DIPLOMA IN ELECTRICAL ENGINEERING AND ELECTRIC VEHICLE TECHNOLOGY

CENTRALIZED QUESTION BANK

1030234340- MICROCONTROLLER AND EMBEDDED SYSTEMS

DIRECTORATE OF TECHNICAL

EDUCATION GOVERNMENT OF

TAMILNADU

DIPLOMA END SEMESTER / YEAR EXAMINATION – 2025

Course: Electrical Engineering and Electric Vehicle Technology

Subject : Microcontroller and Embedded Systems   **QP Code :** 1030234340

Time : 3 Hours   **Date :**   **Session:**   **Max Marks:**100

Answer the Following Questions

1. Write an Assembly Language Program for adding two 16-bit numbers which are given as immediate data or stored in the memory. Execute the same using 8051 trainer kit. Store the output result in memory

2. Write an Assembly Language Program for subtracting two 16-bit numbers which are given as immediate data or stored in the memory. Execute the same using 8051 trainer kit. Store the output result in memory.

3. Write an Assembly Language Program using 8051 to perform 8-bitMultiplication and store the result in the memory. The input numbers can be given as immediate data or stored in the memory.

4. Write an Assembly Language Program using 8051 to perform 8-bitDivision and store the result in the memory. The input numbers can be given as immediate data or stored in the memory.

5. Write an 8051 Assembly Language Program to generate Time delay using time delay routine and verify the output.

6. Write an Assembly Language Program to generate time delay by using Timer / Counter of 8051microcontroller and observe the output.

7. Write an Assembly Language Program to interface a Matrix keyboard /Keypad with microcontroller 8051 and verify the output.

8. Write an Assembly Language Program to interface Seven segment LED display with 8051 microcontroller and observe the output display.

9. Write an Assembly Language Program to interface stepper motor with microcontroller 8051 and execute. Check the execution of the motor in the forward/reverse rotation of the motor.

10 Write an Assembly Language Program to interface a DC motor with microcontroller 8051 and verify the rotation of motor.

11. Write an Assembly Language Program to interface ADC with 8051 microcontroller and verify the digital output.

12. Write an Assembly Language Program to generate PWM and verify the waveform.

Allocation of Marks

Sl. No	Description	Marks
1	Aim & Apparatus Required	05
2	Algorithm or Flow Chart	20
3	Program	20
4	Execution and Output / Result	25
5	MCQ from Theory Portions	20
6	Viva Voce	10
	Total	**100**