Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (W), Mumbai : 400058, India

(Autonomous College of Affiliated to University of Mumbai)

Grade Improvement and Special Examination

August 2023

Maxi Marks: 100 Duration: 3 hours

Class: T.Y. Semester: V

Course code: 304 Branch: IT, COMP

Name of the course: Distributed Computing

Q No		Max Marks	CO	BL
Q.1 (a)	What are the reasons of replication? How are the replications used in distributed systems?	10	3	3
(b)	When to use vector clock? What is the difference between Lamport clock and vector clock? With suitable example explain Lamport clock and vector clock.	10	4	3
Q. 2 (a)	What are differences between RPC and RMI? How different failure semantics in RPC are used in distributed systems? OR Explain working of JAVA RMI with example.	10	2	5
(b)	What are the difficulties are faced while using process migration over code migration? Explain code migration in heterogeneous systems with the help of example.	10	3	5
Q.3 (a)	What is the difference between physical clock and logical clock? Explain Christians algorithm and Berkeleys algorithm with the help of example.	10	4	3
(b)	What are the different goals of distributed systems? How transparency is important goal? Explain different types of transparencies in distributed systems?	10	1	3
Q.4 (a)	What are the desirable characteristics of message passing? What are the different issues in IPC by message passing? How is group communication handled in distributed systems?	10	2	3
(b)	Why is load balancing required in distributed systems? Explain any two load balancing algorithms with examples in distributed systems.	10	3	3
Q5. (a)	How is data centric consistency model is used in distributed systems? How consistent ordering of operations takes place in distributed systems?	10	3	3
(b)	Give some scenario for Bully election algorithm , with that scenario explain the working of Bully election algorithm.	10	4	3