24230

B. Tech. 5th Semester (CS & IT) F. Scheme
Examination, December–2017

MICROPROCESSING AND INTERFACING

Paper–EE–309–F

Time allowed : 3 hours]   [*Maximum marks : 100*

Note : ***First question is compulsory.*** *Attempt any **five** questions taking at least **one** question from each section. All questions carry equal marks.*

1. (a) What is the use of AD0-AD7 lines in 8085 ?

                                         $10 \times 2 = 20$

    (b) Explain the execution of the instruction CMA instruction in 8085.

    (c) What is the need for ALE signal in 8085 ?

    (d) Describe the difference between the instructions MOV AX, 2437H and MOV AX, [2437H].

    (e) State the function of Direction flag in 8086.

    (f) Explain ALIGN directive.

    (g) What is the size of 8086 instructions ?

    (h) What is meant by effective address ?

    (i) What is the modes of operations used in 8253 ?

    (j) Give the different types of command words used in 8259a ?

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Section–A

2. (a) Write an 8085 assembly language program to find out the largest number from a given unordered array of 8 bit numbers, stored in the locations starting from a known address.　　10

　　(b) Explain the architecture of microprocessors 8085.　　10

3. (a) Explain the direct addressing modes and indirect addressing modes of 8085 with example.　　10

　　(b) With suitable examples explain 8085 instruction set in detail.　　10

Section–B

4. (a) Draw the architecture of 8086 microprocessor and explain in detail.　　10

　　(b) With suitable examples explain 8086 addressing modes in detail.　　10

5. (a) Explain various instruction formats used in 8086.　　10

　　(b) What is pipelining ? How it affects the working of 8086 ? What are advantages and disadvantages of pipelining in 8086 ?　　10

Section–C

6. (a) Draw and explain the timing diagram of memory read cycle.　　10

　　(b) What are assembler directives ? How these are different from instructions ? What are their advantages and disadvantages ?　　10

7. (a) Explain various branch and looping instructions with their syntax and use. Also give examples of each.　　10

　　(b) Write a program in 8086 to find the sum of numbers in the array of 10 elements.　　10

Section–D

8. (a) Discuss various operating modes of 8253 timer with necessary control words.　　10

　　(b) Explain the architecture and various modes of 8255.　　10

9. (a) What is DMA ? Explain DMA controller in detail with the help of diagram.　　10

　　(b) Explain architecture and functioning of 8259 interrupt controller.　　10