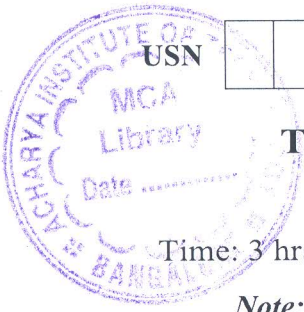


# CBCS SCHEME

17MT36



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## Third Semester B.E. Degree Examination, July/August 2022 Computer Organization

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. Explain the different functional units of computer with a neat block diagram. (10 Marks)  
b. Illustrate memory locations and addresses with necessary diagrams. (10 Marks)

OR

- 2 a. Explain with a neat diagram, the connection between processor and computer memory and also typical operation steps for executing an instruction. (10 Marks)  
b. What are the basic instruction types? Explain. (10 Marks)

### Module-2

- 3 a. Define addressing mode. Explain any three addressing mode with example. (10 Marks)  
b. Discuss various logical shift and rotate instructions with example. (10 Marks)

OR

- 4 a. What are assembler directives? Explain with example. (10 Marks)  
b. Explain the IEEE standard for floating point numbers. (10 Marks)

### Module-3

- 5 a. What is DMA approach explain in detail. (10 Marks)  
b. Explain how simultaneous interrupt requests from several I/O devices will be handled by a daily chain arrangement. (10 Marks)

OR

- 6 a. Explain standard I/O interfaces with an example of a computer using different interface standards. (10 Marks)  
b. Explain the interface circuit of a serial port. (10 Marks)

### Module-4

- 7 a. What is ROM? Explain various types of ROM. (10 Marks)  
b. Explain direct mapped cache and associative mapped cache with neat block diagrams. (10 Marks)

OR

- 8 a. Draw the organization of  $1K \times 1$  memory chip and explain its working. (10 Marks)  
b. Explain synchronous DRAM operation with a neat block diagram. (10 Marks)

### Module-5

- 9 a. Draw and explain the single bus organization of the data path inside a processor. (10 Marks)  
b. Discuss the basic organization of a micro programmed control unit with a neat diagram. (10 Marks)

OR

- 10 a. Explain the three bus organization of a processor with a neat diagram. (10 Marks)  
b. Give a detailed diagram of a hardwired control unit and explain its organization. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and/or equations written eg.  $42+8=50$ , will be treated as malpractice.