7441

BOARD DIPLOMA EXAMINATION, (C-20)

OCTOBER/NOVEMBER—2023

DECE – FOURTH SEMESTER EXAMINATION

MICROPROCESSORS

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 term 'address bus'.

2. State the purpose of instruction queue.

3. List different types of interrupts.

4. Define the term 'instruction format'.

5. List any three multiplication instructions of 8086.

6. Write an assembly language program to perform 16-bit addition.

7. State the use of debugger.

8. Define instruction level parallelism.

9. List any three 16-bit processors.

10. List any three features of Intel core i3 processors.

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 basic block diagram of a microcomputer.

(OR)

(b) Compare assembly language, high-level language and machine language.

12. *(a)* Explain the purpose of pointer and index registers in 8086.

(OR)

(b) Draw the flag format of 8086 and explain different types of flags.

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

(OR)

(b) Explain the generation of 20-bit physical address with an example.

14. *(a)* Explain addressing modes of 8086 with examples.

(OR)

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

15. *(a)* Explain various assembler directives.

(OR)

(b) Explain CALL and RETURN instructions with examples.

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. Write an assembly language program with comments to find smallest number among the given array of 06 (six) numbers and store the result in the accumulator.

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