



**DIPLOMA IN ELECTRONICS AND  
COMMUNICATION ENGINEERING**

**CENTRALIZED QUESTION BANK**

**4040653 – EMBEDDED SYSTEMS PRACTICAL**

**DIRECTORATE OF TECHNICAL  
EDUCATION GOVERNMENT OF  
TAMILNADU**

## DIPLOMA END SEMESTER / YEAR EXAMINATION – 2023

**Course** : Electronics and Communication Engineering

**Subject** : Embedded systems practical

**QP Code** : 4040653

**Time** : 3 Hours **Date** :

**Session:**

**Max Marks:** 100

### Answer the Following Question

1. Write and simulate the assembly language program for addition and subtraction.
2. Write and simulate the assembly language program for multiplication.
3. Write and execute C program to blink the LEDs using software delay routine.
4. Write and execute C program to blink the LEDs using on chip TIMER/COUNTER for the delay (Using Polling method).
5. Write and execute C program to blink the LEDs using on chip TIMER/COUNTER for the delay (Using Interrupt method).
6. Write and execute C program to read the switch and display in the LEDs.
7. Write and execute C program to count external interrupt pulses EINTx (using VIC) and show the binary count value in LEDs.
8. Write and execute C program to display a number in seven segment LED.
9. Write and execute C program for serial transmission and reception using on chip UART. Send the received character back to the PC by Polling method.
10. Write and execute C program for serial transmission and reception using on chip UART. Send the received character back to the PC by Interrupt method.
11. Write and execute C program for accessing an internal ADC and display the binary output in LEDs.

### DETAILED ALLOCATION OF MARKS

Algorithm or Flow chart	:	20
Program	:	30
Execution	:	30
Output/Result	:	10
Viva-Voce	:	10
Total	:	100