7614

BOARD DIPLOMA EXAMINATION, (C-20)

OCTOBER/NOVEMBER—2023
DBME – FIFTH 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 microprocessor.

2. List different general purpose registers.

3. State the need of memory segmentation.

4. List the instruction set of 8086.

5. Write any three data transfer instruction sets.

6. State the use of linker.

7. Write assembly language program to transfer data between registers.

8. Define hyper threading.

9. List any four 32-bit microprocessors.

10. Define cache memory.

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PART—B

$8 \times 5 = 40$

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

(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 microcomputer.

(OR)

(b) Define *(i)* fetch cycle, *(ii)* execution cycle and *(iii)* instruction cycle.

12. *(a)* Draw and explain functional block diagram of 8086.

(OR)

(b) Draw and explain the minimum mode of 8086.

13. *(a)* Explain the interrupt response in 8086.

(OR)

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

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

(OR)

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

15. *(a)* Write assembly language program to perform addition of two 16-bit numbers.

(OR)

(b) Explain the assembly directives.

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. Does 8086 microprocessor have instruction queue? Justify your answer.

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