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II/IV B.Tech (Regular / Supplementary) DEGREE EXAMINATION

February, 2021

Third Semester

Computer Science and Engineering

Microprocessors & Microcontrollers

Time: Three Hours

Maximum : 50 Marks

(1X10 = 10 Marks)

(4X10=40 Marks)

Answer ALL Questions from PART-A.

Answer ANY FOUR questions from PART-B.

Part - A

(1X10=10 Marks)

1. Answer all questions

a   What are the differences between the Microprocessor and Microcontroller?

b   What is the size and purpose of instruction byte queue?

c   How much memory in kilo bytes (KB) that can be addressed by 8086 microprocessor?

d   Define macro.

e   What are the sources of interrupts?

f   What is a type 0 interrupt?

g   Define machine cycle.

h   List any three key switches.

i   What are the applications of microcontrollers.

j   Draw the format of PSW register in 8051

Part - B

2. Explain the architecture of 8086 microprocessor with neat block diagram.   10 M

3.a Explain the directives of 8086 microprocessor.   7 M

3.b Write an assembly language program to find the average of three numbers and store the result in accumulator.   3 M

4. Discuss all the parameter passing techniques to and from procedures with an example.   10 M

5.a Differentiate between near procedures and far procedures   5 M

5.b Explain the 8086 stack   5 M

6.a Explain bus activities during read machine cycle with timing diagram   5 M

6.b Write an ALP in 8086 for comparison of the two strings   5 M

7. Explain 8086 pin diagram with a neat sketch   10 M

8.a Explain priority interrupt controller functionality with a neat diagram   5 M

8.b Explain 8237 DMA Controller   5 M

9.a List and explain the addressing modes of 8051   5 M

9.b Explain 8051 arithmetic instructions with examples   5 M