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

Total No. of Questions : 09

B.Tech.(ECSE) (Sem.–5)
MICROCONTROLLER & EMBEDDED SYSTEM
Subject Code : BTEL-502
M.Code : 70578

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 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. What is the function of ALE signal in an 8051 microcontroller?

   b. How many ways an 8051 microcontroller can be interrupted?

   c. What are special function registers? Explain in brief.

   d. What is the size of internal RAM in 8051 microcontroller?

   e. What do you mean by SCON in microcontroller 8051?

   f. What is the difference between the MOVX and MOVC instructions?

   g. What is operation of instruction ADD A, # n?

   h. Differentiate between SJMP and LJMP instructions.

   i. What is the function of PSEN pin of 8051?

   j. What is the significance of TCON register?

SECTION-B

2. Explain in detail the timer mode control register (TCON).

3. Explain the rotate and swap operation in microcontroller 8051.

4. Explain the differences between a microprocessor and a microcontroller.

5. What are the various serial transmission modes of 8051?

6. Write a program to multiply two 8-bit numbers in 8051.

SECTION-C

7. Draw the architectural diagram of 8051 microcontroller. Discuss the role of each block.

8. Give an introduction to latest microcontrollers and list their applications explaining any one of them.

9. Interface a 2X16 LCD with 805 I and write program to display "HELLO" on the first line of that LCD.

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.