

Code: EEPC1T1

**I M.Tech-I Semester-Regular/Supplementary Examinations
January 2017**

**MICROPROCESSORS & MICROCONTROLLERS
(POWER SYSTEM CONTROL AND AUTOMATION)**

Duration: 3 hours

Max. Marks: 70

Answer any FIVE questions. All questions carry equal marks

1. a) Explain the register organization of 8086 Microprocessor. 7 M

b) What is the length of the queue in 8086? Discuss the use of the Queue and explain the reason for limiting the length of queue. 7 M

2. a) Explain the following assembler directives with examples. 7 M

(i) ASSUME (ii) PUBLIC (iii) EXTRN
(iv) EVEN (v) EQU

b) Write an ALP to 8086 processor to find Sum of array of five 8-bit numbers. 7 M

3. a) Explain the following pins of 8086 processor. 7 M

(i) READY (ii) $\overline{\text{LOCK}}$ (iii) $\text{MN}/\overline{\text{MX}}$ (iv) NMI

- b) Draw and explain the timing diagram of 8086 for READ operation. 7 M
4. a) Define DMA and need for DMA operation. 7 M
- b) Explain interrupt driven I/o in detail. 7 M
5. a) Define Interrupt and explain first five interrupt types from the interrupt vector table of 8086 processor. 7 M
- b) Define stack and explain the operation of stack of 8086 with example. 7 M
6. a) Explain various modes of operation in 8255 PPI. 7 M
- b) Write the instruction to set the control word register of 8255 with the following data 7 M
- (i) PORT A as an output port in mode 0
- (ii) PORT B as an input port in mode 1
7. a) Explain Initialization command words of 8259 PIC. 7 M
- b) Explain about 8251 USART Architecture. 7 M
8. a) Explain addressing modes of 8051 Microcontroller with examples. 7 M
- b) Explain different modes of operation of Times/Counters of 8051 Microcontroller. 7 M