

Roll No. ....

**24230**

**B. Tech. 5th Semester (Electrical Engg.)**  
**Examination – December, 2011**

**MICROPROCESSING & INTERFACING**

**Paper : EE-309-F**

**Time : Three hours ] [ Maximum Marks : 100**

*Before answering the question, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :** Attempt *five* questions in all, selecting *one* question from each Unit. Question No. 1 is *compulsory*.

1. (a) Define memory segmentation and program relocation. 2
- (b) What are data transfer instructions and arithmetic instructions? 3
- (c) Specify the 8085 signals that are used to enable an input port. 2

- (d) Explain why the number of output ports in the peripheral – mapped I/o is restricted to 256 ports ? 3
- (e) What operation can be performed by using the instruction ADDA ? 3
- (f) Given  $\overline{WR}$  and  $IO/\overline{M}$  from the 8085, generate the  $\overline{IOW}$  control signal. 3
- (g) Define program allocation and addressing modes. 2
- (h) Explain Direct Memory Access. 2

### UNIT – I

2. (a) Write short note on Assembly Language Programming. 10
- (b) Describe instruction set and architecture of 8085 microprocessor. 10
3. (a) Discuss in detail 8085 interrupts. 10
- (b) Explain Pin diagram and description of various signals. 10

## UNIT - II

4. (a) Describe 8086 microprocessor architecture with its block diagram. 10
- (b) Explain sub-blocks of 8086 such as EU, BIU. 10
5. (a) Describe physical address computations in detail. 10
- (b) Explain flag manipulation instructions in detail. 10

## UNIT - III

6. Assume that the accumulator contains data byte 82 H and the instruction MOV C, A (4FH) is fetched. List the steps in decoding and executing the instruction. 20
7. (a) In the Opcode Fetch, what are the control and status signals asserted by the 8085 to enable the memory buffer. 10
- (b) If the clock frequency is 5 MHz, how much time is required to execute an instruction of 18 T states ? 10

## UNIT - IV

8. (a) What are directives and operators ? Also explain various addressing modes in 8086 microprocessor. 10
- (b) Discuss shift and rotate instructions in detail. 10
9. (a) Explain 8254 programmable interval timer in detail. 10
- (b) Write short note on 8259 A programmable interrupt controller. 10