STATE BOARD OF TECHNICAL EDUCATION AND TRAINING
TELANGANA
DIPLOMA EXAMINATION (C-18)
C-18-REGULAR-AUGUST-2021
SEMESTER IV , SEMESTER END EXAM
18EC/EI/BM/ES/EV

6433

402C
MICROCONTROLLER PROGRAMMING

Duration: 3 Hours [Total Marks: 60]

PART-A

Instructions: 1. Answer any **TWELVE** questions. 12 X 1 = 12
2. Each question carries **ONE** mark.

1. List any two applications of microcontrollers.
2. What is multiplexing in 8051 ?
3. Define nibble and byte with reference to microcontrollers
4. Classify the Instruction set of 8051.
5. State the function of branching instructions
6. Write the function of the instruction MOV A,R4.
7. What is the key press?
8. Define input and output interfacing
9. State the need for Programmable peripheral devices.
10. State the need for MAX 232 and 233 IC's
11. Write any two advantages of subroutines.
12. Define debugging.
13. State IC numbers of any two INTEL Microcontroller family chips.
14. State the function of RS and E pins of LCD.
15. Define RS 232 Interface

PART-B

Instructions: 1. Answer any **SIX** questions. 6 X 3 = 18
2. Each question carries **THREE** marks.

16. Explain interrupts in 8051.
17. Explain three byte instructions of 8051 with examples.
18. Write any three Boolean or bit manipulation instructions
19. What is the need for interfacing ?
20. State the need for DMA controller.
21. List the steps in writing and trouble shooting a simple program
22. Compare any three INTEL microcontroller families
23. List the data transfer instructions.
24. Explain the operation of stack with PUSH and POP instructions

PART-C

Instructions: 1. Answer any SIX questions. 6 X 5 = 30
2. Each question carries **FIVE** marks.

25. Draw the pin diagram of 8051 micro controller and specify the purpose of each pin.
26. List the different addressing modes of 8051 and explain any three modes with examples.
27. Explain the arithmetic group of instructions with examples.
28. Explain the interfacing of pushbutton switch to 8051 microcontroller
29. Draw and explain the block diagram of PPI 8255.
30. Explain the concept of nesting and multiple ending in subroutines with necessary diagrams
31. Explain Multiplexing and De-Multiplexing in 8051 with neat diagram
32. Explain interfacing of LCD to 8051 with a diagram
33. Explain the principles of single step and break point debugging techniques.