



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

Qualification Code : 061006T4ICT
Qualification : ICT Technician Level 6
Unit Code : IT/OS/ICT/CC/01
Unit of competency : Apply Basic Electronics

**ASSESSOR'S GUIDE
SECTION A (40 MARKS)**

(These are suggested answers to act as guidelines.)

1. Define Cache Memory (2 Marks)

Cache memory is a very high speed semiconductor memory which can speed up CPU. It acts as a buffer between the CPU and main memory. It is used to hold those parts of data and program which are most frequently used by CPU. The parts of data and programs are transferred from disk to cache memory by operating system, from where CPU can access them.

2. Highlight any TWO advantages and TWO disadvantages of cache memory (4 Marks)

Advantages

- Cache memory is faster than main memory.
- It consumes less access time as compared to main memory.

Disadvantages

- Cache memory has limited capacity.
- It is very expensive.

3. Outline any SIX Characteristics of Auxiliary Memory (6 Marks)

- **Non-volatile memory** – Data is not lost when power is cut off.
- **Reusable** – The data stays in the secondary storage on permanent basis until it is not overwritten or deleted by the user.

- **Reliable** – Data in secondary storage is safe because of high physical stability of secondary storage device.
- **Convenience** – With the help of a computer software, authorised people can locate and access the data quickly.
- **Capacity** – Secondary storage can store large volumes of data in sets of multiple disks.
- **Cost** – It is much lesser expensive to store data on a tape or disk than primary memory.

4. Explain the TWO types of RAM (4 Marks)

- **Dynamic RAM.**[DRAM](#) is a type of semiconductor memory that is typically used by the data or program code needed by a computer processor to function.
- **Static RAM.**[SRAM](#) retains data bits in its memory for as long as power is supplied to it. Unlike DRAM, which stores bits in cells consisting of a capacitor and a transistor, SRAM does not have to be periodically refreshed.

5. Define electric current? (2 marks)

The flow of electrons through an electrical circuit is called the electrical current and is measured in amperes.

6. Highlight FOUR advantages of using Integrated Circuits (4 Marks)

- Very small size: Hundred times smaller than the discrete circuits.
- Lesser weight: As large number of components can be packed into a single chip, weight is reduced
- Reduced cost: The mass production technique has helped to reduce the price,
- High reliability: Due to absence of soldered connection, few interconnections and small temperature rise failure rate is low.
- Low power requirement: As the size is small power consumption is less.
- Easy replacement: In case of failure chip can easily be replaced. Computer cannot function without an operating system.

7. Differentiate between the following (4 Marks)

i. A.C and D.C currents

- **DC current** - The current does not vary with time is called direct current. It is denoted by I.
- **AC current** - The current varies with time is called alternating current. It is denoted by i (or) i(t).

ii. Electrolyte and Electrode