BOARD DIPLOMA EXAMINATION, (C-20)

MAY—2023

DCME - FOURTH SEMESTER EXAMINATION

COMPUTER ORGANIZATION AND MICROPROCESSOR

Time : 3 Hours] [*Total Marks* : 80

PART—A 3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. What is an instruction register?

2. Define micro and macro operations.

3. Define opcode and operand.

4. What is fixed point representation?

5. Differentiate between primary memory and secondary memory.

6. Define virtual address and physical address.

7. List any five peripheral devices that can be connected to a computer.

8. What are the different bus systems?

9. Draw the pin diagram of 8086 microprocessor.

10. Differentiate between minimum and maximum modes of 8086 processor.

Instructions : (1) Answer **all** questions.

(2) Each question carries **eight** marks.

(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. *(a)* Explain the sequential execution of a stored program concept.

(OR)

(b) Explain the working of accumulator based CPU with the help of a diagram.

12. *(a)* Explain fixed point multiplication operation with a flow chart.

(OR)

(b) Write about different types of instructions with examples.

13. *(a)* Explain memory hierarchy in a computer.

(OR)

(b) What is cache memory? Explain cache memory organization.

14. *(a)* Explain priority interrupt mode of data transfer.

(OR)

(b) Explain about asynchronous data transfer mode.

15. *(a)* Draw the functional block diagram of 8086 processor and explain the function of each block.

(OR)

(b) Differentiate between 8086, 80286, 80386 and 80486.

PART—C

10×1=10

Instructions : (1) Answer the following question.

(2) The question carries **ten** marks.

(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

16. Explain fixed point addition and subtraction operation with a pflow chart.

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