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BT–5/D–21 **45168**

MICROPROCESSOR & INTERFACING

Paper–ES–301A

Time Allowed : 3 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. (a) How 8086 CLK and RESET signals are generated using 8284 ? Explain in detail? 9

   (b) Discuss the working of EU and BIU of 8086 Microprocessor. 6

2. (a) Draw and explain the relevant pin diagram for 8086 in minimum mode. 9

   (b) Discuss the WAIT state generation in 8026 Microprocessor. 6

UNIT–II

3. Interface the 8086 Microprocessor with two 16K × 16 EPROM chips and two 16K × 16 RAM chips. Draw the necessary block diagram for the support of your calculation. 15

4. Draw and discuss the read and write cycle timing diagram of 8086 in minimum mode. 15

UNIT–III

5. (a) Write as assembly language program to find any power of any number. 7

   (b) Discuss the following assemble directives : 8

   (i) ASSUME.

   (ii) SEGMENT.

6. What do you mean by instruction format? Explain the following instruction with the help of suitable example : 15

(i) ADC (ii) LEA (iii) PUSH (iv) INC

(iv) JNZ.

UNIT–IV

7. (a) Design 16 bit I/O port using 8255 and interfaces it with 8086 using I/O addressing. 7

(b) Explain with a neat diagram the interfacing of stepper motor to 8086 using 8255 in detail. 8

8. (a) Explain the structure of 8086 interrupt vector table with neat diagram. 6

(b) Discuss DMA with the help of lock diagram. 9