1. Importance of a Storage Device in a Computer System:

Storage devices are important for saving data, programs, and the operating system in a computer. They keep data safe so users can access it whenever needed. Without storage, users couldn’t save or retrieve any work or software.

2. Compare and Contrast the Roles of a Hard Disk and RAM:

Hard Disk: This is a permanent storage device where data and files stay saved even when the computer is off.

RAM (Random Access Memory): This is temporary memory that holds data only while the computer is on. When the computer turns off, data in RAM is lost.

Difference: RAM helps to process data quickly, while the hard disk is for long-term storage.

3. How Cache Memory Improves Computer Performance:

Cache memory is located near the processor and is very fast. It stores frequently used data so the processor can access it quickly. This improves computer performance by reducing the time it takes to fetch information.

4. Difference Between Loading and Saving in Computing:

Loading: Bringing a program or file into memory so it’s ready to use.

Saving: Storing data from memory to a storage device, so it’s saved permanently and can be used later.

5. Difference Between a File, a Byte, and a Register:

File: A collection of data stored on a computer.

Byte: A small unit of data, usually storing one character.

Register: A fast, temporary storage inside the processor for data currently being used in operations.

6. Definition of RAM (Random Access Memory):

RAM is a type of fast, temporary memory that a computer uses to store data while it’s running. When the computer shuts down, the data in RAM is erased.

7. Difference Between an Object File and an Executable File:

Object File: A file created by a compiler but cannot run on its own.

Executable File: A fully prepared file that can be run directly on a computer.

8. Difference Between a Compiler and an Interpreter:

Compiler: Translates the entire source code at once, and then shows any errors.

Interpreter: Reads and executes the code line by line, showing errors as it goes.

Difference: A compiler makes the code ready to run faster, while an interpreter makes it easier to fix errors.