

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (CE / CSE / EE / FT / IT) (Sem.-6)

MICROPROCESSORS AND MICROCONTROLLERS

Subject Code : BTEC-402-18

M.Code : 79382

Date of Examination : 11-01-2023

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) What is T-state? Explain with an example.
- b) What is the need of interrupts in microprocessor?
- c) How microcontroller is different from microprocessor?
- d) Discuss the function of HOLD, READY signals with example.
- e) What is the difference between the shifts and rotate instructions?
- f) What is the function of PUSH and POP instruction?
- g) What do you mean by SCON in microcontroller 8051?
- h) What is the difference between the MOVX and MOVC instructions?
- i) What is the function of PSEN pin of 8051?
- j) What is the significance of TCON register?

SECTION- B

2. Draw the schematic of latching low-order address bus in 8085 microprocessor.
3. How are the 8085 instructions classified according to the functional categories?
4. Write short note on SRAM and DRAM.
5. Classify and explain the instruction set of 8051 microcontroller
6. Define interrupt and explain the interrupt service routines in 8051 microcontroller programming.

SECTION-C

7. Define addressing mode and explain different addressing modes present in 8051 microcontroller with atleast two examples for each mode.
8. Draw the Interfacing diagram of D/A Converter with 8051 Microcontroller and explain its operation.
9. How the process of serial communication happens in microcontroller? List the serial interfaces used. Also write the steps for programming to transfer the data serially.

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.