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Roll No. _____

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B.Tech. VIII Semester (Main) Examination, April/May 2016
Computer Science & Engineering
8CS3A Distributed Systems

Time : 3 Hours

Maximum Marks : 80
Min. Passing Marks : 24

Instructions to Candidates:

*Attempt any **five** questions, selecting one question from **each unit**. All questions carry equal marks. (Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly)*

Units of quantities used/calculated must be stated clearly.

Unit - I

1. a) What is distributed system? Explain its features differentiate between network OS and distributed OS (8)
- b) Differentiate between logical clock and global clock. Explain Lamport's logical clock algorithm (8)

OR

1. a) Define system model and briefly explain about architecture models (8)
- b) What do you mean by distributed computing environment(DCE)? Explain its features services and goals (8)

Unit - II

2. a) What is RPC in distributed systems? Explain the client /server architecture. Describe the role of client stub and server stub while making an RPC call(8)

- b) Describe the design issues and implementation of RMI (8)

OR

2. a) Describe the language mechanism for synchronization (8)
b) Explain the name and directory services (8)

Unit - III

3. a) Describe the file service architecture. Explain case study on sun network file system (8)
b) Differentiate between flat and nested distributed transaction. Explain concurrency control in distributed transaction (8)

OR

3. a) What is static process scheduling? Write the advantages of static process scheduling (8)
b) Define time stamp ordering in transaction and explain with suitable example (8)

Unit - IV

4. a) Explain distributed shared memory system in distributed environment with suitable diagram (8)
b) Explain the failures in a distributed system (8)

OR

4. a) Explain distributed mutual exclusion with its classification (8)
b) Describe memory consistency models & multiprocessor cache systems (8)

Unit - V

5. a) Explain Byzantine agreement problem and suggest a solution to this problem(8)
b) Explain concept of fault, failure and recovery (8)

OR

5. Write short note on the following

- a) Agreement protocols
b) Atomic multicast
c) Replicated data management
d) CORBA RMI

(4x4=16)