

Code: EE6T3

III B.Tech - II Semester – Regular Examinations – May 2017

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

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11x 2 = 22 M

1.

- a) What are the 16-bit registers of 8086?
- b) List any four differences between 8-bit processors and 16-bit processors.
- c) Write any four conditional instructions of 8086.
- d) Mention any four logical instructions of 8086.
- e) What is the significance of stack pointer in 8086?
- f) List any two applications of Micro controllers.
- g) List any 2 arithmetic instructions of 8086.
- h) Comment about Interrupt Service routine.
- i) What is the significance of Interfacing?
- j) What is the significance of ADC in interfacing?
- k) Define machine cycle and op-code.

PART – B

Answer any *THREE* questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Explain about memory organization of 8086. 10 M
- b) Explain Memory read cycle of 8086 with timing diagram. 6 M
3. a) Write about addressing modes of 8086 microprocessor. 8 M
- b) Write an ALP to find largest of three numbers in 8086. 8 M
4. With a neat sketch explain the internal architecture of 8051 microcontroller. 16 M
5. a) Explain with 4 instructions of 8051 in each of the following sections: i) Arithmetic ii) Logical 8 M
- b) Write an ALP to initialize interrupts with timer/counter 1 with highest priority and external interrupt 0 having next priority. 8 M
6. a) Explain the operating modes of 8255. 8 M
- b) Explain about DMA controller. 8 M