

Roll No .....

**IT-601**

**B.E. VI Semester**

Examination, December 2016

**Distributed Systems**

*Time : Three Hours*

*Maximum Marks : 70*

*Note:* i) Answer any five questions.

ii) Each question carries equal marks.

iii) Assume suitable data if missing.

1. a) Define distributed system in brief? Also give the various challenges of distributed system. 7  
b) Justify the need of clock synchronization in distributed system? Also give the design requirements for a system to synchronize the clocks in a distributed system. 7
2. a) Give two algorithms for handling mutual exclusion in distributed system environment. 7  
b) Differentiate between token based and non token based algorithms? Also give the advantages of both. 7
3. a) Explain the difference between central and distributed deadlocks? Also, describe path pushing algorithm for deadlock detection. 7  
b) What are Agreement protocols? Discuss the fundamental system model where agreement protocol are used. 7

4. a) What are Design issues of distributed shared memory? Write various types of distributed shared memory models. 7  
b) What do you mean by Distributed Objects? Explain the role of distributed object in construction of distributed system. 7
5. a) Justify the need of Remote Procedure Call (RPC) in distributed system? Also give the architecture of RPC. 7  
b) Compare and contrast Sun network File system with Andrew file system? 7
6. a) Explain various kinds of operations that can be performed on a file in distributed network file system. 7  
b) Describe the concept of Remote Method Invocation (RMI) with suitable example. 7
7. a) Explain how concurrency is handled in distributed transactions? 7  
b) What are Commit protocols? Also explain two phase commit protocol for distributed transaction? 7
8. a) Explain Destination based routing algorithm with suitable example. 7  
b) Write short note on CORBA and its architecture. 7

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