T.E.(Comp.)/Extc/Microprocessor & Application/Dec 09

Con. 5406–09. **(REVISED COURSE)** **SP–8579**

(3 Hours) **[Total Marks : 100**

N.B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions out of remaining **six** questions.
(3) Assume **suitable** data wherever required but **justify** the same.
(4) **Figure** to the **right** indicates gets **full** marks.
(5) Illustrate answers with **sketches** whenever **required**.

1. Solve any four 20
   (a) Explain programming model of 8085 microprocessor
   (b) How to generate control signals required for memory and I/O interfacing.
   (c) Explain RIM, SIM, EI and DI instructions of 8085 microprocessor
   (d) Explain addressing modes of 8085 microprocessor.
   (e) With block diagram explain stepper motor control using microprocessor.
   (f) Explain operation of queue in 8086 microprocessor.

2. Design 8085 microprocessor based system with following specifications 20
   (a) 8 KB EPROM using 4KB x 8 devices
   (b) 8 KB RAM using 4Kb x 8 devices
   (c) One 8255 in I/O mapped I/O
   Show memory map & address bit map. Draw neat schematic diagram, explain connections of various devices.

3. (a) Write assembly language program to convert one byte hex number stored at 2000H to equivalent BCD number without using DAA instruction. Store result at 2001 & 2002H 10
   (b) What are different methods to generate software delays in 8085. Write a delay routine to generate delay of 10 mS. 10

4. (a) Interface one 7-segment display and 8 keys to 8085 microprocessor through 8255. Write a program or flowchart to display key no. which is pressed. 10
   (b) Interface 8155 with 8085 microprocessor. Explain timer section of 8155 in detail. 10
5. (a) Draw block diagram of 8259. And explain its operation. 10
   (b) Explain interrupt structure of 8085 microprocessor. 10

6. (a) Draw detailed block diagram of microprocessor based temperature control, draw software flow chart and explain its operation. 10
   (b) Draw detailed block diagram of multichannel data acquisition system using microprocessor. Explain connections & operation of same. 10

7. (a) Draw architecture of 8086 microprocessor and explain functions of each block. 10
   (b) Explain pipelining and superscalar concept in detail. 10