BT-5/D-20   **45168**

MICROPROCESSOR AND INTERFACING

Paper : ES-301A

Time : Three Hours]   [Maximum Marks : 75

Note : Attempt *five* questions in all, selecting at least *one* question from each unit. All questions carry equal marks.

UNIT–I

1. Draw and explain the block diagram and pin diagram of 8086 microprocessor and explain its PSW.   15

2. (a) Discuss the register structure of 8086. Discuss the importance of flags in flag register using suitable examples.   8

    (b) Explain the function of opcode pre-fetch queue in 8086.   7

UNIT–II

3. Sketch and explain the interface of 8 K × 8 RAMs and 8 K × 8 EEPROM using a decoder in minimum mode. What is the maximum access time of RAMs such that it does not require wait state when 8086 operates of 8 MHz.   15

4. Draw a timing diagram for write cycle in Maximum mode of 8086 by introducing a wait state for 2 ms in the processor cycle. 15

UNIT–III

5. (a) Discuss various addressing mode of 8086. 7

(b) Explain the following instructions with an example for each :

(i) XCHG.

(ii) XLAT.

(iii) DAA.

(iv) AAA. 8

6. Write 8086 Assembly Language Program to generate 10 elements of Fibonacci Series. 15

UNIT–IV

7. (a) Describe the operation, characteristic and interfacing of D/A convertor with 8086 Microprocessor. 7

(b) Write short note on the following : 8

(i) Description and interfacing of 8251.

(ii) Interfacing of 8 × 8 Keyboard.

8. (a) Define an interrupt. Describe the application of interrupt and interrupt response of an 8086 processor. 8

(b) Explain the functioning of Intel 8237 IC. 7

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