

ONE MARKS QUESTION AND ANSWERS

➤ Question No 1 – Typical Configuration of Computer System:

1. What is a motherboard?
 - The motherboard is the most important circuit board of the computer; all the components used in a computer are connected to the motherboard.
2. What is Microprocessor?
 - The CPU is fabricated as a single Integrated Circuit (IC) and is also known as Microprocessor. The microprocessor is plugged into the motherboard of the computer.
3. What is the purpose of registers in the CPU?
 - Registers in CPU are used to store temporary data and address which are required for processing.
4. How does the computer communicate with other devices?
 - The computer communicates with other devices with the help of buses.
5. What is system bus?
 - A data bus, control bus, and the address bus collectively called as the system bus.
6. What is the function of control bus?
 - The control bus carries signal, which are used to control the access and use of data and addresses.
7. What is a data bus?
 - Data bus provides a path to transfer data between CPU and memory.
8. What is a port?
 - A port is a socket on the computer used to connect external device to the computer.
9. What is an interface?
 - An interface is a hardware used to connect external device to the computer.
10. Expand PCI.
 - PCI stands for “**Peripheral Component Interconnect**”.
11. How many bits of data are sent in a serial port?
 - The serial port can transfer one bit at a time.
12. Expand USB.
 - USB stands for “**Universal serial Bus**”.
13. Give one feature of USB port.
 - With USB, a new device can be added to the computer without adding an adapter card or even turning the computer off.

14. What is meant by plug and play device?

- USB is a plug and play interface between computer and add-on device i.e. a new device can be added to the computer without adding an adapter card or even turning the computer off.

15. Name any one USB device.

- Pen Drive is an USB device.

16. Is device controller a hardware or software?

- Device controller is hardware.

17. What is cache memory?

- The cache memory is a very high speed memory placed between RAM and CPU.

18. Where is L1 cache located?

- L1 cache is located inside the CPU.

19. Where is L2 cache located?

- L2 cache is located outside the CPU on the motherboard. (or between RAM and CPU)

20. Expand SDRAM.

- Synchronous Dynamic Random Access Memory.

21. Give the expansion of DDRAM.

- Double Data Rate Random Access Memory.

22. Expand SMPS.

- SMPS stands for “**Switch Mode Power Supply**”.

23. What is the use of SMPS?

- In a PC the power is supplied to the different parts of computer is by SMPS which converts 230 Volts of AC to 5 to 12 DC Volts.

24. What is approximate power consumed by a PC?

- The approximate power consumed by a PC is about 400 watts.

25. Expand UPS.

- UPS stands for “**Uninterruptible Power Supply**”.

26. What is the use of UPS?

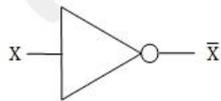
- UPS keeps a computer running for several minutes to hours after a power failure.

27. List the types of UPS.

- UPS is of two types Offline UPS and Online UPS.

➤ **Question No 2 – Logic Gates:**

1. What is a logic gate?
 - A Gate is a simply an electronic circuit which operates on one or more input signals and always produces an output signal.
2. Mention the three basic logic gates.
 - The three basic logic gates are NOT, AND, OR
3. Which basic gate is named as Inverter?
 - NOT gate is named as Inverter.
4. What is truth table?
 - A table which represents all possible values of logical variables along with the all possible results of the given combination of values.
5. Write the logic circuit for NOT gate.



X	\bar{X}
0	1
1	0

6. Write the truth table for NOT gate.
7. Write the logic circuit for AND gate.



X	Y	F = X.Y
0	0	0
0	1	0
1	0	0
1	1	1

8. Write the truth table for AND gate.
9. Write the logic circuit for OR gate.



X	Y	F = X+Y
0	0	0
0	1	1
1	0	1
1	1	1

10. Write the truth table for OR gate.
11. What is meant by universal gates?
 - Universal gate is a gate using which all the basic gates can be designed.
12. Mention different universal gates.
 - NAND and NOR are the universal gates.
13. What is the output of the two input NAND gate for the input A=0, B=1?
 - When A=0, B=1 then the output of NAND gate is 1.
 - A NAND B = $\overline{0 \cdot 1} = \overline{0} = 1$
14. What are the values of inputs to a three input NAND gate, if its output is 1?
 - NAND gate produces 1 if any input represents a 0.

15. What are the values of inputs to a three input NAND gate, if its output is 0?
- NAND gate produces 0 if any input represents a 1.
16. What is the output of the two input OR gate for the input A=0, B=0?
- When A=0, B=0, then the output of OR gate is 0.
 - $A \text{ OR } B = A + B = 0 + 0 = 0$
17. What are the values of inputs to a three input OR gate, if its output is 0?
- OR gate produces 0 if any input represents a 0.
18. What are the values of inputs to a three input OR gate, if its output is 1?
- OR gate produces 1 if any input represents a 1.

➤ **Question No 3 – Data Structures:**

1. What is Data structure?
 - Data Structure is the way of collecting and organizing the data in such a way that we can perform operation on these data in an effective way.
2. What are primitive data structures?
 - Data structures that are directly operated upon the machine-level instructions are known as primitive data structures.
3. Give any two examples for primitive data structures.
 - The integers, float, character data, pointers are primitive data structures.
4. What are non-primitive data structures?
 - The Data structures that are derived from the primitive data structures are called Non-primitive data structure.
5. Mention any two examples for non- primitive data structures?
 - Array, stack, queues, linked list, tree and graph are non- primitive data structures
6. What are lists?
 - Lists are linear collection of data items.
7. What is meant by linear data structures?
 - Linear Data structures are kind of data structure that has homogeneous elements.
8. What are non-linear data structures?
 - A Non-Linear Data structures is a data structure in which data item is connected to several other data items.
9. Define an array.
 - An array is an ordered collection of elements of same data type that share common name.

10. Differentiate between one-dimensional and two-dimensional array.

- In one-dimensional array we use only one subscript to identify an element where as in two dimensional arrays we use two subscripts.

11. What do you mean by traversal operation?

- The processing of accessing each element exactly once to perform some operation is called traversing.

12. Define searching.

- The process of finding the location of a data element in the given collection of data elements is called as searching.

13. Mention the types of searching in the array.

- Linear Search and Binary Search.

14. Define sorting.

- The process of arrangement of data elements in ascending or descending order is called sorting.

15. What is a stack?

- A stack is an ordered collection of items in which an element may be inserted or deleted only at same end.

16. Name the data structure which is called LIFO.

- A LIFO (Last In First Out) data structure is also called as stack.

17. What is LIFO list?

- A stack data structure which follows LIFO (Last In First Out) list principle.

18. What are the operations that can be performed on stacks?

- Stack(), push(item), pop(), peek(), isEmpty(), size() are the operations of stack.

19. Define the term PUSH and POP operation in stack.

- The process of adding one element or item to the stack is represented by an operation called as the PUSH operation.
- The process of deleting one element or item from the stack is represented by an operation called as the POP operation.

20. Mention any one application of stacks.

- It is used to reverse a word.
- “Undo” mechanism in text editor.
- Polish Notation

21. What is a queue?

- A queue is an ordered collection of items where an item is inserted at one end called the “rear”

and an existing item is removed at the other end, called the “front”.

22. What is the other name of queue?

- Other name of queue is FIFO.

23. What is FIFO list?

- In a FIFO list, the first element added to the list will be the first one to be removed.

24. Mention the different types of queues.

- Different types of queues are Linear queue, Circular queue, Double ended queue, Priority queue.

25. What are the operations that can be performed on queue?

- Queue(), enqueue(item), dequeue(), isEmpty(), size().

26. What is a linked list?

- A linked list is a linear collection of data elements called nodes.

27. Which data structure creates relationship between data elements through links?

- Linked List creates relationship between data elements through links.

28. What is binary tree?

- A binary tree is an ordered tree in which each internal node can have maximum of two child nodes connected to it.

29. What do you mean by depth of a tree?

- The height or depth of a tree is defined to be the maximum number of nodes in a branch of tree.

30. How do you find the degree of tree?

- The degree of tree is the maximum degree of nodes in the tree. The degree of node is the maximum number of children that can exist for a node.

➤ Question No 4 – Classes and Objects:

1. What is class?

- A class is a collection of objects that have identical properties, common behavior and shared relationship.

2. What are the two types of members referenced in a class?

- The two types of members referred in a class are data members and member functions.

3. What are data members?

- The variables declared inside a class are known as data members.

4. What is a member function?

- The functions declared inside a class are known as member functions.

5. Mention the access specifiers used with a class.
 - Different access specifiers such as private, public, and protected.
6. Is it possible to access data outside a class?
 - Yes, public data members can be accessed outside a class.
7. Which type data members are accessible outside a class?
 - Public members can be accessed outside a class.
8. Which access specifier is implicitly used in a class?
 - Private is the default access specifiers of a class.
9. Define the term public access.
 - Public access means that member can be accessed any function inside or outside the class.
10. What is the significance of scope resolution operator (::)?
 - Scope resolution operator (::) is used to define the member function outside the class.
11. What is an object?
 - An object is an instance of a class. Objects are sometimes called as instance variables.
12. How are objects of a class declared? Give example.
 - Objects can be created with the following declaration.

```
Class_Name ObjectName1, ObjectName2...;
```
 - Example: Date Today, DOB;
13. Mention the operator used to access member of a class.
 - . (Dot) operator is used to access member of a class.
14. What is meant by array of objects?
 - An array having class type elements is known as array of objects.
15. Write an example to show how objects can be used as function arguments.
 - Date D1, D2;
 - D2.Total (D1);

➤ Question No 5 – Pointers:

1. What do you mean by pointer?
 - A pointer is a variable that holds a memory address of another variable.
2. Mention any one advantage of pointer?
 - Pointers save memory space.
 - Dynamically allocate and de-allocate memory.
3. What is address operator?
 - The '&' is the address operator and it represents address of the variable.

4. What is pointer operator?
 - The '*' is a pointer operator, which is also called indirection operator or dereference operator.
5. How to declare pointer?
 - The general syntax of pointer declaration is given below.
 - Syntax: Data_Type *Ptr_Variablename;
 - Example: int *iptr;
6. How to initialize pointer?
 - By using the & operator as follows:
 - int *p, q=10;
 - p = &q;
7. What is static memory?
 - Static memory allocation refers to the process of allocating memory during the compilation of the program i.e. before the program is executed.
8. What is dynamic memory?
 - Dynamic memory allocation refers to the process of allocating memory during the execution of the program or at run time.
9. What is free store?
 - Free store is a pool of memory available to allocated and de-allocated storage for the objects during the execution of the memory.
10. What is new operator in C++?
 - The new operator is used to create a heap memory space for variables.
11. What is delete operator in C++?
 - The delete operator is used to destroy the variable space which has been created by using the new operator dynamically.

➤ **Question No 6 – Database Concepts:**

1. What is data?
 - Data is a collection of facts, numbers, letters or symbols that the computer process into meaningful information.
2. What is Information?
 - Information is processed data, stored, or transmitted by a computer.
3. What is Database?
 - A Database is a collection of logically related data organized in a way that data can be easily accessed, managed and updated.

4. What is a field?
 - Each column is identified by a distinct header called attribute or field.
5. What is a record?
 - A single entry in a table is called a record or row. A record in a table represents set of related data.
 - Records are also called the tuple.
6. What is an entity?
 - An **Entity** can be any object, place, person or class.
 - In E-R Diagram, an **entity** is represented using rectangles.
7. What is an instance?
 - The collection of information stored in the database at a particular moment is called an **instance of the database**.
8. What is an attribute?
 - It is defined as a named column of a relation.
 - Ex: In STUDENT table, Regno, Name, Age, Class, Combination and Marks.
9. What is domain?
 - It is defined as a set of allowed values for one or more attributes.
10. What is a relation?
 - A relation is defined as a table with columns and rows. Data can be stored in the form of a two-dimensional table.
11. What is a table?
 - A table is a collection of data elements organized in terms of rows and columns. Table is the simplest form of data storage.
12. What is normalization?
 - Normalization is a step by step process of removing the different kinds of redundancy and anomaly one step at a time from the database.
13. What is a key?
 - It is a column or columns which identifies the each row or tuple.
14. Give the symbol notation for project and select?
 - SELECT – sigma (σ)
 - PROJECT – Pi (π)
15. What is data mining?
 - Data mining is concerned with the analysis and picking out relevant information.

➤ Question No 7 and 8 – Networking Concepts:

1. What is networking?
 - A computer network is an interconnection of two or more computers that are able to exchange information's.
2. What is client?
 - The term **nodes or workstation or client** refer to the computers those are attached to a network and are seeking to share the resources of the network.
3. What is server?
 - A Server is also a computer that facilitates the sharing of data, software, and hardware resources like printers, modems etc on the network.
 - Servers can be of two types: Non-dedicated servers, Dedicated servers
4. What is network topology?
 - Network Topology refers to the arrangement of computers and other devices in a network.
5. Expand 2G.
 - 2G stands for Second Generation.
6. What is virus?
 - VIRUS – “Vital Information Resource Under Siege”.
 - A computer virus is a computer program that can replicate itself and spread from one computer to another.
7. What is chatting?
 - On the internet, chatting is talking to other people who are using the internet at the same time you are.
8. What is cyber law?
 - It is a generic term, which refers to all the legal and regulatory aspects of internet and the World Wide Web.
9. What are cookies?
 - Cookies are messages that a web server transmits to a web browser so that the web server can keep track of the user's activity on a specific web site. Cookies have few parameters name, value, expiration date.
10. What are hackers?
 - Hackers are more interested in gaining knowledge about computer systems and possibly using this knowledge for playful pranks.

➤ Question No 9 – Internet and Open Source Concepts:

1. What is open source software?
 - The term “open source” software is used to refer to those categories of software/ programs whose licenses do not impose much condition.
2. What is free software?
 - Free software means the software is freely accessible and can be freely used, changed, improved, copied and distributed by all who wish to do so.
 - No payments are needed to be made for free software.
3. What is OSS and FLOSS?
 - OSS refers to open source software, which refers to software whose source code is available to customers and it can be modified and redistributed without any limitation.
 - FLOSS refers to Free Libre and open Source Software or to Free Livre and Open Source Software.
4. What is proprietary software?
 - Proprietary software or closed source software is the software that is neither open nor freely available.
5. What is Freeware?
 - The term freeware has no clear definition, but is generally used for software, which is available free of cost and which allows copying and further distribution, but not modification and whose source code is not available.
6. What are Browsers?
 - A Web Browser is software application that enables the user to view web pages, navigate web sites and move from one website to another.
 - Some of the web browsers are Google Chrome, Internet Explorer, Netscape Navigator, Mozilla Firefox, and Opera.
7. What is URL?
 - A URL (Uniform Resources Locator) specifies the distinct address for each resource on the internet
 - URLs look like this: type://address/path
8. What are Telnet?
 - Telnet (Teletype network) is an order Internet utility that lets you log on to remote computer systems.
 - Telnet program gives you a character-based terminal window on another system.

9. What is domain?
 - An internet address which is a character based is called a Domain name.
10. What is domain affiliation?
 - .com, .org, .in, .au are the domain affiliation
11. Define E-Commerce.
 - E-Commerce is the trade of goods and services with the help of telecommunications and computers.
12. Expand IPR.
 - IPR stands for Intellectual Property Rights.

➤ **Question No 10 – Internet and Open Source Concepts:**

1. What is HTML?
 - HTML stands for Hypertext Markup Language, and it is the most widely used Language to write Web Pages.
2. What will be the extension of HTML file?
 - .htm or .html is the extension of HTML file.
3. What is the use of a web page?
 - Web page is a resource of information about a company/organization which is accessible through web browser.
4. What is XML?
 - XML stands for **eXtensible Markup Language**.
 - XML is a markup language for documents containing structured information.
5. What is DHTML?
 - DHTML stands for **Dynamic Hyper Text Markup Language**.
 - DHTML refers to Web content that changes each time it is viewed.
6. What do you mean by web hosting?
 - Web Hosting means of hosting web-server application on a computer system through which electronic content on internet is readily available to any web-browser client.
7. What is web scripting?
 - The process of creating and embedding scripts in a web page is known as web-scripting.
8. What is script?
 - A Script is a list of commands embedded in a web page.
