Roll No. | | | | | | | | | |

B.E./B.TECH (FULL-TIME) DEGREE END SEMESTER EXAMINATION - APRIL / MAY 2013
COMMON TO MECHANICAL, MANUFACTURING AND PRINTING ENGINEERING
VI SEMESTER
ME 9352 MICROPROCESSOR AND MICROCONTROLLER
REGULATIONS 2008

Time : 3 Hours | Max. Marks : 100

Answer ALL Questions

PART-A (10 x 2 = 20 Marks)

1. State the function of address bus and data bus.
2. When do you use XRA A and ORA A instructions and state the status of carry and zero flags?
3. How many machine cycles are in MVI A, 98 instruction and what are they?
4. Distinguish between machine language program and assembly language program.
5. Define interfacing.
6. Differentiate between common cathode type and common anode type 7-segment LED display.
7. Calculate the values of LSB and full scale output value for an 8 bit data DAC for the 0 to 10 V range.
8. What is the function of accumulator in 8051 microcontroller?
9. Write any four applications of microcontroller?
10. What is the principle of operation of stepper motor?

PART – B (5 X 16 = 80 Marks)

11. Draw the architecture of 8051 microcontroller and explain each block.

12.a) What is addressing mode in 8085 microprocessor? Explain the types of addressing modes with two examples for each addressing mode. **(2+14)**

(OR)

b) Explain the following instructions with an example. **(4x4=16)**
   i) DAD and DAA
   ii) SUB D and SBB D
   iii) RAL and RAR
   iv) SPHL and PCHL

13. a) Draw and explain the Timing Diagram of the instruction OUT 01. The opcode for OUT is 'D3'.

(OR)

b) Write an assembly language program to add two 16 bit numbers. Draw the flow chart for the same. **(13+3)**

14. a) Explain how a DIP switch can be interfaced with a 8085 microprocessor. Write the software to read the input.

(OR)

b) Explain with schematic diagram for the interfacing a ADC with 8085 microprocessor. Write the software to get the digital output.

15. a) Explain microprocessor based traffic controller. Write an assembly language program to control the traffic at a junction of four roads. Indicate the sequence assumed.

(OR)

b) Discuss how to measure and control the speed of a motor using microprocessor based system.