

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2024****Subject Code:3170719****Date:01-06-2024****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.

		MARKS
Q.1	(a) Give difference between parallel systems and distributed systems.	03
	(b) What is the need of distributed systems? Explain cluster computing.	04
	(c) Discuss (i) object based (ii) data centered and (iii) event based architectures of distributed systems.	07
Q.2	(a) Give advantages and disadvantages of virtual machine.	03
	(b) Discuss issues of code migration in heterogeneous systems.	04
	(c) Explain message oriented transient and persistent communication.	07
OR		
	(c) Explain stream oriented communication.	07
Q.3	(a) What is name space? Give hierarchy of name servers.	03
	(b) Explain distributed hash table name resolution mechanism.	04
	(c) What is Clock Synchronization? Explain lamport time-stamp algorithm in detail.	07
OR		
Q.3	(a) Explain LDAP in detail.	03
	(b) Briefly explain iterative name resolution technique.	04
	(c) Why mutual exclusion is more complex in distributed systems? Categorize and compare mutual exclusion algorithms.	07
Q.4	(a) Explain monotonic - read consistency model.	03
	(b) Discuss Byzantine agreement problem of process resilience.	04
	(c) Explain two phase commit protocol.	07
OR		
Q.4	(a) Explain monotonic - write consistency model.	03
	(b) Discuss failure detection of process resilience.	04
	(c) Explain absolute ordering, total ordering and casual ordering of reliable group communication.	07
Q.5	(a) Explain public key crypto systems: RSA.	03
	(b) Discuss digital signature in detail.	04
	(c) Explain Distributed File System in details.	07
OR		
Q.5	(a) Explain hash function: MD5.	03
	(b) Discuss Kerberos in detail.	04
	(c) Explain Distributed Web based System in details.	07