

Exam No:

GANPAT UNIVERSITY
M. Tech [CE] SEMESTER-I
REGULAR EXAMINATION JAN-2013
3CE104: DISTRIBUTED COMPUTING

Time: 3 Hours]
Instructions:

[Total Marks: 70

1. Figures to the right indicate full marks
2. Each section should be written in a separate answer book
3. Be precise and to the point in your answer

SECTION-I

Q.1 Answer the following.

- (A) Explain the role of Transparency in Distributed Systems. Define different types of it. (6)
- (B) Describe the following terms: (6)
- (i) Parallel Computing
 - (ii) Grid Computing

OR

Q.1 Answer the following.

- (A) Briefly explain the various scalability techniques for distributed systems. (6)
- (B) Compare Client-Server and Peer-to-Peer model. Explain variants of Client-Server model. (6)

Q.2 Answer the following.

- (A) Explain the architecture of Java RMI. Specify the limitations of Java RMI. (5)
- (B) Compare registry component of SUN RPC with DCE RPC. (6)

OR

Q.2 Answer the following.

- (A) Write a program to implement Echo service using Java RMI. (5)
- (B) What are the main similarities and differences between the RPC model and the ordinary procedure call model? (6)

Q.3 Answer the following.

- (A) Discuss differences and similarities between threads and processes. (6)
- (B) Explain architectures of Virtual Machines for virtualization. (6)

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SECTION-II

Q.4 Answer the following.

- (A) Compare RPC with Mobile Agent. Discuss the advantages and challenges of Mobile Agent. (6)
- (B) Define the term File System. Explain various components of SUN NFS Architecture. (6)

OR

Q.4 Answer the following.

- (A) Define the characteristics of DFS. Explain disconnected operation principle of CODA file system with necessary example. (6)
- (B) What is Chord? Discuss the features of Domain Name System (DNS). (6)

Q.5 Answer the following.

- (A) Explain the Clock synchronization principle for the Physical Clock. (6)
- (B) Write the Ring algorithm approach to elect the coordinator, in detail. (5)

OR

Q.5 Answer the following.

- (A) Explain Centralized approach for mutual exclusion. List the Limitations of it compared to other approaches. (6)
- (B) Explain Lamport's algorithm for implementation of logical clock with suitable example. (5)

Q.6 Answer the following.

- (A) Define Web Services. Describe the main components of Web Services Model. (6)
- (B) Explain the architecture of Google File System (GFS). (6)

END OF PAPER