

CSE 206

B. Tech. IVth SEMESTER EXAMINATION, 2024-25

BACHELOR OF TECHNOLOGY

(CSE)

Computer Organization & Architecture

Time : Three Hours]

[Maximum Marks : 75

Note: There are three sections (A, B and C) and candidate has to attempt questions from all sections. Marks are indicated against each section.

Section-A

1. Attempt all parts of the following : $5 \times 3 = 15$
 - (a) Explain the bus arbitration in detail.
 - (b) What is instruction cycle ? Explain various steps involved in the instruction cycle.
 - (c) Describe Cache level organization in detail. (two level & three level)
 - (d) Differentiate between serial and parallel communication.
 - (e) List the various types of registers used in a basic computer and explain.

Section-B

Note: Attempt all questions of the following : $4 \times 5 = 20$

2. (a) Explain Bus architecture with its types ? Explain it diagrammatically.

- (b) Draw a neat and clean diagram of Memory Hierarchy in a computer organization and explain each memory in detail and also compare their cost, speed storage and access time.
9. (a) What is interrupt ? What are the different types of interrupt with a suitable example?
- (b) A DMA controller transfers 16 bit word to memory using cycle stealing.

The words are assembled from a device that transmit characters at a rate of 2400 characters/sec. The CPU fetching instructions at an average rate of 1 Million instructions/sec. By how much will the CPU be slowed down because of DMA transfer ? (Each character is of 8 bits)

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