

B.Tech III Year II Semester (R13) Regular Examinations May/June 2016

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) Explain the function of ALE in 8085 microprocessor.
 - (b) What are the different hardware interrupts of 8085?
 - (c) Name any four flags in 8086.
 - (d) What is the use of instruction queue in 8086 microprocessor?
 - (e) Mention the functions of SI and DI.
 - (f) What is meant by software interrupt in 8086?
 - (g) What are the various modes of data transfer?
 - (h) What is the function of scan section in keyboard interface?
 - (i) What are the advantages of microcontroller over microprocessor?
 - (j) Name the five interrupt sources of 8051 microcontroller.

PART – B

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

UNIT – I

- 2 (a) Draw the timing diagram and explain the execution of the instruction IN 82H of 8085 microprocessor.
(b) Name and explain different addressing modes used in 8085 using suitable examples.

OR

- 3 How 8085 instructions are classified according to their functional categories? Explain with examples.

UNIT – II

- 4 Explain with neat diagram the internal architecture of 8086 microprocessor.

OR

- 5 Explain in detail about 8086 interrupts.

UNIT – III

- 6 Write an assembly language program in 8086 to sort an array of 10 numbers in ascending order.

OR

- 7 (a) Explain various assembler directives with examples.
(b) Write an assembly language program in 8086 to convert BCD data into binary data.

UNIT – IV

- 8 With neat functional block diagram, explain the 8255 programmable peripheral interface and its operating modes.

OR

- 9 Draw the block diagram of 8254 programmable interval timer and explain its various modes of operation.

UNIT – V

- 10 Describe the different modes of operation of timers/counters in 8051 with its associated register.

OR

- 11 Explain the architecture of 8051 microcontroller with neat diagram.
