

GANPAT UNIVERSITY
M. Tech SEMESTER-I CE
REGULAR EXAMINATION JAN-2012
PGCE104: DISTRIBUTED COMPUTING

Time: 3 Hours]

[Total Marks: 70

Instructions:

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) Compare Multi Computer Systems with Multi Processor Systems. (6)
- (B) Define the following terms: (6)
- (i) Cluster Computing
 - (ii) Open Distributed System
 - (iii) Middleware

OR**Q.1 Answer the following.**

- (A) Briefly explain the different kinds of transparency in distributed systems. (6)
- (B) Define the Client-Server Model. Explain various types of Client-Server Interactions. (6)

Q.2 Answer the following.

- (A) Write a program to implement Calculator service using Java RMI. (5)
- (B) Discuss various RPC call semantics. (6)

OR**Q.2 Answer the following.**

- (A) Describe various steps for implantation of a RMI application. (5)
- (B) What is CORBA? Explain the architecture. (6)

Q.3 Answer the following.

- (A) Describe approaches for implementing the Thread package. (6)
- (B) Explain architectures of Virtual Machines for virtualization. (6)

SECTION-II

Q.4 Answer the following.

- (A) Define Disconnected operation. Explain design principles of CODA file system. (6)
(B) Write short note on IBM's Aglet mobile agent system. (6)

OR

Q.4 Answer the following.

- (A) Define Network File System (NFS) and explain the basic NFS Architecture for UNIX system. (6)
(B) Define Software Agent. Describe the types and characteristics of Software Agents. (6)

Q.5 Answer the following.

- (A) Explain Lamport's algorithm for implementation of logical clock with suitable example (6)
(B) What is Mutual Exclusion? How to provide mutual exclusion with distributed approach proposed by Ricart & Agarawala. (5)

OR

- (A) Explain Token Ring approach for mutual exclusion. Compare the complexity involved with other approaches. (6)
(B) Write the Ring algorithm approach to elect the coordinator, in detail. (5)

Q.6 Answer the following.

- (A) Explain various components of Google File System Architecture. (6)
(B) Define Web Services. Describe Web Services Composition with an example. (6)

END OF PAPER