C20-EC–403

7441

BOARD DIPLOMA EXAMINATION, (C-20)

NOVEMBER/DECEMBER—2022

DECE – FOURTH SEMESTER EXAMINATION

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. Define the terms fetch cycle and execution cycle.

2. State any three features of 8086 processor.

3. State the need of memory segmentation.

4. State the meaning of XCHG BL, [8170H].

5. State the meaning of IN AI, 7AH.

6. State the need of subroutine.

7. State the function of RETURN instruction.

8. List any three features of intel core i3 processor.

9. Distinguish between intel core i5 and i7 processors.

10. Define cache memory.

PART—B

8×5=40

Instructions : (1) Answer either *(a)* **or** *(b)* from each question.

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

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

11. *(a)* Compare 8 bit and 16 bit processors.

(OR)

(b) Explain the basic block diagram of a microcomputer.

12. *(a)* Draw the pin diagram of 8086 and state the function of each pin.

(OR)

(b) Describe minimum mode of operation of 8086 with block diagram.

13. *(a)* Explain with sketch the functional block diagram of 8086.

(OR)

(b) Explain the working of ALU and control unit.

14. *(a)* Briefly explain arithmetic group of instructions of 8086.

(OR)

(b) Explain the logic group of instructions of 8086.

15. *(a)* Explain conditional statements.

(OR)

(b) Write an assembly language program to perform AND and OR operatins on 16 bit numbers.

PART—C

10×1=10

Instructions : (1) Answer the following question.

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

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

16. What is the calculated address to store the result using base indexed mode of addressing of 8086 (Assume DS = 5000 H, BX = 1234 H, SI = 1000 H) if we convert 2C to gray code? Explain with an assembly language program of 8086.

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