C14–CM–404/C14–IT–404

4452

BOARD DIPLOMA EXAMINATION, (C–14)

MARCH/APRIL—2016

DCM—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 and machine cycle.

2. Define the terms *(a)* address bus and *(b)* byte.

3. Define *(a)* editor and *(b)* assembler.

4. List 8086 addressing modes.

5. State the need of interrupt.

6. Differentiate between hardware and software interrupts.

7. List the features of 8259 interrupt controller.

8. Write the features of 8257 DMA controller.

9. Classify operating modes of 8279.

10. Differentiate between 80386 and 80486.

Instructions : (1) Answer *any* **five** questions.

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

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

11. *(a)* Write about flag registers of 8086. 5

(b) Explain how 20-bit physical address is calculated in 8086. 5

12. *(a)* Write any five assembler directives with examples. 5

(b) Explain the following 8086 instructions : 5

    (i) JMP

    (ii) JNZ

    (iii) JNC

    (iv) RET

    (v) CALL

13. Explain any five data transfer instructions of 8086 with examples. 2×5=10

14. Explain the functional diagram of 8259 programmable interrupt controller. 10

15. *(a)* Write about various priority interrupts in 8086. 4

(b) Write an assembly language program (ALP) to add two 16-bit numbers. 6

16. Draw and explain the internal block diagram of 8255 PPI. 10

17. Explain the working of 8251 USART with block diagram. 10

18. Draw and explain the internal architecture of 80286 with functions of each block. 10

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