Paper / Subject Code: 40724 / Microprocessors & Microcontrollers

Sem IV (C Scheme) R-2019 "ECS" Dec' 2022

Time: 3 Hours **Marks: 80**

Note:

1. Question number one is compulsory
2. Solve any 3 out of remaining five
3. Figures to the right indicates full marks

Q.1 Answer any four. 20

a) Explain the significance of hold,reset and ready signals in 8086 processor.

b) Explain following instructions of 8051 microcontroller with an example

i. MOVX
ii. CJNE
iii. JB
iv. SWAP

c) Explain the advantage of the pipelining feature in 8086 architecture.

d) Draw and explain the PSW register of 8051 microcontroller.

e) Compare Microprocessor and Microcontroller.

Q.2 a) Explain the Architecture of 8086 microprocessor. 10

b) Explain operating modes of 8255 PPI. 10

Q.3 a) Explain addressing modes of 8086 10

b) Write a 8051 assembly language program to find the number of positive and negative numbers in an array. 10

Q.4 a) Design an 8086 based Maximum Mode system working at6 MHz having the following: 10

32KB EPROM using 16KB chips,128KB RAM using 32KB chips.

b) Write a 8086 assembly language program to check whether a string is Palindrome or not. 10

Q.5 a) Explain the block diagram of 8259 Programmable Interrupt Controller in detail. 10

b) Explain various timer modes of 8051. 10

Q.6 Write short notes on (Any 3) 20

1. Memory segmentation
2. Interfacing of a DC motor to microcontroller.
3. Internal memory organization of 8051
4. Interfacing ADC to 8051

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