Code No: **R31055**

R10

Set No. 1

III B.Tech I Semester Supplementary Examinations, October/November - 2019
MICROPROCESSORS AND MULTICORE SYSTEMS
(Computer Science and Engineering)

Time: 3 hours   **Max. Marks: 75**
Answer any FIVE Questions
All Questions carry equal marks
*****

1 a) What is the minimum number of segment registers that are necessary to provide   [8M]
       segmentation? How do you access common data for different programs using
       segmentation?
   b) Explain how to construct the machine codes for 8086 instruction.   [7M]

2 a) Draw the flow chart and assembly language program for three lamp printed circuit   [8M]
       board making machine using multiple if-then-else.
   b) Explain instruction timing and delay loops with an example.   [7M]

3 a) Write an ALP to divide a 32 bit number by a 16-bit number and return a 32 bit   [8M]
       quotient using mainline program module.
   b) Explain the result of SI, DI and CX registers when the MOVSB instruction is   [7M]
       executed without repeat prefix and
       i) The direction flag is set
       ii) The direction flag is clear.

4 a) Explain TEST, WAIT, XCHG and XLATB instructions with specific examples.   [8M]
   b) Discuss the assembler directives PTR, EVEN, ALIGN 4 and ENDS with   [7M]
       examples.

5 a) Explain hardware and software interrupts.   [8M]
   b) Write an ALP to read the characters from an ASCII keyboard on interrupt basis   [7M]
       using Interrupt-service procedure.

6 a) Define Macro and Subroutine and write an example program of each.   [8M]
   b) Write a program to convert ASCII numbers to binary form.   [7M]

7 a) Discuss the internal block diagram of 80286.   [8M]
   b) Explain the concept of segmentation in 80386 processor.   [7M]

8 a) Explain the architecture of a Pentium processor with neat block diagram.   [8M]
   b) Differentiate the Intel Dual Core from Intel Core 2 Duo processor.   [7M]

*****