



Continuous Assessment Test -I (CAT-I) Fall Semester (2024-25)

Programme Name & Branch : B. Tech & SCOPE
Course Name & Code: : Embedded Systems & BCSE305L
Class Number(s) : VL2024250108125
Slot : AI+TA1
Faculty Name (s) : Bhulakshmi Bonthu

Exam Duration: 90 Min.

Maximum Marks: 50

General instruction(s):

Answer All questions

Q.No.	Questions	Max Marks
1.	Enumerate the design challenges in Embedded Systems.	10
2.	Explain the features and architecture of 8051 Microcontroller with the help of neat diagram.	10
3.	a) Describe the various modes of operation in ARM.	6
	b) Design a program to transfer any eight-letter word serially at 9600baud rate, 8 bit data, 1 stop bit and repeat continuously	4
4.	Discuss the working principle of ADC and analyze its importance in an embedded system with a real life scenario.	10
5.	Design a smart automatic chocolate vending machine with the following specifications. a) Interactive user interface b) Variable menu options c) Inventory report regarding sales as well as stock. Design deliverables: Your design must include the following components: - Conceptual architecture, Hardware system block diagram, Operational flow (either flow chart / use case / pseudocode)	10