of sequential and direct access file organization.
2.	Ordering of records within the file is according to a specific data field, which is known as key field.	Here files are recorded serially in a logical sequence; indexing or reference techniques are used so that access can be done on a random basis as well as sequentially.
3.	Records appear in sequential file one after another, in key sequence.	Records are updated in place, without the need to create entirely new files during processing.
4.	Sequential files can be read and processed only in the order in which they are recorded.	This method of file organization is used for applications that might require both sequential and random access references.
5.	Sequential organization can be used on all storage media.	It can done only on direct access storage devices.

Q.No.49. Sequential File Organization Vs. Random File Organization.

No.	Sequential File Organization	Random File Organization
1.	In a Sequential File Organization, records are written in the sequence of their occurrence.	In Random File Organization Method, record can be written randomly.
2.	Ordering of records within the file is according to a specific sequence.	Ordering of records in random file does not include any specific sequence.
3.	Sequential files can be read and processed in the order in which they are recorded.	Records can be processed or read and written in many locations throughout the stored file.
4.	To process a required record in sequential file it is necessary to read all the records preceding to the required record.	To process or access the required record in random file prior records need not be examined first.
5.	Sequential files can be created on all storage media.	Random file can be created only on direct access storage media.
6.	Sequential file is not suitable for instant inquiry or updating.	Random file is suitable for instant inquiry or updating.

Q.No.50. Batch System Vs. Real-Time System (or) Batch processing Vs. Real Time processing.

Aspect	Batch System	Real-time System
Time Lag	There is a time lag between the point at which economic event occurs and point at which it is reflected.	No time lag. Transactions are processed the moment the economic event occurs.
Resources	- Less organizational resources needed. Shorter development period and easier to maintain programs. - No idle time. Computer used only when program is run.	- Cost is more for designing the user-interfaces. Pop-up menus, online tutorials, special help menu require additional programming. - Dedicated computer system needed. Therefore, sometime remains idle.
Data Input	Data collected is accumulated over a definite period of time and then processed in batches.	Data can be input at any time and it is processed immediately.
Efficiency Vs. Effectiveness	Processing more transactions at lower unit cost makes it efficient. If process time is not important batch system can be used.	Individual transaction is processed effectively. Very much useful when the system requires latest information at any point of time.
Application	This method of processing is suited in the applications of payroll processing, customer billing etc.	This method is very much suited in the areas of airline reservation, inventory management, railway reservation, sales order processing, etc.
Storage	It is sufficient to store data one sequential access storage devices like magnetic tape, tape cartridges, etc.	Data must be stored on direct access storage devices like magnetic disc, floppies, CD's, etc.
Delay	Some amount of delay is inevitable.	Even minute delay is not acceptable.

Q.No.51. Interactive Processing Vs. Batch Processing.

Aspect	Interactive Processing	Batch Processing
Meaning	It is a type of processing mode in which continuous dialogue exists between the user & the computer. It is also called "transaction driven processing". In this method transactions are completely processed on an individual basis.	Under this method, a batch of transactions is accumulated; batch totals are calculated and stored on a floppy diskette or other media. The transactions are processed and the required master files are updated.
Transaction Method	Transactions are processed completely on an individual basis through all the relevant processing operations before dealing with next transaction.	It processes transactions in batches through each processing stage at a definite interval.
Human	Human interaction is very high i.e.,	Human interaction is very limited.

Interaction	every transaction processing requires human interaction.	
File Updation	It updates files instantaneously as transactions occur & are executed.	Files are updated only for the previous run.
Query Response	It can provide immediate response to a query.	Can't provide latest and updated information at any point of time.
Cost	It is very costly to develop such a system.	Comparatively it is cheaper to develop a system under batch processing mode.

Q.No.52. On line System vs. Real Time System.

The term on-line processing and real time processing are used interchangeably but there is a basic difference between the Two. On line processing refers to processing of individual transactions as they occur from their point of origin. This processing mode utilizes direct access devices such as magnetic disk and number of terminals connected to and controlled by a central processor. It provides multi access to information files by terminal users and also enables them to update files with transaction data. Aside from transaction processing and file updating, inquiries are also handled by the online processing system. It also ensures that the records are in updated status at any time.

The term real time processing, on the other hand, refers to the technique of updating files with transaction data immediately after the event to which it related occurs. Real time processing is basically, on line processing with one specialty in inquiry processing. On line updating in real time usually leads to transactions as a by-product. The response of the system for the inquiry itself is used to control the activity. It would normally differ from one activity to another activity. The response of a real time system is one type of feedback control system. An on-line production data collection system that simply accepts input and utilized it for payroll and costing purposes can't be treated real time, but if, on the other hand, the system is designed to provide immediate information to monitor the production process, it is real time processing.

Q.No.53. Online Systems Vs. Batch Applications.

No.	Online Systems	Batch Applications
1.	Under online processing, individual transactions will be processed as they occur, from their point of origin. Data can be captured through terminals located at several crucial points. Data collected through these terminals will be processed and stored at central location.	Under this method, a batch of transactions is accumulated; batch totals are calculated and stored on a floppy diskette or other media. The transactions are processed and the required master files are updated.
2.	At any point of time the system provides latest and updated information.	It can't provide latest and updated information at any point of time.
3.	No such system exists.	To verify the validity of data entry batch totals are computed.
4.	Cost of development and maintenance is high.	Cost of development and maintenance is low.
5.	To collect data from the point of horizon	No need to place such terminals. Even if

	terminals are installed at required places.	they are used, only dumb terminals are used.
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Q.No.54. Voice Synthesizer System Vs. Voice Recognition System.

No.	Voice Synthesizer System	Voice Recognition System
1.	Voice Synthesizer (or Voice-Output Device) is a system which converts data in main storage to vocal sounds understandable to human beings.	Voice Recognition system (VRS) is a hands-free voice interactive computer interface in which user can access the computer system by talking to it.
2.	It is an output technique.	It is an input technique.
3.	These systems are designed to replicate the voice of human beings.	They were designed for the help of physically handicapped and non-typists people to work with the computer efficiently.
4.	The output is in the form of speech and the speed and pitch of the speech can be adjusted.	Voice command driven applicants are very effective and are very well received by inexperienced users.
5.	They are commonly used in a voice output presentation in different languages for different users, multimedia presentation and children education software.	Most speech systems are used for text dictation or for single command voice menu option.
6.	Even though it is expensive it widely being used in several areas.	VRS technology is still embryonic and somewhat restricted in use.
7.	Dedicated voice synthesizing systems are available which can be connected to the computer through parallel port. The same work can also be performed by software.	It is completely software oriented. Total work will be performed by a special purpose software.

Q.No.55. Computer Network Vs. Distributed System.

A computer network is a collection of computers and terminal devices connected together by a communication system. The computer may include large-scale computers, mini computers, terminals, workstations and miscellaneous devices. 2 computers are said to be inter connected if they are capable of exchanging information. The connection need not be via a copper wire; but lasers, u-waves and earth satellites can also be used. Computer networks increase the reliability of computer resources and facilitate overall system development. They also satisfy the prime objective of resource sharing which includes device sharing, file sharing, and program sharing and program segmentation.

A distributed system is one in which the computing functions are dispersed among several physical computing elements. Computer systems are arranged in a computer network, with each system connected to one or more other systems. A distributed system is both a technological and organizational concept. Its premise is that information processing can be more effective if computer hardware, data, software and in some cases, personnel are moved

physically closer to the people who use these resources. In distributed system, users have greater control over their computing environment.

Network may or may not be distributed system, depending on how it is used.

Q.No.56. Local Area Network (LAN) Vs. Wide Area Network (WAN)

No.	Difference	Local Area Network	Wide Area Network
1.	Spread/ Coverage	A LAN is restricted to a limited geographical coverage of few kilometers.	WAN spreads over greater distance and may operate nationwide or even worldwide
2.	Data transmission errors.	Fewer data transmission errors occur in case of LAN because the distance covered is less.	When compared to LAN, error rate is more because the distance covered is more.
3.	Data transmission speed.	Data transmission speed is much higher in LAN than in WAN. Typical transmission speeds in LAN'S are 0.1 to 10 MBPS.	In a WAN the data transmission speed ranges from 180 to 9600 Bits per second
4.	How nodes are connected?	In a LAN, computers, terminals and peripheral devices are usually connected with wires and coaxial cables.	But in WAN there may not be direct physical connection between various computers.
5.	Cost of transmission.	The cost to transmit data in a LAN is negligible since the transmission medium is usually owned by the user organization.	Cost will be high because the transmission medium used is leased lines or public systems such as telephone lines, microwaves and satellite links.
6.	Communication Mode	Communication may take place just by a way of direct cabling.	Communication takes place by way of telecommunication cables, satellites or microwaves.
7.	Security	Security is not that much important because the network runs within the organization.	Security is very important because the network has to run outside organization also.

Q.No.57. Serial Transmission Vs. Parallel Transmission.

Serial Transmission: Serial Transmission is the most commonly used method of communication. In serial transmission bits of each byte are transmitted one after the other along a single path. Then the receiver assembles the incoming bit stream into characters. In serial transmission, the bits of each byte are sent along a single path one after another. An example is the serial port (RS-232), used for Mouse or MODEM. Serial transmission can occur in any of the two ways - Asynchronous & Synchronous transmission.

Advantages:

- ▶ It is a cheap mode of transferring data.
- ▶ It is suitable to transmit data over long distances.

Disadvantage: This method is not efficient (i.e. slow) because it transfers data in series.

Parallel Transmission:

- ▶ In parallel transmission all bits of each byte are transmitted simultaneously i.e. each bit will have a unique channel dedicated to it. For ASCII character we need eight channels. All bits are transmitted together and arrive at the destination together.
- ▶ Example – Parallel port being used for printers.

Advantages: Data can be transmitted at a very high speed.

Disadvantage:

- ▶ Not suitable for transferring data over long distances. As it uses parallel paths, cross talk may occur. To minimize cross talk, cable length should be limited.
- ▶ It is costly. (Because there should be separate channel for each bit)

Q.No.58. Difference between Serial transmission and parallel transmission.

No.	Serial transmission	Parallel transmission
1.	The bits of each byte are sent along a single path one after the other.	In parallel transmission, there are separate parallel paths corresponding to each bit of byte.
2.	Bits in a byte are transmitted one by one.	All character bits are transmitted in parallel, at a time.
3.	It is used to transfer data over long distances.	It is used to transfer data to limited distances.
4.	The rate of data transmission is very slow.	The rate of data transmission is very high.
5.	It is used where less volume of data is to be transmitted.	It is used where more volume of data is to be transmitted.
6.	It is economical.	It is costly.

Q.No.59. Synchronous Transmission Vs. Asynchronous Transmission.

No.	Synchronous	Asynchronous
1.	In this transmission bits are transmitted at fixed rate.	In this transmission takes place in form of words accompanied by stop and stop bits.
2.	This allows characters to be sent down the line without start-stop bits.	Transfers the data with start-stop bits.
3.	It allows data to be sent as a multi-word blocks.	Data transfer takes place in the form of words.

4.	Uses a group of synchronization bits.	No special synchronization bits to synchronize the equipment.
5.	Rate of transferring data is faster.	The transfer rate is slow.

Q.No.60. Star Network Vs. Ring Network.

No.	Star Network	Ring Network
1.	It is a type of network topology in which all nodes are connected to a central computer/hub through dedicated cables.	It is a type of network topology in which all nodes are connected in the form of a circular chain.
2.	The communication takes place between the nodes through the hub/computer only i.e. all communication between terminals must pass through hub/computer.	The communication takes place by each node to receive and check for the message i.e. every node receives message and passes it to the next node.
3.	A broken connection between hub/central computer and node does not affect the rest of the network.	A broken connection between nodes leads to failure of entire network.
4.	Failure in the hub/central computer affects all nodes connected to that hub.	Failure in one node does not affect the entire system.
5.	The signal becomes weak when it has to travel long distances. To avoid it, repeaters are required to be used.	Repeaters are not needed. Every computer acts as a repeater.
6.	It is very easy to add/remove a node from the network.	It is difficult to add/remove a node from the system.

Q.No.61. Internet Vs. Intranet.

No.	Internet	Intranet
1.	The Internet is a global network of computer networks that are formed by various educational, commercial, Government, non-profit and military organizations.	On the other hand intranet is a type of information system that facilitates communication within the organization, among widely dispersed departments, divisions and regional locations. Intranet connects people together with Internet technology using web browsers, Web Servers and Data warehouses in a single view.
2.	This is not being developed and controlled by a single person or organization.	It is developed and controlled by private individuals and organizations.
3.	Internet is a public network. So, anybody can log into the network and perform any action at his choice.	It is a private network and access to private individuals is restricted by user names and passwords.
4.	Thousands of databases exist which can be accessed and used by private individuals.	Only authorized persons are allowed to access the data available in organization's databases.

5.	An internet can be defined as a network of networks.	An intranet can be a LAN or WAN that belongs exclusively to a corporation.
6.	Any node can transmit a message to any other node, along with communication channels, via the intermediate nodes. Internet users are many; some of them are given below: Communication, Data Retrieval, Data publishing, etc.	Several applications of Intranet include: (a) Supplier management (b) Inventory management (c) Distribution management (d) Channel management
7.	Acts as an information service to retrieve the information worldwide.	Acts as an information service to retrieve and share files within the organization.

Q.No.62. Firewall Vs. Encryption.

No.	Firewall	Encryption
1.	They control the flow of traffic between the Internet and the firm's internal LANs and systems. They are setup to implement the security policies desired by the organization.	This allows information to transit the Internet while being protected from interception. There are two basic approaches to encryption: Hardware encryption and Software encryption.
2.	It is software oriented.	It is both hardware and software oriented.
3.	Controls the flow of traffic between the Internet and the firms internal LANS and systems.	It protects the information transmitted through Internet from eavesdroppers.
4.	It is defined based on specific security policies of the organization.	It is a generalized policy with reference to information transmission.
5.	It is an effective means of protecting the firm's internal resources from unwanted intrusion.	Restricts the tampering of information from interception while in transmission.
6.	May be established for the entire LAN or for a specific application.	It will be application specific.

Q.No.63. Data Administrator (DA) Vs. Data Base Administrator (DBA)

No.	Data Administrator (DA)	Data Base Administrator (DBA)
1.	A Data Administrator logically defines data and also advises the users on data collection procedures.	Data Base Administrators physically define the data and prepare programs to create data.
2.	They answer and educate the end users and determine their requirements.	They answer and educate the programmers and define the programming requirement.
3.	They develop standards for data definition.	They implement the standards for data definition.

Q.No.64. Data Definition Language Vs. Data Manipulation Language.

No.	Data Definition Language	Data Manipulation Language
1.	Data definition language is the link between the logical and physical structures of the databases.	It provides techniques for processing the database.
2.	It is used to define the physical characteristics of each record.	It is used to perform operation on data such as retrieval, sorting and display.
3.	It provides for physical and logical data independence.	It provides for independence of programming languages.
4.	It describes the schema and sub-schemas.	It enables the user and application programs to process data on a symbolic logical basis rather than on physical location basis.
5.	It takes care as to how the data is maintained in physical storage.	It separates the user from physical storage.

Q.No.65. Database Vs. Database Management System (DBMS)

No.	Data Base	Data Base Management System
1.	Database is a collection of related data necessary to manage an organization and excludes temporary data like input documents, reports and intermediate results obtained during processing.	DBMS is a set of procedures which manage the databases and provide access to the database in the form required by an application program.
2.	It models the data resource of an organization using the relationships between different data items, which is independent of any application program.	It ensures that the necessary data in the required form is available for different applications of different users of an organization.
3.	When data is stored in a database it becomes independent of other programs. So, it can be processed, retrieved very easily.	Database management system (DBMS) provides flexibility in storage and retrieval of data and production of information.
4.	Database represents data belonging to the entire organization.	It represents software which manages such database.
5.	Data can be arranged in any of the following ways – Hierarchical, Relational or Network databases.	Such data can be maintained by ordinary database management systems or relational database management systems.

Q.No.66. Logical Record Vs. Physical Record.

No.	Logical Record	Physical Record
1.	A logical record contains all the data	A physical record refers to the actual

	related to a single item. It may be a payroll record for an employee, or a record of all of the charges made by a customer in a departmental store.	portion of a medium on which data is stored. It may be group of pulses recorded on a magnetic tape or disk, or a series of holes punched into paper tape.
2.	A logical record is independent of its physical environment.	Portions of the same logical record may be located in different physical records or several logical records or parts of logical records may be located in one physical record.
3.	It refers how data is presented to the user.	It refers how data is actually stored in the computer.

Q.No.67. Structured Query Language (SQL) Vs. Query By Example (QBE).

No.	Structured query Language (SQL)	Query By Example (QBE)
1.	SQL is a query language for finding out the required data from the RDBMS by asking some standard questions.	QBE is a query language where queries are framed through examples.
2.	It is usually a Character oriented interface.	It is Graphic oriented interface.
3.	The users request data by issuing instructions that are close to English.	The users can request data by typing values or expressions into the fields of a form or grid.
4.	It contains the statements that describe the data contained in the database.	It uses grid like structures to receive the criteria data.
5.	It requires the internal structure of the data tables.	It displays a list of tables in the form of a window grid or dialog boxes and allows selecting interactively.

Q.No.68. Vertical Partitioning Vs. Horizontal Partitioning

No.	Horizontal Partitioning	Vertical Partitioning
1.	Horizontal Partitioning breaks a relation into multiple record specifications by placing different rows into different records based upon common column values.	Vertical Partitioning distributes the columns of a relation into separate files, repeating the primary key in each of the files.
2.	Each file created from the partitioning has the same record layout.	Each file created from a vertical partitioning does not have the same record layout since different record fields will be extracted.
3.	It is beneficial when different categories of rows of a table are required to be processed separately.	It is beneficial when different particulars about the same record should be made available to different departments.
4.	Example: Breaking of a Customer Record	Example: An employee related details can

	File into different regional customer files based on the value of a field Region.	be broken into Payroll Particulars for the Finance Department; and Past Experience, Performance Evaluation Particulars for the HR Department.
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Q.No.69. Auditing Around the Computer Vs. Auditing Through the Computer.

Particulars	Auditing around the Computer (Black Box Approach)	Auditing through the Computer (White Box Approach)
Recognition of Computers	Under this approach computers are treated as mechanical book keeping aids.	Computers are used as “live” and dynamic devices, which add value to the process of auditing. They are the target of auditing.
Focus of Audit & Means of Audit Assurance	The focus of audit is to take voluminous reports and outputs, and compare “input vouchers” with “system outputs” to obtain audit assurance.	The focus of audit is to peruse the accounting system and software used to ensure that they provide audit assurance on the various aspects of control.
Use of Computers	Computers are only considered as systems, which provide legible printouts of the accounting transactions. Auditors traced transactions to the “black box” and picked up the trail on the other side by examining printouts.	Computers are used to check calculations, to compare the contents of two files, to examine files for missing amounts, and to analyze accounting data by finding ratios etc.
Use of CAAT's	No regard is paid to the transformation of data that takes place inside the computer.	CAAT's and audit software tools are used to analyze transformation of data.

Q.No.70. System Flowchart Vs. Program Flowchart.

No.	System Flowchart	Program Flowchart
1.	It is designed to present an overview of the data flow through all parts of a data processing system.	It is designed to present the logic involved in the problem.
2.	It represents the flow of documents, the operations or activities to be performed and the persons or workstations involved.	It represents the flow of data in the processing of the problem logic.
3.	It represents how input data is prepared and the medium or device used.	It represents the input required and output generated by the program.
4.	It indicates the intermediary and final output prepared and the medium and devices used for their storage.	Represents actual processing of data to convert into information.
5.	It includes the sequence of operations involved.	It includes the sequence of operations in solving a specific problem.

Q.No.71. Centralized Processing Vs. Distributed Processing.

No.	Centralized Processing	Distributed Processing
1.	It refers to an environment consisting of a large mainframe computer system that supports multiple users and multiple application programs.	Distributed processing seeks to spread the computing needs across the organization. There may be one large central computer with a series of small computers or mini or microcomputers or there may be number of computers of equal size scattered geographically.
2.	Users can access computer resources via hundreds of remote communication devices including on line terminals used to input data and printers to obtain reports.	In distributed processing the individual computers are tied together through a high-speed data communication network.
3.	Highly skilled, technically trained specialists are required to operate the system.	People with functional knowledge can also manage the system.
4.	This mode of processing is comparatively cheap. It also offers better control and protection of data.	This mode of processing incurs more expense with limited security, controls and protection of data.
5.	Can work effectively in small organizations.	Suitable even for big organizations.
6.	Generally, a dumb terminal will be allotted to each employee.	Generally, an intelligent terminal will be allotted to each employee.
7.	If the central computer fails, the entire network stops performing.	Even if the central computer fails, the network continues to function.

Q.No.72. File Access Method Vs. File Organization Method.

No.	File Access Method	File Organization Method
1.	Access refers to reading of data from the file.	Organization refers to the physical arrangement of data on the files.
2.	There are two ways of accessing the data i.e. sequential and direct.	There are five ways of organizing the data.
3.	Sequential access refers to reading the data sequentially.	Serial and sequential access allows storing data in a particular order.
4.	Direct access refers to reading data without any order.	Self-addressing, ISAM, random methods allows to store data without any order.
5.	Direct access is possible only on direct access storage devices like magnetic disk or compact disk.	Depending upon the organization requirement, one of the media will be selected.

Q.No.73. Loader Vs. Linker.

Both loader and linker are system software. However, a loader is a component of the operating system that locates a given program which can be an application program or even a part of the operating system from the offline storage such as a hard disk, and then loads it into the random access memory.

On the other hand, a linker is used to perform the linking process. Any program written in high level or assembly language has to be translated into machine language (object program) before it can be run on a computer. Usually, a program is split into number of small modules. These modules are compiled or assembled individually. This results in number of object programs or modules. All these individual object modules are to be combined or linked to create one single object module before executing the program on the computer. This process of linking is done by Linker.

A linker enables a computer system to access modules, subroutines, overlays and other segments of an application program that are stored on the disk. The linker finds the required program segment and supervises the transfer of computer control to the segment to be executed. The linker also enables the program to access standard subroutines stored for the convenience of users.

No.	Loader	Linker
1.	It is system software provided as an additional component of operating system.	It is system software provided as a component of language translators.
2.	It is used to load operating system components or application from secondary memory to main memory.	It is used to look the modules of an application and to load them to main memory.
3.	It is used in loading individual components of operating system or application.	To link and load the components of applications.
4.	It controls and supervises the transfer of operating system components.	It controls and supervises the transfer of program modules.

Q.No.74. Parity Check Vs. Echo Check.

No.	Parity Check	Echo Check
1.	Parity check is among the most effective hardware controls that provide a check on the integrity of data representation system.	Echo check is a hardware check applied to check the mechanism of the input/output devices.
2.	Parity checks provide timely detection of errors of loss/gain in a bit as a result of dirt, magnetic storm etc.	It verifies whether a device has been activated to carry out an operation, which it has been instructed to perform.
3.	It is an extra bit that is added to the code for each character in order to make the number of 1 bit odd (or even).	The echo check verifies that the equipment was activated rather than testing the actual results obtained.
4.	The oddness (or evenness) of the bits is checked to detect loss of bits during	Example: When the data channel is ready to transmit data to the printer, it transmits a

transmission of data.	signal that activates the printer. If the printer is ready, it sends an echo signal to the data channel. If the printer does not send the echo signal, the data channel postpones transmission and signals the operator that the printer needs attention.
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Q.No.75. Throughput Time Vs. Turnaround Time.

Distinction	Throughput Time	Turnaround Time
Meaning	Throughput is measure of the total amount of processing that a computer system can complete over a fixed period of time.	Turnaround time refers to the elapsed time between the submission of a batch job and the availability of the output from the computer center.
Operating Time	In batch-serial environment, throughput time of a computer will be comparatively lesser than Turnaround Time.	In batch-serial environment turnaround time is longer.
Use of Multiprogramming	By using multiprogramming, the total throughput of a computer can be increased since the CPU does not wait for input-output of the programs it is executing.	In multiprogramming environment, the turnaround time for short jobs can be reduced.

Q.No.76. Virus Vs. Worms.

No.	Virus (May 1999, Nov 2001)	Worms
1.	Viruses are self-replicating program code that are inserted into other executable code.	Worms are destructive programs that may destroy data or utilize computer and communication resources by duplicating themselves.
2.	They may lie dormant for some time before getting triggered by certain events or occurrences, such as a date or on being copied at a pre-specified number of times.	Worms run independently and travel from machine to machine across network connections.
3.	They are not capable of self-actuating.	They are self-actuating and self-sustaining.

Q.No.77. ALU Vs. CU

No.	ALU	CU
1.	It performs all arithmetic and logical operations.	It controls input-output devices as in the brain (or) Central nervous system of the human body.
2.	It performs the real execution of	It does not perform any actual processing

	instructions.	on the data.
3.	It receives the data and information stored in the storage unit and performs all necessary operations and are released to an output device.	It selects, interprets and looks after the execution of the program instructions and it is used to direct the entire system's operations.
4.	The data flows between this unit and the storage unit during processing.	It orders and directs the flow of sequence of operations and data within the computer.

Q.No.78. Difference between PROM and EPROM.

No.	PROM	EPROM
1.	It is programmable Read Only Memory.	It is Erasable Programmable Read Only Memory.
2.	Data can be stored only for one time. Data once stored can't be changed or erased.	Data can be stored for any number of times i.e. old data can be removed and fresh data can be recorded once again.
3.	Alteration of data is not possible here. Once data is stored it is permanent.	Alteration of data is possible here. If it is required to change data, it is sufficient to expose it to ultraviolet rays. Now it is ready to use once again.

Q.No.79. Semi-conductor memory Vs. Bubble memory.

- **Semi Conductor memory is made up of very thin silicon chip which contains number of small storage cells that can hold data. Instead of being made up of a series of discrete components, these units are constructed as integrated circuits, meaning that number of transistors are integrated or combined together on a thin silicon wafer to form a complete set of circuits. The faster and more expensive bipolar semi conductor chips are often used in ALU and high speed buffer storage sections of the CPU, while the slower and less expensive chips that employ metal-oxide semi-conductor technology are used in main memory section.**
- **On the other hand, bubble memory is composed of small magnetic domains formed on a thin single-crystal film of synthetic garnet. These magnetic bubbles, which are actually magnetically, charged cylinders, only a few thousandths of a centimeter in size, can be moved across the garnet film by electric charge. The presence or absence of a bubble can be used to indicate whether a bit is 'on' or 'off'. Since data stored in bubble memory is retained when power to the memory is turned off. Thus it can be used for auxiliary storage. Bubble memory has high potential because of its low production costs and direct access capabilities, thus it may become widely employed as main memory technology. Since it is small, lightweight and does not use very much power, bubble memory is finding a great deal of used as an auxiliary storage in portable computers.**

Q.No.80. Text editor Vs. Word processor.

Text Editors can edit plain text only and does not offer formatting features. The user must hit ENTER at the end of each line. They are good for short documents or e-mail text bodies, HTML, web pages and writing programs.

Word Processors edit text and allow embedded formatting for words, paragraphs and whole documents. They also support word warp, margins and different typefaces in the same document.

Word processors are specifically designed to prepare such document material as letters and reports whereas text editors are designed to manipulate non-document instructions in computer programs or data. Text editors lack the text formatting and document printing capabilities of word processors.

Q.No.81. Type face Vs. Font.

A typeface is set of characters making up an alphabet that all share similar design characteristics (this says nothing about size, weight, style, etc). A font is a typeface of a particular point size, weight and style. For example, "Times-Roman" is a typeface, but "Times-Roman, 12 point, bold, italic" is a font.

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Tho, If Any Error Is Found By Anyone They Can Kindly Communicate The Same To My Email (Or) Other Communication Means Given Below.

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