

Zahid Notes

1st Year Computer Science

Chapter 2: Computer Memory

Federal Board (FBISE) | Proper Notes for Exam Preparation

PROPER NOTES IN ENGLISH: Detailed explanations, examples, solved short and long answers, MCQs and a revision plan.

These notes are written in original words for practice and exam preparation. They are not a copy of the official textbook and they are not a board paper. Students should also read the textbook, because board questions come from the prescribed syllabus.

1. Introduction and Detailed Explanation

Memory is the place where a computer stores data and instructions. Without memory, a computer cannot remember any work, and every task would have to be started again from the beginning.

There are two main kinds of memory. Primary memory is fast and works during processing. Secondary memory stores data for a long time, even after the computer is switched off.

RAM is an example of primary memory. It is temporary. When the computer is switched off, the data in RAM is lost. ROM contains the basic instructions needed to start the computer. These instructions are permanent.

Secondary memory includes a hard disk, a USB drive and a memory card. Data in these devices remains safe after the computer is switched off, so they are used for long-term storage.

Why Primary Memory is Fast

Primary memory is close to the CPU. The CPU can take data from it quickly, so work does not stop. This is why RAM is used while a program is running, even though it is temporary.

Cache Memory

Cache is a very small and very fast memory inside or near the CPU. It keeps the data that the CPU needs again and again. Because this data is close, the CPU does not have to wait for the main memory every time.

Memory Units

The smallest unit of data is a bit, which is 0 or 1. Eight bits make one byte. Larger units are kilobyte, megabyte, gigabyte and terabyte. Each step is about 1024 times the previous one.

2. Important Definitions

RAM

Temporary and fast memory that holds data during work. Its data is lost when the computer is switched off.

ROM

Permanent memory that holds the basic instructions needed to start the computer.

Cache Memory

Very fast, small memory that keeps frequently needed data close to the CPU.

Secondary Memory

Memory for long-term storage, such as a hard disk.

3. Solved Short Questions

Q1. What is memory?

Memory is the place where a computer stores data and instructions.

Q2. Differentiate between RAM and ROM.

RAM is temporary and its data is lost when the computer is switched off. ROM is permanent and holds the instructions needed to start the computer.

Q3. Why is cache memory used?

Cache memory is used so that the CPU gets needed data quickly and work becomes faster.

Q4. Give two examples of secondary memory.

A hard disk and a USB flash drive.

Q5. How many bits are there in one byte?

There are 8 bits in one byte.

4. Solved Long Questions

Q1. Explain primary and secondary memory in detail.

Primary memory works during processing. It is fast, but most of it is temporary. RAM is its main example. When a program runs, its data and instructions are kept in RAM so that the CPU can use them quickly. Secondary memory is used for long-term storage. A hard disk, USB drive and memory card are its examples. Data in secondary memory remains safe after the computer is switched off. A computer needs both kinds of memory: primary memory for speed during work, and secondary memory for keeping data safe for the future.

5. MCQs, Fill in the Blanks and True / False

1. A characteristic of RAM is:

- A. It is permanent
- B. It is temporary
- C. It only prints
- D. It only makes pictures

Correct answer: B

2. A hard disk is which kind of memory:

- A. Primary
- B. Cache
- C. Secondary
- D. Register

Correct answer: C

3. Eight bits are equal to:

- A. 1 byte
- B. 1 KB
- C. 1 MB
- D. 1 bit

Correct answer: A

6. Important Points and Revision Plan

RAM = temporary, ROM = permanent

Cache = fast, small memory near the CPU

Secondary memory = long-term storage

8 bits = 1 byte

- Read the detail once and write the definitions in your own words.
- Write the short and long answers yourself, then match them with the notes.
- Solve the MCQs and read the important points box again before the test.