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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (CE/CSE/EE/IT/AI&ML/FT) (Sem-6)
MICROPROCESSORS AND MICROCONTROLLERS

Subject Code : BTEC-402-18

M.Code : 79382

Date of Examination : 30-06-2023

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. Write briefly :

- a) For a time delay of 20ms, what value do you need to load into the timer register? (Assume XTAL = 11.0592 MHz).
- b) List various conditional jump instructions.
- c) What is bit addressability?
- d) Give the different flags available of 8085 microprocessor.
- e) What is the significance of SBUF register?
- f) What is the use of Timers in 8051 microcontroller?
- g) Show the I/O ports of 8051 microcontroller.
- h) What do you mean by SCON in microcontroller 8051 ?
- i) What is the difference between the MOVX and MOVC instructions?
- j) Write an assembly program to subtract the contents of R₁ of Bank0 from the contents of R₀ of Bank 1.

SECTION-B

2. With a neat circuit diagram, explain how a keyboard is interfaced with 8051 microcontroller and write 8051 ALP for keypad scanning.
3. WAP to add 10 bytes of data stored at RAM memory 40H to 49H and saves the lower byte of result at 61H and higher byte at 62H memory locations.
4. Draw and explain the pin diagram for 8085 microprocessor.
5. Define interrupt and explain the interrupt service routines in 8051 microcontroller programming.
6. Discuss memory organization for 8051 microcontroller.

SECTION-C

7. Define addressing mode and explain different addressing modes present in 8051 microcontroller with atleast two examples for each mode.
8. **Discuss the following SFRs in 8051 microcontroller :**
 - a) PSW
 - b) SCON
9. List out the various categories of the 8085 instructions. Give examples of the instructions for each group.

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.