R13

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)
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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 times 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.

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