INFORMATION AND COMMUNICATION TECHNOLLOGY SHORT QUESTIONS.

**QNO1. Diff between storage media and storage devices?**

Ans**. Storage media:** The physical materials on which data is stored are called storage media.

**Storage devices**: The hardware components that write data to, and read data from, storage media are called storage devices.

**QNO.2: What is read and write mechanism in Magnetic disks?**

Ans. The **read** mechanism exploits the fact that a magnetic field produces electricity in the coil.

The **write** mechanism exploits the fact that electricity flowing through a coil produces a magnetic field.

**QNO.3 What are sectors? Elaborate in 3 lines.**

Ans. In the next stage of formatting, the tracks are divided into smaller parts, called **sectors**. Sectors are where data is physically stored on the disk. In most hard disks, a sector can store up to 512 bytes. All the sectors on a disk are numbered in one long sequence, so that the computer can access each small area on the disk by using a unique number.

**QNO.4 What are SSDs?**

Ans. An SSD stores binary data using transistors. These transistors act as switches with 2 states representing 0s and 1s.

Unlike RAM capacitors, SSD transistors are designed to hold their states after the computer is powered-off. Therefore, data is not lost after powering-off.

**Qno.5 What is OS?**

Ans. An Operating System is an example of a system software (SW) that controls the system’s hardware (HW).It interacts with the user and application SW. In short, it’s the computer master control program.

**Qno.6 What are the names of 4 major types of Operating systems?**

1. Ans. Real-Time
2. Single-user/single-tasking
3. Single-user/multitasking
4. Multi-user/multitasking

**Qno.7 Elaborate on Backup utilities?**

Ans. Backup Utilities:

To copy files from your hard disk to another storage medium, such as tape or CD-R disc. These not only help you transfer files to a backup medium, they also help organize the files, update backups, and restore backups to disk in case of data loss.

**QNO.8: What is Single-user/multitasking OS?**

Ans. It allows a single user to perform two or more functions at once.

Windows/Macintosh are examples of this type of OS.

The multitasking feature of this OS have increased the productivity of people because they can accomplish more in a shorter period of time

**QNO.9 what is DRAM?**

DRAM stands for Dynamic Random-Access Memory. It is a type of computer memory that is used for storing data and program code that a computer's CPU (Central Processing Unit) needs to access quickly. DRAM is a volatile memory, meaning that it temporarily stores data while the computer is powered on, but it loses its stored information when the power is turned off.

**QNO.10: Write any 2 disadvantages pf SRAM?**

Ans.

**1. Higher Power Consumption**: SRAM cells use flip-flops to store data, which consume power even when the memory is not actively being read from or written to.

2**. Higher Cost**: SRAM is more expensive to manufacture compared to DRAM. This higher cost is due to the complex and larger circuitry required for each SRAM cell.

3**. Lower Density:** SRAM cells are larger and more complex compared to DRAM cells. This results in lower memory density, meaning that you can store less data in a given physical space.

**QNO.11: What is SDRAM?**

Ans. SDRAM stands for Synchronous Dynamic Random-Access Memory. It is a type of computer memory that evolved from the earlier generation of DRAM (Dynamic Random-Access Memory). SDRAM is characterized by its synchronization with the system's clock speed, which allows for faster and more efficient data transfer between the memory and the CPU.

**Qno.12: Write about forward and backward compatibility of DDR3 RAM?**

Ans. DDR3 RAM is forward compatible, allowing it to function in newer systems at its own speed. It is also backward compatible, meaning it works in older systems at its native speed. This versatility enables cost-effective upgrades and system maintenance, as DDR3 modules can adapt to various computing environments.

**QNO.13: What is multitasking and multiprogramming?**

Ans.

**Multitasking:**

Multitasking is a computer operating system capability that allows a computer to execute multiple tasks or processes concurrently. It enables users to work on multiple applications or perform various tasks simultaneously, switching between them seamlessly. In a multitasking environment, the operating system allocates time slices to each task, giving the appearance of parallel execution.

**Multiprogramming:**

Multiprogramming is an operating system concept where multiple programs are loaded into memory, and the CPU rapidly switches between them, allowing the appearance of concurrent execution. Unlike multitasking, where multiple tasks share CPU time, multiprogramming is more focused on keeping the CPU busy by quickly switching between different programs as they wait for various events (such as input/output operations) to complete.

**QNO.14 What is diff between execitable files and dynamic link libraries files?**

Ans. **Executable Files:**

* These contain instructions/commands for the CPU.
* These usually have extensions of .exe, or .com.

**Dynamic Link Libraries Files:**

* These are partial executable files. It means, these will not run on its own; instead, its commands are accessed by another running program(s).
* These provide programmers with an effective way of breaking large programs into small components. This feature makes the entire program easier to upgrade.

These have .dll extensions.

**QNO.14 diff between compilers and interpreters?**

Ans. **Compilers and Interpreters:**

* They convert source code into binary form (machine code) to run/execute.
* They check source code for correctness.

**Interpreters:**

* It runs program one line at a time instead of creating an executable file, hence more flexible than compilers.
* It is slower than compilers because code must be interpreted each time it is run.
* Interpreter must accompany the code in order to run.
* Visual Basic and Perl are interpreted languages.

**Compilers:**

* It creates an executable file by converting the source code into machine code.
* The output of the compiler is called object code.
  + In some languages the object code must be linked to produce a true executable file. In other languages, the object code itself is directly executable.
* Executable can run on its own.
* Each language has its own compiler.
* C++ and Java are compiled languages.

**QNO.15 What are programming languages and write a difference between object code and source code?**

Ans. Programming languages are formal languages that are used to instruct computers to perform specific tasks.

1. Source Code:

Source code is the human-readable version of a computer program. It consists of instructions and statements written in a specific programming language that can be easily understood by programmers.

2. Object Code:

Object code, on the other hand, is the machine-readable binary representation of a program. It is generated by translating the source code into a format that the computer's central processing unit (CPU) can execute directly.

**QNO.16: What is pseudocode**?

Ans. **Pseudocode:**

* Natural language statements that looks like programming code.
* Describes what needs to happen in code (but not each step). In this way, the programmer can start thinking about how to implement the code.
* It can be written by non-programmers.

**QNO.17: What are flowcharts in solving a problem ?**

Ans. **Flowcharts:**

A diagrammatic (pictorial) representation of diagrams having a set of sequential operations which are performed for obtaining the required solution of a problem is called a **Flowchart**.

Thus, it is helpful in:

* Understanding the program logic.
* Writing high-level language programs.
* Defining, analyzing and improving various processes.

**QNO.18: Write any 3 disadvantages of flowcharts?**

Ans The various **advantages** of a flowchart are given below:

1. Analysis of the program can be done in a more effective way. These are also considered to be good program documentations.
2. Debugging programs becomes easy.
3. It enables the programmer to be more efficient in putting his efforts on a certain part.

**QNO.19: what are sequence structure and control structures in programming?**

Ans Usually the programs are written with three control structures.

**1) Sequence Structure:**

* It defines the default control flow in a program.
* Unless directed otherwise, a computer executes lines of code in the order in which they are written.

**2) Selection Structure:**

* Also called conditional statement.
* Performs a true or false test.
* Determines which code to execute next.

**QNO.20: What are programming languages?**

Ans. Programming languages are formal languages that are used to instruct computers to perform specific tasks. They provide a way for humans to communicate with computers by writing instructions in a structured and understandable format. Programming languages come in various forms, and they serve as a bridge between human-readable code and machine-executable code. Here's a brief overview of programming languages.

Long questions:

1.write and explain types of operating systems.

2.what is computer program? Elaborate in detail.

3.disadvantages and advantages of flow chart.

4. what is RAM? And elaborate on types of RAM?

1. Write a detail note on CD-ROM , DVD-ROM and SSD?