



SCHOOL OF COMPUTER SCIENCE ENGINEERING AND INFORMATION SYSTEMS
CONTINUOUS ASSESSMENT TEST - I
WINTER SEMESTER 2025-2026

Programme Name & Branch : BTech Information Technology
Course Code and Course Name : BITE402L – Distributed Computing
Faculty Name(s) : Dr. Venketesh, Dr. Yoga Raja, Dr. P Shunmuga Perumal
Class Number(s) : 2150, 2154, 3041
Date of Examination : 27.01.2026
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
 - CO1 - Identify the core concepts of distributed systems
 - CO2 - Analyze the core architectural concepts to meet the challenges in implementing distributed systems
 - CO3 - Examine important approaches in distributed systems to support synchronization and fault tolerance.

Q. No	Question	M	CO	BL
1.	A rapidly expanding university has established campuses in five states nationwide to attract and nurture young talent. Their plan is to integrate these campuses through a distributed networking ecosystem for effective governance and student support system. Discuss various issues related with networking concepts for the given scenario.	10	CO1	BL2
2	Compare client-server and peer-to-peer resource sharing scenarios. Illustrate the usage of various resources in distributed DNS system.	10	CO1	BL2
3.	Create a simple UDP Server that listens on port 7000 and appends every message it receives from the client to a text file 'logs.txt' with a timestamp. The UDP Client is responsible for sending 1000 messages to the Server. On completion of the message transmission, the server returns the number of messages it has successfully received and recorded in the logs. - Provide suitable code for UDP Client and Server - Identify the merits and demerits of using UDP sockets in this scenario. - Suggest suitable methods to handle the problems if any in UDP communication.	10	CO2	BL3
4.	Describe how RMI differs from RPC Mechanism. Illustrate how RMI facilitates implementation of a car rental system. Discuss the functionalities of its key components.	10	CO2	BL3
5.	A distributed healthcare management system is currently deployed with distributed objects. Due to its limitations, the management is planning to revamp the system with component based system. For the given scenario, discuss the appropriate limitations of the object based approach and justify how component-based approach will overcome the limitations.	10	CO3	BL2