

8E4017

Roll No. : _____

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B. Tech. (Sem. VIII) (Back) Examination, April/May-2012
Computer Science
8CS4.1(O) Distributed Systems

Time : 3 Hours]

[Total Marks : 80
[Min. Passing Marks : 24

Attempt any five questions, selecting one question from each unit. All questions carry equal marks. (Schematic diagrams must be shown wherever necessary.) Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)

1. _____ Nil _____

2. _____ Nil _____

UNIT - I

- 1 (a) What is the need of distributed system ? Explain distributed system with suitable examples. 8
- (b) Define fundamental model. Explain the limitation of distributed system. 8

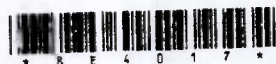
OR

- 1 (a) Why synchronization is necessary in distributed system ? Differentiate between Lamport's and vectors logical clocks. 8
- (b) What is mutual exclusion in distributed system ? Explain token based and non-token based algorithm in mutual exclusion. 8

UNIT - II

- 2 (a) Write differences between centralized and distributed dead lock detection with suitable example. 8

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!Contd...

(b) Explain deadlock avoidance and detection methods. 8

OR

2 (a) What is agreement protocol ? Explain Byzantine agreement problem with its solution. 8

(b) Explain path pushing algorithms. Define the role of atomic commit in distributed database system. 8

UNIT - III

3 (a) Define the role of middleware layer in distributed system. Explain communication between distributed objects. 8

(b) Explain architecture of distributed event notification. What is the role of client and server stub procedure in RPC ? 8

OR

3 (a) What is Digital signatures ? Explain digital signature with public and secret key. 8

(b) Write the characteristics of distributed file system. Explain Andrew file system with diagram. 8

UNIT - IV

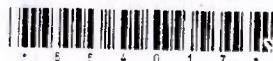
4 (a) What is nested transactions ? Briefly explain locks in transactions. 8

(b) Define time stamp ordering. Explain comparison of methods for concurrency control. 8

OR

4 (a) Briefly explain fault tolerant services in replication with example. 8

(b) Explain atomic commit protocol and distributed deadlocks in distributed transactions. 8



UNIT - V

- 5 (a) Explain balanced sliding window protocol. Define routing algorithm. 8
- (b) Explain architecture of CORBA with diagram. Define IDL module for CORBA. 8

OR

- 5 (a) Write short notes on :
- (i) APP problem.
 - (ii) Election algorithm.

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