Printed Pages:2   Sub Code: REE-602

Paper Id: | 1 | 2 | 0 | 2 | 6 | 0 | Roll No. | | | | | | | | | | |

B.TECH.
(SEM VI) THEORY EXAMINATION 2018-19
MICROPROCESSOR

Time: 3 Hours   *Total Marks: 70*

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1.   **Attempt *all* questions in brief.**   2 x 7 = 14

   a.   What is the difference between the following instructions of 8086?
           MOV AX, TABLE-ADDR
           LEA AX, TABLE-ADDR
   b.   What is meant by MAR and MDR?
   c.   List the available addressing modes in 8085.
   d.   What is the fundamental difference between Harvard and Von Neuman architecture?
   e.   What is meant by memory mapped I/O?
   f.   How instruction cycle, machine cycle, and clock cycle are related?
   g.   What are peripheral devices? Why are they required?

SECTION B

2.   **Attempt any *three* of the following:**   7 x 3 = 21

   a.   Name the different types of buses used in Microprocessor family. Explain the need to demultiplex the bus AD_7-AD_0 with neat diagram
   b.   Draw the pin diagram of 8085 and specify the function and direction of information flow of address bus, data bus and control bus.
   c.   Explain pipelining architecture of 8086 microprocessor. Show bit-wise flag register of 8086 and explain each of them.
   d.   An 8085 is executing the following program:
           2000: LXI H, 4325H;
                   LXI SP, 3000H;
                   MOV A, H;
                   ADD L;
                   PUSH PSW;
                   POP H;
                   END
           At the end of program execution, what will be the contents of the HL register pair?
   e.   What is meant by Direct Memory Access? With the help of neat schematic, explain the interaction between 8086 MPU and DMA controller for providing direct memory access to a peripheral device.

SECTION C

3.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

   (a)   List the components of computer and explain each in brief. What is the difference between a micro processor and a CPU?

   (b)   Elaborate the evolution of microprocessor from a 4-bit processor to the contemporary dual core processors.

4.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

   (a)   With the help of neat block diagram, explain the architecture of 8085 microprocessor.

   (b)   Write an assembly level program in 8085 to convert a binary number into its equivalent BCD form.

5.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

   (a)   (i) What is meant by Minimum and Maximum mode of operation in 8086 IC. Which pins are affected by this dual mode?

   ii) How does the asynchronous behavior of EU and BIU increase the throughput of 8086 microprocessor.

   (b)   What is the purpose of a flow-chart? Write an assembly level program in 8086 to implement the following flow-chart
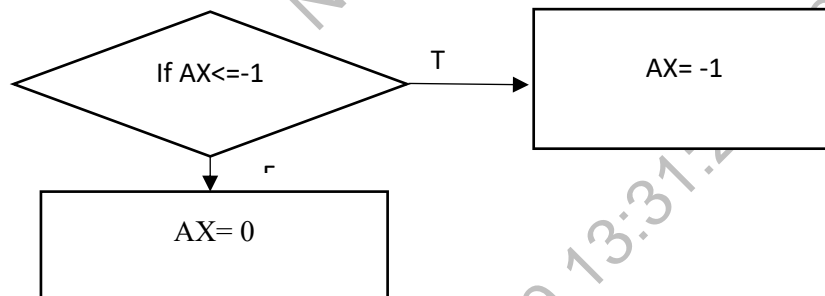
6.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

   (a)   Write an assembly language program in 8085 to transfer the contents of flag register into D register.

   (b)   Why assembly language is used to program microprocessor? What are the disadvantages of microprocessors?

7.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

   (a)   How many 8259 can be interconnected in cascaded mode? Show their cascading structure.

   (b)   Form a control word to set the D3 bit of Port-C of the 8255. Write a program that drives 8 number of LEDs sequentially using any one of the ports of PPI.