INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)
Four Year B.Tech V Semester End Examinations (Supplementary) - January, 2019
Regulation: IARE – R16
MICROPROCESSORS AND INTERFACING

Time: 3 Hours (CSE) **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT – I

1. (a) Illustrate the register organization of 8086 microprocessor. **[7M]**

   (b) Calculate the physical address represented by **[7M]**
   i) 4370:561EH
   ii) 7A32:0028H

2. (a) Explain the following addressing modes in 8086 with examples. **[7M]**
   (i) Immediate
   (ii)Direct
   (iv) Register Indirect
   (vi) Register Relative

   (b) Describe the operation carried out when the following instructions are executed by 8086. **[7M]**
   i) MOV [SI],AX
   ii) MOV [BX],CX
   iii) XLAT
   iv) MUL,BL
   v) DIV,BL

UNIT – II

3. (a) Write an assembly language program to find the smallest number from an array of 5 numbers.

   [7M]

   (b) Explain the following pins with respect to 8086 microprocessor. **[7M]**
   i. DT/R
   ii. INTA,
   iii. HLDA
   iv. LOCK

4. (a) With the help of neat sketch, explain the timing diagram of read cycle for minimum mode configuration for 8086 microprocessor. **[7M]**

   (b) Write an assembly language program to reverse the given string "1, 2, 3, 4, 5, 6". **[7M]**

UNIT – III

5. (a) With neat sketch explain the modes of operation of 8255. **[7M]**

   (b) Write an assembly program to convert analog to digital using 8086 micro processor. **[7M]**

6. (a) List out the types of interrupts in 8086 and explain each with its importance. **[7M]**

   (b) What is interrupt vector table? What are the operations done during handling an interrupt service routine?

   [7M]

UNIT – IV

7. (a) Draw the control word format of 8251 also express the function of each bit. **[7M]**

   (b) Write an assembly language program to initialize 8251 and receive 100bytes of data. **[7M]**

8. (a) Explain USART 8251 with the help of a neat diagram. **[7M]**

   (b) Explain the transmission and reception of serial data using 8251 indicating the functions of various registers in it. **[7M]**

UNIT – V

9. (a) Explain architecture of 80286 with the help of block diagram. **[7M]**

   (b) Explain the following signal functions of 80386 **[7M]**
      i. BE0-BE3
      ii. W/R
      iii. D/C
      iv. ADS
      v. NA
      vi. BS16

10. (a) Explain in detail Register Organization of 80386 advanced microprocessor. **[7M]**

    (b) Explain the features of 80486 advanced microprocessor in detail. **[7M]**

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