Roll No .....

IT - 601

B.E. VI Semester

Examination, June 2014

Distributed Systems

Time : Three Hours

Maximum Marks : 70

Note : Attempt all questions. Each question carry equal marks.

1. a) Explain briefly all of the key characteristics of distributed system.
   b) Describe the logical clock and their limitations? Also explain the vector clock.

OR

2. a) Explain the time stamping ordering protocol with suitable examples. Why it is useful in transaction processing.
   b) Classify the token based algorithm and explain the importance of token based algorithm in different scenario.

3. a) Differentiate between centralized and distributed deadlock detection? Explain the edge chasing algorithm.
   b) Show that the Byzantine agreement cannot always be reached among four processors if two processors are faulty.

OR

4. Explain the following (Any four)
   i) Communication deadlocks with suitable example
   ii) Path pushing algorithm
   iii) Consensus problem
   iv) Distributed resource deadlock
   v) Deadlock avoidance

5. a) What are the major design issues in distributed file system? And also explain the naming services with suitable example.
   b) What is the role of Stubs and skeleton in distributed object communication? Explain it with example.

OR

6. a) Explain the working of RMI. Compare and contrast RMI and remote procedure call.
   b) Explain the architecture of Andrew File System.

7. a) Explain the concurrency control in distributed transaction processing with suitable example.
   b) What do you mean by Replication? Explain with appropriate example.

OR

8. a) Explain the Atomic commit protocols in distributed transaction processing.
   b) Explain the two phases commit protocol for nested transaction.

9. Explain the following terms (Any four)
   i) Deadlock free packet switching
   ii) Election algorithm
   iii) Destination based routing
   iv) Object Request Broker (ORB) Architecture
   v) CORBA services

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