

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

SLOT: F1+TF1

Programme Name & Branch : B.Tech. CSE
Course Code and Course Name : BCSE324L - Foundations of Blockchain Technology
Faculty Name(s) : Dr. Ramesh Babu K, Dr. Mohankumar B, Dr. Jothi K R
Class Number(s) : VL2024250502004, VL2024250506627, VL2024250502012
Date of Examination : 01 February 2025
Exam Duration : 90 minutes

General instruction(s):

Maximum Marks: 50

- 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 :
 - CO1 - Understand Blockchain ecosystem and its services in real world sceneries
 - CO2 - Apply and Analyze the requirement of Distributed Ledger Technology and Smart Contract

Q. No	Question	M	CO	BL
1. ✓	Identify and explain the key challenges faced by blockchain technology, such as scalability, energy consumption, and interoperability. Illustrate the Blockchain trilemma and discuss how it can be solved.	10	1	2
2. ✓	Explain the concept of Asynchronous Byzantine Agreement (ABA) and how it addresses the challenges of faulty nodes and message delays in distributed systems. Discuss its relevance in blockchain networks.	10	1	2
3. ✓	Explain the concept of Proof of Work (PoW) in blockchain. Describe how miners solve computational puzzles to add a new block to the blockchain, and discuss the role of PoW in ensuring security and decentralization.	5	1	2
4. ✓	Analyze the key features of Distributed Ledger Technology, such as decentralization, immutability, and transparency. Explain the key actors and their role in Distributed Ledger Technology (DLT) systems and 588	5	2	4
5. ✓	Explain the architecture of the Ethereum blockchain. Describe the key components such as smart contracts, Ethereum Virtual Machine (EVM), Ether and Gas Payment.	10	2	2