

Code: IT5T5

**III B.Tech - I Semester – Regular/Supplementary Examinations  
March- 2021**

**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) List out CALL Conditional instructions of 8085.
- b) Explain the pins SID & SOD of 8085.
- c) State the contents of registers with MOVX, @R1
- d) List out general purpose registers in 8086.
- e) What is instruction Queue in 8086.
- f) List out the addressing modes supported by 8051.
- g) Enlist register banks in 8051 microcontroller.
- h) Provide the difference between General instruction set and Thumb instruction set of ARM Processor.
- i) What is the use of Barrel shifter in ARM Architecture?
- j) Write one example of analog to digital conversion.
- k) What is I<sup>2</sup>C bus?

## PART – B

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

16 x 3 = 48 M

2. a) Provide the evolution of microprocessors. 8 M
- b) Explain the following instructions used in 8085 microprocessor with examples 8 M  
i) LDA ii) STC iii) ADI iv) CPI
3. a) Demonstrate with assembly language program in 8086 for searching the largest element in an array. 8 M
- b) Develop an 8086 assembly language program to multiply two 16-bit numbers to give 32-bit result. 8 M
4. a) State the size of the on-chip program memory and on-chip data memory of 8051 microcontroller. 8 M
- b) Highlight the advantages of using a microcontroller in place of a microprocessor. 8 M
5. a) Explain program flow instructions, SWI interrupt control instructions. 8 M
- b) Classify the instruction set of ARM processor. 8 M

6. a) Discuss introduction to micro controller development tools-introduction to any microcontroller programming IDE tool. 8 M
- b) Explain i) UART ii) DC Motor Control. 8 M