B.Tech.
(SEM. IV) EVEN THEORY EXAMINATION 2012-13
INTRODUCTION TO MICROPROCESSOR

Time : 3 Hours
Total Marks : 100

Note:— Attempt all questions and all questions carry equal marks.

1. Attempt any four parts of the following : (4×5=20)
   (a) Explain the evolution of μp.
   (b) What is the importance of ALE and ALU ?
   (c) Define the features of 8085 μp.
   (d) Differentiate between address and data bus in μp.
   (e) What is an assembler, compiler and interpreter ?
   (f) Draw and explain the memory map of 4-KB memory interface between 8085 microprocessor (μp) and memory.

2. Attempt any four parts of the following : (4×5=20)
   (a) Describe the addressing mode of 8085 μp with example.
   (b) Draw the timing diagram of opcode fetching in 8085 μp.
   (c) Give the format of flag register of 8085 μp. Explain each flag.
(d) Write the description of following instruction:

LDA 2050 H
SHLD 3050 H
STA 2000 H
MOV A, C
MVI A, 23 H

(e) Draw the internal architecture of 8085 µp and describe it in brief.

(f) What is the concept of interrupt and how many interrupts are available in 8085 µp?

3. Attempt any two parts of the following: \((10 \times 2 = 20)\)

(a) Discuss the register organization of 8086 µp and explain the function of each register.

(b) Explain the role of BIU and EU of 8086 µp.

(c) Draw the internal architecture of 8086 and discuss each block diagram.

4. Attempt any two parts of the following: \((10 \times 2 = 20)\)

(a) Write an assembly language program using 8085 to add two 16-bit data from memory.

(b) Write an assembly language program using 8086 to generate a square wave generator.

(c) Write an ALP using 8085 to multiply two 8-bit numbers.
5. Attempt any **two** parts of the following:  \(10 \times 2 = 20\)

(a) Explain 8253 programmable timer/counter in detail.

(b) Explain the interface between 8085-µp with 8255 PPI.

(c) How many 8259 can be interconnected in cascaded mode? Show their structure.