Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E –Ist SEMESTER–EXAMINATION – JULY- 2012

Subject code: 710103N **Date: 09/07/2012**

Subject Name: Distributed Operating System

Time: 2:30 pm – 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.**

Q.1	**(a)**	Define distributed operating system and network operating system. How distributed operating system is better than network operating system? Give three example of applications where distributed operating system is mare suitable than network operating system.	**07**
	(b)	List various model used for configuring distributed computing system. Discuss any two models in detail.	**07**
Q.2	**(a)**	Explain the VMTP protocol for handling lost messages, group communication, flow control and transparent communication.	**07**
	(b)	Describe the functionalities of the different layes of the ATM protocol reference model.	**07**
		OR	
	(b)	Explain what is absolute ordering, consistent ordering and casual ordering. Also explain mechanism of implementation of each.	**07**
Q.3	**(a)**	What is multi datagram message used in IPC? What are the main issues in IPC of multi datagram messages? Describe a mechanism of handling it.	**07**
	(b)	Explain process addressing issues of distributed operating system.	**07**
		OR	
Q.3	**(a)**	Differentiate between stateful and state less server. What is advantage of using state less servers compare to stateful server.	
	(b)	What is stub? How a stub can be generated? Explain how stub helps us in making RPC mechanism transparent.	
Q.4	**(a)**	Discuss relative advantages and disadvantages of using the NRNMB, NRMB, RMB and RNMB strategies in the design of a DSM system.	**07**
	(b)	Is distributed shared memory suitable for LAN and WAN environment? Give reason for your answer.	**07**
		OR	
Q.4	**(a)**	What is dead lock? What are four necessary conditions for dead lock to occur? Explain it with suitable example.	**07**
	(b)	Explain various load estimation policies which can be used in distributed operating system.	**07**
Q.5	**(a)**	Why processes on different machine need to exchange state information in distributed operating system? Explain policies used for state information exchange.	**07**
	(b)	While process migration, how address space of process can be migrated? Explain all possible mechanism.	**07**
		OR	
Q.5	**(a)**	Explain advantages and disadvantages of using full file caching and block caching model for data caching mechanism of a distributed file system.	**07**
	(b)	Describe the process model of Amoeba.	**07**

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