Exam Seat No:_____ **Enrollment No:**_____

C.U.SHAH UNIVERSITY

WADHWAN CITY

University (Winter) Examination -2013

Course Name : M.Tech(CE)Sem-I **Subject Name: -Distributed System and Application**

Duration :- 2:30 Hours **Date : 8/1/2014**

Instructions:-

(1) Attempt all Questions of both sections in same answer book / Supplementary.
(2) Use of Programmable calculator & any other electronic instrument is prohibited.
(3) Instructions written on main answer Book are strictly to be obeyed.
(4) Draw neat diagrams & figures (If necessary) at right places.
(5) Assume suitable & Perfect data if needed.

SECTION-I

Q-1 **Answer the following.**

(a) Compare pros and cons of microkernel and monolithic kernel approach. 3
(b) List the different types of transparency. Explain Location transparency 2
(c) List various client-server addressing techniques. 2

Q-2 **Answer the following.**

(a) What is the role of stub in RPC execution? How do stubs make RPC execution transparent? 5
(b) Explain different location policies to select destination node. 5
(c) Discuss the pros and cons of using Physical and Logical clocks in a distributed system 4

OR

Q-2 **Answer the following.**

(a) Explain different Steps involved in process migration and list advantages of it. 5
(b) Discuss different failure handling mechanism 5
(c) What is callback RPC? How does a server handle callback to the client? 4

Q-3 **Answer the following.**

(a) Discuss the issue in designing load balancing algorithms. 7
(b) Explain in detail different features of Message-passing system. 7

OR

Q-3 **Answer the following.**

(a) Explain Distributed Shared Memory architecture in detail 7
(b) Name different task assignment approach. Explain Graph theoretic deterministic algorithm with suitable example. 7

SECTION-II

Q-4 **Answer the following.**

(a) Explain how freezing of the migrating process is carried out. 3
(b) List the desirable features of good distributed file system 2
(c) What is the main difference between mutable and immutable file models? 2

Q-5 **Answer the following.**

(a) What is the main difference between stateless and stateful servers? Which servers are used in distributed applications? 5
(b) Discuss desirable features of a good global scheduling algorithm. 5
(c) What is ordered message delivery? Explain consistent ordering. 4

OR

Q-5 **Answer the following.**

(a) Explain orphan call. How are orphan calls handled in the implementation of various call semantics? 5
(b) Discuss the merits and demerits of classifying the files based on unit of transfer. 5

	(c)	Compare user-level thread and kernel-level thread.	4
Q-6		**Answer the following.**	
	(a)	Discuss various deadlock prevention strategies.	7
	(b)	Explain the architecture of AMOEBA with its microkernel and servers.	7

OR

Q-6		**Answer the following.**	
	(a)	Discuss the types of stronger consistency models. How do they differ from the weaker consistency models?	7
	(b)	Explain in detail Process management in MACH.	7

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