



VIT

Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

REG.NO.:

SJT522-2

NAME OF THE SCHOOL
CONTINUOUS ASSESSMENT TEST - II
FALL SEMESTER 2024-2025

SLOT: G2+TG2

Programme Name & Branch : B. Tech & BCE, BKT
Course Code and Course Name : BCSE324L & Foundations of Blockchain Technology
Faculty Name(s) : Dr. Sendhil Kumar K S & Dr. Niha K
Class Number(s) : VL2024250101401 & VL2024250101404
Date of Examination : 19-10-2024
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)
- Course Outcomes (Type the CO statements covered in this question paper. Use the CO number as per the syllabus copy)

CO2 - Apply and Analyze the requirement of Distributed Ledger Technology and Smart Contract.

CO3 - Design and demonstrate end-to-end decentralized applications.

Q. No	Question	M	CO	BL
1.	Scenario: "A" is a seller and wants to sell his car, and "B" is a buyer who wants to buy "A" 's car so they will contact Escrow "C" (an arbiter) which holds the asset until "B" receives the car. When this condition will be met, Escrow will release the fund to "A". This solves the issue of trust and prevents any discrepancy. How the above scenario will be presented using smart contract.	10	CO2	BL3
2.	a) Write the Syntax for the following properties: i] Computes the SHA-256 hash of the input. ii] recovers the address linked with the public key and if an error occurs, zero is returned. Identify the variables for the return values given below: iii] Block number of the current block. iv] The timestamp of the current block as seconds since Unix epoch. v] Amount of gas left. b) Fill up the blanks in the given program and compute the output: <pre>pragma solidity ^0.5.0; contract ____ Example { string ____; constructor() public</pre>	5	CO2	BL3
		5		



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	<pre>{ str = "User"; } function get____() public view returns (____ memory) { return str; }</pre>			
3.	Explain the working mechanism behind a Developer DAO and illustrate the advantages and disadvantages over representing it as centralized-distributed and decentralized-distributed Organization.	10	CO3	BL4
4.	Consider that Company A issued \$10 million in 2-year bonds that have a variable interest rate of the London Interbank Offered Rate (LIBOR) plus 1%. Say that LIBOR is 2%. Since the company is worried that interest rates may rise, it finds Company B that agrees to pay Company A the LIBOR annual rate plus 1% for two years on the notional principal of \$10 million. Company A, in exchange, pays this company a fixed rate of 4% on a notional value of \$10 million for two years. If interest rates rise significantly, Company A will benefit. Conversely, Company B will stand to benefit if interest rates stay flat or fall. Identify and explain the working of a suitable DAO for the given use case.	10	CO3	BL4
5.	Validate and describe how a blockchain enabled supply chain ecosystem creates advantages for providing better <u>product tracing</u> , <u>reducing counterfeiting</u> , and eliminating shipping trade partners, and intermediaries in detail.	10	CO3	BL5
