

Code: EE6T2

**III B.Tech - II Semester – Regular Examinations – May 2015**

**MICROPROCESSORS AND MICROCONTROLLERS  
(ELECTRICAL & ELECTRONICS ENGINEERING)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. a) Explain the register organization of 8086 microprocessor in detail. 7 M  
b) What is the length of instruction Queue in 8086? Discuss the use of queue. Explain the reason for limiting the length of queue? 7 M
2. a) Explain the minimum mode configuration of 8086 microprocessor. Show the timing diagrams of READ and WRITE operations. 7 M  
b) Explain the different addressing modes of 8086 microprocessor. 7 M
3. a) What is an Assembler directive? Explain the following assembler directives. 7 M  
(i) ORG           (ii) DT           (iii) GROUP  
(iv) SEGMENT, ENDS           (v) EQU  
b) Compare macros and procedures with suitable examples for each. 7 M

4. a) Draw the block diagram of 8255 and explain its modes of operation. 7 M
- b) Show the interfacing of DAC module through 8086 and write an ALP to generate square waveform. 7 M
5. a) What is DMA? Draw the block diagram of 8257 DMA controller and explain. 7 M
- b) With a neat block diagram explain 8259 Programmable Interrupt Controller. 7 M
6. a) Draw the functional block diagram of 8051 microcontroller and explain in brief. 7 M
- b) Explain the instruction set of 8051 microcontroller with examples. 7 M
7. a) Explain the different modes of operation of timer/counter in 8051 microcontroller. 7 M
- b) Discuss the various sources of interrupts and mention its priority. 7 M
8. Explain about 14 M
- i) LED's interfacing                      ii) ADC interfacing