NAME_____ ROLLNO_____

2008–ANNA UNIVERSITY

B.E/B.TECH DEGREE EXAMINATION
DISTRIBUTED SYSTEM
(INFORMATION TECHNOLOGY)

APRIL-2008

TIME-3 HOUR
MARKS-100

ANSWER ALL QUESTIONS.

PART A - (10 * 2 = 20 MARKS)

1. What are thin clients? How are they implemented?

2. What are omission failures?

3. What is a persistent object?

4. Define: Name Spaces and Naming Domains.

5. What do you mean by clock skew and clock drift?

6. What is a starvation state?

7. What are Nested Transactions?

8. Distinguish between the logging techniques and the shadow versions technique.

9. What is a digital signature?

10. Define: Replication.

PART B - (5 * 16 = 80 MARKS)

11. (a) (i) Discuss the various challenges in the design of distributed systems.

(ii) Describe the types of architectural models.

Or

(b) (i) Explain the two different approaches to external data representation and marshalling.

(ii) Explain the request-reply protocol in client – server communication.

12. (a) (i) With a neat sketch describe the Distributed Object Model.

(ii) Discuss the design issues for RMI

Or

(b) Discuss in detail the File Service Architecture.

13. (a) (i) Describe the internal and external synchronization of Physical clocks.

(ii) Explain the Chandy and Lamport's snapshot algorithm for determining the global states of distributed systems.

Or

(b) (i) Define the distributed mutual exclusion problem.

(ii) Describe any one algorithm for distributed mutual exclusion.

14. (a) (i) Using the 'lost update' problem explain about concurrency control.

(ii) Discuss about the various methods for recoverability from aborts.

Or

(b) (i) Explain the two phase commit protocol with neat sketch.

(ii) Discuss the methods of transaction recovery.

15. (a) Explain the various techniques and mechanisms for securing distributed systems and applications.

Or

(b) With a neat sketch, describe the Gossip architecture.