IMPORTANT QUESTIONS FOR SECTION B **COMPUTER**

Q.1 What do you knowabout IPV4 address?

IPV4 ADDRESS

In Computer Networking, An IP address is aunique number or address used to identify a device on a network. The device could be a computer, printer, smart phone, tablet, etc. Every device connected to the internet must havean IP address to communicate with other devices.IP address acts as a telephone number or a car registration number. It shows ownership and location. IP address allows a device to communicate and be located by other devices on the internet. IPV4 stands for Internet Protocol version 4.

An IPV4 address is made up of 32 binary bits, which is divided into two parts, network and host

Q.2 Define Computer

COMPUTER is an Electronic Data Processing Machine or Device that performs processes, calculations and operations based on instructions provided by a program. Today, computers are used in fields of Business, Industry, Education, Banking, Transportation,Research, Explorations, Media, Entertainment, etc.

Q.3 Why Charles Babbage is CalledFather of Computer?

BABBAGE'S DIFFERENCE AND ANALYTICAL ENGINES (1822 & 1837 A.D.)

Charles Babbage was an English mathematicianand mechanical engineer. CHARLES BABBAGE IS KNOWN AS FATHER OF COMPUTER because he developed the firstcomplete computing machine

(i) DIFFERENCE ENGINE 1822 to 1823

Difference Engine was the first invention. It wasan automatic mechanical calculator. It was a large machine, made of metal and was powered by steam. The Difference Engine had storage (mechanical memory) that could hold the data temporarily for processing and to store results.It was used to allow a user to enter calculationsand get printed results. The Difference Engine worked on difference of equations.

(ii) ANALYTICAL ENGINE 1833 to 37

Charles Babbage designed another machine called Analytical Engine in 1933 to 1937. The proposed design included an ALU with basic programmatic flow control. It was programmedusing punched cards and contained integrated memory. Historians consider it to be the first design concept of a general-purpose computer because of its comprehensive & complete design.

Q.4 Discuss ELECTRO- MECHANICAL ERA with thefeatures of Tabulating Machine?

ELECTRO-MECHANICAL ERA (MIDDLEAGE)

This Period or Age starts from the mid of 19thcentury. In this era scientists became able to develop faster and more accurate computing machines as they were powered by steam and electricity. One of such machines was TABULATING MACHINE.

HERMAN HOLLERITH'S TABULATINGMACHINE (1890 A.D.)

Tabulating Machine was invented by an American inventor Herman Hollerith in 1890. Hollerith's first tabulator was used for the U.S. 1890 Census. Because of Hollerith's tabulating machine census data took only six months to compile, which was very fast as compared to previous U.S. census in 1880 which took almost 7years to be completed. Punch Card & Hollerith Tabulating Machine became very famous and used in many offices of U.S. Government and IOs

Q.5 Define OperatingSystem?

An OPERATING SYSTEM is software which performs all the basic tasks like booting the computer, File management, Memory management, Process management, and controlling peripheral devices such as hard disk,printer, etc. It manages computer resources efficiently. Most common operating systems are:DOS, Windows, Linux, Android, and Mac OS

Q.6 Define CLI andGUI?

(a) CLI (Command Line Interface)

A Command Line Interface (CLI) is a screen ortext-based representation in which the usertypes the commands on place called prompt to operate the computer. Command contains stringof characters.CLI is difficult to use because the user has to remember the commands and their syntaxes but it is fast in use because text mode takes less resources. It was primarily provided to users by computer terminals on UNIX, and personal computers including MS-DOS and Apple DOS.

(b) GUI Graphical User Interface

A GUI provides a user-friendly environment where user can interact with computers throughgraphical objects such as menus, icons, buttons and other graphical objects. It is easy to use as users are supposed to just click on a picture to run commands without memorizing them. GUI is slower than CLI as graphical mode takes more memory and resources. Windows and IOS are the example of GUI

Q.7 Define Data Communicationand Data Transmission?

DATA COMMUNICATION:

Data Communication is the process of transferring data electrically from one place to another. It is the process of exchange of data andinformation between human and electronic or computing device.

DATA TRANSMISSION:

The data transmission means emission of data inany direction via wireless or wired medium.

Transmission may occur between source anddestination

Q.8 **Define Single-Userand Multi-User Operating System?**

Single User and Multi-user Operating System **In a *SINGLE USER OPERATING SYSTEM*, a single user can access the computer system at atime. These types of operating systems are commonly used. DOS for PCs and Windows 98for PCs are example of single user operating system.**

A *MULTI-USER OPERATING SYSTEM* allows multiple users to access the computer at same time. The operating system manages the memory and resources among the various users according to the requirement. Linux and UNIX are the most common examples of the multi-useroperating system.

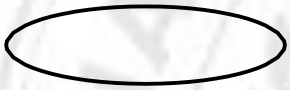
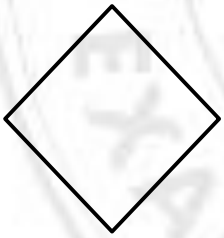
Q.9 Differentiate between Analog and Digital Signal?

ANALOG SIGNAL	DIGITAL SIGNAL
1 Analog signal is a continuous wave that changes by time period.	1 A digital signal is a discrete wave that carries information in binary form.
2 Analog signal has no fixed range.	2 Digital signal has a1.
3 An analog signal caneasily be disturbed by other signals or waves.	3 A digital signal is lessprone to other signals disturbance.
4 The human voice is example of an analog signal.	4 Signals used by computer are the digitalsignal.
5 An analog signal is represented by a sinewave.	5 A digital signal is represented by squarewaves.
6 Analog signals are long term waves needto be boosting.	6 Digital signals are shortterm signals remain within digital devices / electronic.

Q.10 What are the components of ERdiagram?

COMPONENTS OF ER DIAGRAM

ER Design is made up of different components like Attributes, Relationships, etc. There are defined symbols and shapes to represent each oneof them. Some of the shapes used to define these components are:

	A rectangle is used to Define an **entity**. This can be any real-world object like Student, Teacher, Class, etc.
	An ellipse defines an **attribute** of an entity. One entity may contain multiple attributes and are de□ned by multiple ellipses.
	**Relationships** are symbolically represented by diamond shape. It simply states the type of relationship between two entities.

Q.11 Define any one of them?

a) Primary Key

b)Foreign Key

PRIMARY KEY

A primary key is a unique key, used to uniquelyidentify a record in an entity.

*** The attribute (field) must contain a uniquevalue to identify a record.**

*** The value of the attribute where Primary Keyis applied, cannot be null.**

FOREIGN KEY

In a Database, A foreign key is used to define theconnection or relation between two entities. The foreign key of one entity is arrange to be connected to the primary key of another entity. When a foreign key is applied on an attribute, it applies that the value for that attribute should match any record in the related entity having a primary key

Q.12 Define Data Types?Discuss any 3 of them?

DATA TYPES

All fields in a table must have some data type. Data type is a data storage format that can contain a specific type or range of values. The data type of a field is a property that tells what kind of data that field can hold.

Here are some basic data types.

DATA TYPE	DESCRIPTION	EXAMPLES
Integer	Holds only whole numbers.	945, -15, 44586
Floating Point	Holds numbers with decimal points.	9.6, 7.14, 504.9
Character	Stores only one character.	A, E, c, f

Q.13 What can softwareengineer do?

SOFTWARE ENGINEER

A Software Engineer is a person who uses different programming languages to developsoftware products like games, Learning Management System (LMS), business applications, educational and entertainment Software

Q.14 Define?

a) Register b)Cache memory

REGISTERS

It is a temporary storage area that holds the datathat is being processed. It is also known as programming model which may be of 8 bits, 16 bits, 32 bits or 64 bits.

CACHE MEMORY

Cache is an intermediate storage area, which is available inside microprocessor. The immediate processed information is stored in cache. Thecache inside the microprocessor is called internalcache and outside is called external cache.

Q.15 Define Assembler,Compiler & interpreter?

ASSEMBLER:

Assembler translates the program written in assembly language into machine language instructions for execution.

COMPILER:

Compiler translates the entire high-level language program at once into machine language before it is executed.

INTERPRETER:

It translates the high-level language program lineby line into machine language.

Q.16 Discuss OSI ModelBriefly?

OSI MODEL

OSI stands for Open Systems Interconnection. OSI model is a conceptual model developed by ISO. It characterizes and standardizes the communication functions of a telecommunication and computing network. Itsgoal is the interoperability of different communication systems with standard communication protocols. This model divides a communication system into seven abstraction layers