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(Following Paper ID and Roll No. to be filled in your Answer Book)

Paper ID : 131503 | Roll No. | | | | | | | | | |

B.TECH.

(SEM. V) THEORY EXAMINATION, 2015-16

MICRO PROCESSORS

[Time:3 hours] [Total Marks:100]

Section-A

Note: All questions are ***compulsory.***

1. Attempt **all** parts . All parts carry **equal** marks. Write answer of all part in short . **(2x10=20)**

a) Give the significance of SIM and RIM instruction available in 8085.

b) Explain the role of REP prefix in 8086.

c) Give excitation table to rotate stepper motor in clockwise direction.

d) What do you mean by assembler directives?

e) What is the arithmetic operation happens in shift instruction?

(f) What are the 8086 intererupt types?

(g) Calculate the number of memory chips needed to design 64K byte memory if memory chip size available is 2048×1?

(h) What is USART?

(i) Explain the role of DT/R and DEN signals of 8086?

(j) Draw frame structures for syschronous and asynchronous modes of transmission.

Section-B

Attempt **any five** questions from this section. **(10x5=50)**

2. (a) What do you mean by machine cycle, instruction cycle and T-states.

   (b) Draw the timming diagram for OUT instruction.

3. (a) What is the difference between Maximum and Minimum mode of operation in 8086.

   (b) Explain the advantages of dividing memory into segments. How is the 20 bit physical address for memory generated? Explain with examples.

4. Explain with an example the various types of addressing modes supported by 8086 microprocessors.

5. (a) Write a 8086 assembly language program to convert binary to BCD.

   (b) Explain the following assembler directive:

   (i) EXTRN

   (ii) PUBLIC

   (iii) EVEN

   (iv) ORG

   (v) DT

6. WAP using 8086 to interface seven segment display with 8255.

7. Write a program to generate a square wave of 500 μs using 8086. Assume 5 MHz Clock frequency.

8. Explain the command words of 8259.

9. Draw and explain the functional block diagram of 8257.

Section-C

Attempt **any two** questions from this section. **(15x2=30)**

10. (a) Explain the programming model of 8085.

    (b) What are interrupts? What happens when an interrupt is encountered? Classify the interrupt of 8085.

11. Explain the concept of timer and delay in 8086. Explain various methods of genrating delay using suitable instructions.

12. (a) Explain the difference between RAM and ROM.

    (b) Differentiate between 8085 & 8086.

    (c) Compare RS232C and RS422A standards.

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