Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER II (OLD) – • EXAMINATION – SUMMER 2016

Subject Code: 1720201 **Date:17/05/2016**

Subject Name: Distributed Operating Systems

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)**	Define distributed system. Discuss the advantages of distributed systems over non-distributed systems.	**07**
	(b)	Discuss different types faults with example. Also discuss different types of failures that occur in distributed systems.	**07**
Q.2	**(a)**	Discuss reliable IPC protocols for client-server communication in distributed systems.	**07**
	(b)	How can ordered message delivery be ensured in many-to-many communication? Explain consistent ordering with diagram.	**07**
		OR	
	(b)	Write short note on lightweight RPC.	**07**
Q.3	**(a)**	Discuss following parameter-passing semantics with similarities and differences between them. 1. Call-by-object-reference 2. Call-by-move **3.** Call-by-visit	**07**
	(b)	Explain significance of block size in design of a Distributed Shared Memory. Also discuss parameters that influence selection of block size.	**07**
		OR	
Q.3	**(a)**	Explain sequential consistency model.	**07**
	(b)	Discuss passive time server centralized algorithm to achieve clock synchronization in distributed systems.	**07**
Q.4	**(a)**	Explain implementation of logical clocks using counters.	**07**
	(b)	Briefly describe different location policies of load balancing algorithm.	**07**
		OR	
Q.4	**(a)**	Discuss message-forwarding mechanisms of process migration.	**07**
	(b)	Discuss different thread models with diagram.	**07**
Q.5	**(a)**	Differentiate unstructured and structured files. Explain mutable and immutable files.	**07**
	(b)	Discuss main features of Amoeba distributed operating system.	**07**
		OR	
Q.5	**(a)**	Discuss client-initiated and server-initiated approaches of cache validation.	**07**
	(b)	Explain deadlock avoidance with example.	**07**

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