

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(EE) PT (Sem.-7)
MICROCONTROLLER AND PLC
Subject Code : BTEE-604
M.Code : 74092

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS 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 have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A**1. Answer briefly :**

- a) Compare microprocessors and microcontroller.
- b) Differentiate between TIMERS vs. COUNTR in 8051 microcontrollers.
- c) Why the interrupts are required in a microcontroller? Explain.
- d) Differentiate between LCALL and ACALL instructions.
- e) What do you mean by a subroutine? Discuss its advantages.
- f) What do you mean by look up table? Why look up tables are required? Explain.
- g) What is memory mapped I/O? Explain.
- h) Explain the function of an assembler.
- i) Discuss the significance of embedded system.
- j) What do you mean by ladder logic? Explain.

SECTION-B

2. Discuss the different serial data transmission modes in detail.
3. Discuss in detail the various microcontroller specifications. Also explain the concept of memory address decoding.
4. Discuss the various arithmetic and Logical instructions of 8051.
5. Write a program to interface LCD with microcontroller. Describe the logic being used with the help of connection diagram.
6. Differentiate between
 - a) PLC and Hardwired system
 - b) PLC and Computer

SECTION-C

7. Draw the block diagram and explain the function of each block of 8051 microcontroller architecture in detail.
8.
 - a) What are the different steps involved in transferring character bytes serially while programming 8051? Explain.
 - b) Write a program to find the factorial of a given number using 8051 microcontroller instruction set. Also draw the flow chart of the program.
9. Discuss the following:
 - a) PLC classification
 - b) FPGA

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.