

Code: IT5T5

**III B.Tech - I Semester – Regular/Supplementary Examinations
October 2018**

**MICROPROCESSORS AND MICRO CONTROLLERS
(INFORMATION TECHNOLOGY)**

Duration: 3 hours

Max. Marks: 70

PART – A

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

11x 2 = 22 M

1.

- a) What is the function of Address Latch Enable in 8085?
- b) Explain the instruction TRAP.
- c) Discuss 8086 instructions used for ASCII and BCD arithmetic.
- d) How to calculate physical address from segment address?
- e) Give the flag structure of 8051 microcontroller.
- f) Write examples for any two special function Registers 8051.
- g) What are register banks in 8051 microcontroller?
- h) Give the format of thumb instruction.
- i) Explain LDR instruction with example.
- j) State the format of DACR register in LPC1768
- k) List advantages and disadvantages of parallel communication over serial communication.

PART – B

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

16 x 3 = 48 M

2. a) Explain with examples the different instruction formats, based on the length of instructions. 4 M
- b) What is a bus? Why the data bus is bidirectional? 4 M
- c) Describe the categories of instructions used for data manipulation. 4 M
- d) What happens When the instruction XRA A is used. 4 M
3. a) Develop an 8086 assembly language program to arrange the numbers in ascending order. 8 M
- b) Draw and explain the internal architecture of 8086 processor. 8 M
4. a) List and elaborate the Interrupts involved in 8051 along with control registers. 8 M
- b) Explain the Addressing modes of 8051 microcontroller with an example. 8 M

5. a) Write an ALP to copy a block of data(BLOCK1) to another Block (BLOCK2) using ARM instructions. 8 M
- b) Explain in detail about ARM vs thumb programming model? 8 M
6. a) Discuss about any microcontroller programming IDE. 8 M
- b) Draw a neat sketch and explain the working of stepper motor control. 8 M