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**BOARD DIPLOMA EXAMINATION, (C-16)
JANUARY/FEBRUARY—2022
DCME - 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 instruction cycle.
2. List the functions of Bus Interface Unit.
3. Write about indirect addressing mode.
4. List any six assembler directives.
5. Write differences between maskable and non-maskable interrupts.
6. List any six features of 8259.
7. State the need of assembly language programming.
- * 8. List the features of Pentium Pro Processor.
9. Define the terms Microcontroller and Microprocessor.
10. State the special function registers of 8051.

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PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

- 11.** (a) Explain how 8086 calculates memory address with an example.
(b) Explain the interrupt handling process in 8086.
- 12.** Explain any five data transfer instructions of 8086 with examples.
- 13.** Explain the following arithmetic instructions of 8086 :
(a) ADD instruction
(b) SBB instruction
(c) DAS instruction
(d) CMP instruction
(e) AAD instruction
- 14.** Draw and explain functional block diagram of programable interrupt controller 8259A.
- 15.** Write an assembly language program to count number of ones and zeros in an 8-bit number.
- 16.** Draw and explain the architecture of Pentium processor.
- 17.** (a) Explain memory organization of 8051.
(b) Write features of 8051 Microcontroller.
- 18.** Explain counters and timers in 8051.

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