GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– VI EXAMINATION – SUMMER 2020

Subject Code: 2160710   Date:02/11/2020

Subject Name: DISTRIBUTED OPERATING SYSTEM

Time: 10:30 AM TO 01:00 PM   **Total Marks: 70**

Instructions:
1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1	**(a)**	Explain remote procedure call (RPC).	03
	(b)	What are the main differences between a network operating system and a distributed operating system?	04
	(c)	Describes the issues in designing distributed operating system.	07
Q.2	**(a)**	How computer clocks are implemented?	03
	(b)	Explain fault tolerance.	04
	(c)	Prove that the presence of a cycle in a general resource allocation graph is a necessary but not a sufficient condition for the existence of deadlock.	07
		OR	
	(c)	Explain mutual exclusion in distributed operating system.	07
Q.3	**(a)**	Explain process migration.	03
	(b)	Describe different models for organizing threads.	04
	(c)	What is false sharing? Discuss the importance of granularity of locks in combating the false sharing problem.	07
		OR	
Q.3	**(a)**	Explain the advantage of process migration.	03
	(b)	List the main differences and similarities between threads and processes.	04
	(c)	Describe the file sharing semantics in distributed file system.	07
Q.4	**(a)**	Explain granularity.	03
	(b)	List out the different consistency models and explain any one.	04
	(c)	Differentiate between the terms "location transparency" and "location independency." Which is a more powerful feature and why?	07
		OR	
Q.4	**(a)**	Explain shared memory page.	03
	(b)	Describe the methods for solving thrashing problems in distributed shared memory.	04
	(c)	What is name cache? Explain types of name caches.	07
Q.5	**(a)**	Explain JAVA RMI.	03
	(b)	Write a short note on: web proxy caching.	04
	(c)	Explain concept of replication in web hosting system.	07
		OR	
Q.5	**(a)**	Explain worm and logic bomb with their consequences.	03
	(b)	Define attacks. Explain types of attacks.	04
	(c)	Draw and explain architecture of SUN Network File System.	07

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