Roll No .....

CS - 702

B.E. VII Semester Examination, December 2014

Distributed Systems

Time : Three Hours

Maximum Marks : 70

Note: Total number of questions 10. Attempt one question (including all parts) from each unit. All questions carry equal marks. Assume missing data, if any, suitably.

Unit - I

1. a) What are the main objectives and challenges of distributed systems? 7
   b) Discuss the general organization of a distributed computing system and explain their characteristic features. 7

OR

2. a) Why architectural model is important in the distributed system design? Also discuss the resource sharing and its importance? 7
   b) Discuss the major issues in designing a distributed operating system? Explain the main characteristics of a distributed event based system? 7

Unit - II

3. a) Differentiate between caching and replication. 7
   b) What is Distributed Shared Memory (DSM)? Describe its architecture. 7

OR

4. a) Explain significance of a fault tolerant service with fragmented and replicated data system? 7
   b) What is false sharing? When it is likely to occur? What should be done to minimize the false sharing problem? Can this problem be completely eliminated? Explain. 7

Unit - III

5. a) Explain why and how a client is prevented from calling arbitrary code within a server under lightweight RPC. 7
   b) Compare and explain times for Synchronous and Asynchronous remote procedure calls with suitable diagrams. 7

OR

6. a) Explain about various Remote Procedure Call Semantics. 7
   b) What is API for internet protocol? 7

Unit - IV

7. a) Explain in detail the deadlock handling strategy? 7
   b) Discuss the various concurrency control protocols. 7

OR

8. a) What are the requirements for distributed mutual exclusion algorithms? 7
   b) Explain in brief different types of load distributing algorithms. 7

Unit - V

9. a) Explain Top-Down and bottom-up approach to the design of data distribution. 7
   b) Concurrency control in distributed databases. 7

OR

10. a) What is a middleware? What do we expect it to solve? Illustrate with CORBA? 7
    b) Define and explain briefly Homogeneous and heterogeneous DDBMS. 7

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