Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS/M.TECH(IT)/SEM-2/PGIT-201/2012

2012

DISTRIBUTED COMPUTING SYSTEMS

Time Allotted : 3 Hours *Full Marks* : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer any *five* questions. 5 × 14 = 70

1. Explain the working of RPC with the help of suitable diagram. Distinguish between Distributed and Network Operating Systems. Discuss clock synchronization mechanism in distributed operating system.

2. What is CORBA ? Explain the working of CORBA as middleware. Explain the working of Distributed File System with one example.

3. Explain the working of any two physical clock synchronisation algorithms. Compare and contrast the usefulness of stateless server with a stateless server. Highlight their application areas. Explain any algorithm designed to provide mutual exclusion in a distributed environment.

4. Explain with example, threads and processes. Discuss differences and similarities between threads and processes. Explain marshalling / unmarshalling mechanism in RPC/RMI. Explain commit in distributed transaction.

5. Explain the process of Remote Method Invocation using stubs/proxy/skeleton. What is open distributed system and what benefits does openness provide ? Discuss the different authentication protocols for secure communication.

6. Explain the working of any one centralized mutual exclusion algorithm. Explain synchronization w.r.t. distributed systems. Explain the communication system w.r.t. distributed computing.

7. Explain attacks and security in a distributed system. Explain a deadlock detection algorithm for distributed system. Explain the problem of distributed commit. Explain two-phase commit protocol in detail.

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