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Total Number of Pages : 02

B.Tech
PEI51102

5th Semester Regular / Back Examination 2018-19
MICROPROCESSOR & ITS INTERFACING

BRANCH : AEIE, EIE, IEE

Time : 3 Hours

Max Marks : 100

Q.CODE : E388

Answer Question No.1 (Part-1) which is compulsory, any EIGHT from Part-II and any TWO from Part-III.

The figures in the right hand margin indicate marks.

Part- I

Q1 Short Answer Type Questions (Answer All-10) (2 x 10)

- What is the use of ALE pin?
- Explain the difference between a JMP instruction and CALL instruction.
- How many address lines in a 4096 x 8 EPROM CHIP?
- Define instruction cycle, machine cycle and T-state.
- What are the features used mode 1 in 8255?
- What is DMA controller 8257?
- What are the addressing modes in 8051?
- What are the registers present in 8086 processor architecture?
- What is RS-232C Standard?
- What is the maximum internal clock frequency of 8086?

Part- II

Q2 Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)

- How information is saved on the stack of 8085?
- Explain Vectored and non-vectored interrupts of 8085.
- Draw and explain the timing diagram of memory write cycle with example.
- Draw the functional block diagram of 8085 microprocessor and explain.
- Write a Program to perform the following :
 - Load the number 5CH in register D
 - Load the number 9E H in register C
 - Increment the Contents of register C by one.
 - Add the contents of register C and D and Display the sum at output port 1.
- Explain priority interrupts of 8085.
- Draw timing diagram for STA instruction.
- Write a program to initialize 8255 in the configuration given below: Port A as simple input, Port B as simple output, Port C_L as output and Port C_U as input. Assume address of the control word register of 8255 as 83H.
- Write the data transfer and arithmetic instructions of 8051.
- Write a assembly language program to multiply two 16-bit numbers using 8051.
- Draw and explain the pin diagrams of 8253 timer IC.
- Write six numbers of differences between microprocessor and microcontroller.

Part-III

Long Answer Type Questions (Answer Any TWO out of FOUR)

- Q3** Write 8085 assembly language program to SORT an array of 10 bytes in Descending order. **(16)**
- Q4** Sketch the internal hardware architecture of Intel 8086 and explain each block. **(16)**
- Q5** Consider that 4 LEDs are connected to port C_L of 8255 chip. Address of port C is 82H and control register is 83H. Write a program to flash 4 LEDs 10 times. Assume persistence of vision to be 0.1 seconds. Consider operating frequency 2.5 MHz. **(16)**
- Q6** Write a program in assembly language to multiply two 16-bit numbers using 8085. **(16)**