

B.Tech III Year II Semester (R13) Regular & Supplementary Examinations May/June 2017
MICROPROCESSORS & MICROCONTROLLERS
(Common to EEE, ECE and EIE)

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) What is the need for ALE signal in 8085 microprocessor?
 - (b) Define instruction cycle and machine cycle.
 - (c) List the flags of 8086 microprocessor.
 - (d) Define pipelining.
 - (e) Discuss 8086 instructions used for ASCII and BCD arithmetic.
 - (f) What are called assembler directives?
 - (g) What is key bouncing?
 - (h) List advantages and disadvantages of parallel communication over serial communication.
 - (i) What is the function of DPTR register?
 - (j) What are register banks in 8051 microcontroller?

PART – B
(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 Describe functional block diagram of 8085 microprocessor.

OR

- 3 (a) Draw and explain the timing diagrams for the following instruction with appropriate control and status signal: CALL 8000.
(b) What is meant by PSW?

UNIT – II

- 4 Explain about the register organization of 8086 processor in detail.

OR

- 5 Describe about the signals involved in minimum mode operation of 8086 microprocessor based system with the timing diagram.

UNIT – III

- 6 Explain different addressing modes in 8086 microprocessor and discuss each mode with an example.

OR

- 7 (a) Explain about the following assembler directives: END P, EQU, EVEN, EXTRN with examples.
(b) Write an assembly language program in 8086 to generate Fibonacci series.

UNIT – IV

- 8 Draw the complete block diagram of 8279 keyboard display interface and explain the functions of each block.

OR

- 9 What is DMA? Explain DMA based data transfer using 8257 DMA controller.

UNIT – V

- 10 Explain in detail about the I/O ports of 8051 microcontroller.

OR

- 11 Explain memory organization and SFR area of 8051 microcontroller.