

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 2025***Fifth Semester**Computer Science and Engineering***CS3551- Distributed Computing****(Common to Information Technology & Artificial Intelligence and Data Science)***Regulations - 2021**Duration : 3 Hrs**Maximum : 100 Marks***PART - A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

<i>Q.No</i>	<i>Questions</i>	<i>BTL</i>	<i>CO</i>	<i>Marks</i>
1.	What do you mean by synchronous and asynchronous execution?	L1	1	2
2.	Differentiate between buffering and caching.	L2	1	2
3.	What is meant by group communication in distributed system?	L1	2	2
4.	Define logical Clock.	L1	2	2
5.	Name the two types of messages used in Ricart-Agrawala's algorithm.	L1	3	2
6.	What do you mean by deadlock avoidance?	L1	3	2
7.	Define External Synchronization.	L1	4	2
8.	Recall strict two phase locking.	L1	4	2
9.	What are the different cloud deployment models?	L1	5	2
10.	Differentiate between scalability and elasticity in cloud computing.	L2	5	2

PART - B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Illustrate the difference between message passing and shared memory process communication model. Or b With examples, explain how motivation influences the design of distributed systems and their real-world applications.	L2	1	16
12.	a Analyze the concept of logical time and discuss various logical clock synchronization mechanisms, including scalar time and vector time. Or b Examine about Chandy Lamport Snapshot algorithms for FIFO channels.	L4	2	16
13.	a Analyse suzuki kasami's broadcast algorithm for mutual exclusion in distributed system. Or b Classify the different types of deadlock models in distributed system with the commonly used strategies to handle deadlocks with a neat diagram.	L4	3	16

14.	a	Explain the concept of Checkpoint and Rollback recovery in Distributed computing with suitable example.	L2	4	16
		Or			
	b i	Illustrate the different types of failure in distributed systems.	L2	4	8
	ii	Explain the issues of failure recovery with an example.	L2	4	8
15.	a	Evaluate different Cloud deployment models based on security, scalability and cost effectiveness.	L5	5	16
		Or			
	b	Explain virtualization in cloud computing. Discuss its types and advantages.	L5	5	16