Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐   **Total No. of Pages : 02**

Total No. of Questions : 09

B.Tech (Electronics & Electrical Engg.) (2012 to 2017)

B.Tech.(EE) PT/(Electrical & Electronics Engg.) (2011 Onwards)

B.Tech (EE) (2012 Onwards)

(Sem.–5)

MICROPROCESSORS

Subject Code : BTEE-503

M.Code : 70556

Time : 3 Hrs.   **Max. Marks : 60**

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. **Answer briefly :**

   a) Why Microprocessor is required? Explain.

   b) Comparison of LXI H, 2000H and LHLD 2000H of 8085.

   c) The function of READY and ALE signals in 8085.

   d) Discuss the significance of subroutines.

   e) What do you mean by memory interfacing? Explain.

   f) Differentiate between shift logical right (SHR) and shift arithmetic right (SAR) instructions used in 8086 microprocessor.

   g) What is PSW? Explain.

   h) What is the significance of timing diagram? Explain.

   i) What is the function of 8254 chip? Explain.

   j) What do you mean by USART? Explain its function.

SECTION-B

2. How many interrupts in 8085 microprocessor? Arrange them in ascending order of their priority and write short note on vectored and non-vectored interrupt.

3. Draw a flow chart and write a program to count from 0 to 9 with a one second delay between each count. At the count of 9, the counter should reset itself to zero and repeat the sequence continuously. The clock frequency of the microcomputer is 1 MHz.

4. What is the function of addressing modes? Discuss various addressing modes of 8086 microprocessor giving at least two examples of each.

5. Differentiate between Minimum and Maximum mode. Write down the various characteristics of minimum mode.

6. List the different characteristics of 8255. Also write down the configuration of control word in I/O mode of 8255.

SECTION-C

7. Discuss the following instructions w.r.t. 8085 :

   a) XTHL

   b) PCHL

   c) STC

   d) NOP

   e) HLT

   f) SHLD

   g) SIM

   h) ANI 00H

   i) XCHG

   j) DAA

8. What is DMA data transfer scheme? Discuss the functions of DMA controller 8257 in detail.

9. a) Draw the flow chart and write a programme to add the content of the memory location 2000H:0500H to the contents of 3000H:0600H and store the result in 5000H:0700H.

   b) Differentiate between Minimum and Maximum mode. Write down the various characteristics of minimum mode.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.