REG.NO.:

VIT

Vellore Institute of Technology

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING
CONTINUOUS ASSESSMENT TEST - I
WINTER SEMESTER 2024-2025

SLOT: A2+TA2

Programme Name & Branch	: B.Tech (CSE & Specializations)
Course Code and Course Name	: BCSE305L and Embedded Systems
Faculty Name(s)	: Common for all
Class Number(s)	: Common for all
Date of Examination	: 27.01.2025
Exam Duration	: 90 minutes

Maximum Marks: 50

General instruction(s):

- Answer All Questions
- M - Max mark; CO - Course Outcome; BL - Blooms Taxonomy Level (1 - Remember, 2 - Understand, 3 - Apply, 4 - Analyse, 5 - Evaluate, 6 - Create)
- CO1: Identify the challenges in designing an embedded system using various microcontrollers and interfaces.
- CO2: To summaries the functionality of any special purpose computing system, and to propose smart solutions to engineering challenges at the prototype level.

Q. No	Question	M	CO	BL
1.	Justify why a desktop system could not be defined as an embedded system. Illustrate architecture of PIC microcontroller with sufficient explanation.	10	CO1	BL3
2.	Identify the various features for the following embedded system i. Smart Washing Machine ii. Green House Monitoring iii. Textile Manufacturing Classify the above systems with respect to scalability with necessary justifications.	10	CO1	BL4
3.	Mention the various use of serial communication. Construct a program using Embedded C/ALP to transfer message "AI-The Devil or Angel" serially with baud rate of 9600 bps using UART protocol.	10	CO2	BL4
4.	Mention at least three real life examples where digital to analog conversion is required. Design and illustrate R-2R ladder based DAC.	10	CO2	BL4
5.	Discuss how actuator could be used to control various types of movements. How such movement control can be applied to design a mobile vacuum cleaner. Show the interfacing and operation with 8051.	10	CO2	BL2

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