

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII EXAMINATION – SUMMER 2025****Subject Code:3170719****Date:27-05-2025****Subject Name:Distributed System****Time:02:30 PM TO 05:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		<b>MARKS</b>
<b>Q.1</b>	(a) Define Remote Procedure Call (RPC), Virtualization and Replication.	<b>03</b>
	(b) What is Distributed System? List out goals of distributed system.	<b>04</b>
	(c) Briefly explain different architectural styles of distributed system.	<b>07</b>
<b>Q.2</b>	(a) Discuss issues of code migration in heterogeneous systems.	<b>03</b>
	(b) What is Name Server? Describe the features for Good Naming System.	<b>04</b>
	(c) Discuss the desirable features of a good message-passing system.	<b>07</b>
	<b>OR</b>	
	(c) What is Process migration? What are the main steps involved in process migration?	<b>07</b>
<b>Q.3</b>	(a) Enumerate various issues in clock synchronization.	<b>03</b>
	(b) What is flat naming and structured naming?	<b>04</b>
	(c) Discuss and compare various election algorithms.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Explain the objective of Election algorithm in Distributed System.	<b>03</b>
	(b) Briefly explain iterative name resolution technique.	<b>04</b>
	(c) Explain any one method of logical clock implementation using example.	<b>07</b>
<b>Q.4</b>	(a) Explain causal consistency.	<b>03</b>
	(b) Briefly explain distributed commit and recovery in distributed systems.	<b>04</b>
	(c) Differentiate between load distribution and balancing. Explain any technique of load distribution or balancing.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Explain Backward and Forward recovery strategies.	<b>03</b>
	(b) Discuss Byzantine agreement problem of process resilience.	<b>04</b>
	(c) Explain the technique to avoid the faults in distributed systems	<b>07</b>
<b>Q.5</b>	(a) Explain the common approaches to user authentication.	<b>03</b>
	(b) Discuss digital signature in detail.	<b>04</b>
	(c) Explain the DSM system architecture with its diagram.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Discuss about the motivations for replication.	<b>03</b>
	(b) What is Denial of Service? Explain briefly.	<b>04</b>
	(c) Explain Distributed Web based System in details.	<b>07</b>