

(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 0147**  
**0192**

Roll No.

--	--	--	--	--	--	--	--	--	--

**B.Tech.**

(SEM VIII) EVEN SEMESTER THEORY EXAMINATION,  
2009-2010

**DISTRIBUTED SYSTEMS**

*Time : 3 Hours*

*Total Marks : 100*

**Note :** *Attempt all the questions.*

1. Do any four parts of the following : (4x5=20)
- How the resource sharing done in distributed system ? Explain with an example.
  - Discuss the limitation of distributed system.
  - What do you mean by Global state of the distributed system ? Also explain the main features of consistent Global state.
  - Differentiate between Token based algorithm and non token based algorithm.
  - Explain the classification of distributed mutual exclusion.
  - Discuss the web challenges for implementing distributed system.

2. Attempt **any two** parts of the following : (2x10=20)

- (a) Define deadlocks. Differentiate between resource and communication Deadlocks. Discuss various deadlock handling strategies in detail.
- (b) Write short notes on following :
  - (i) Wait for graph
  - (ii) Atomic commit in distributed database systems.
- (c) Explain Lamport - Shostak - Pease algorithm (Oral Message Algorithm) for  $3m + 1$  or more processors where  $m$  is the no. of faulty processors.

3. Attempt **any two** parts of following : (2x10=20)

- (a)
  - (i) What is the communication models proposed for the communication between the distributed objects ?
  - (ii) Explain following with an example :
    - (A) Remote object reference
    - (B) Remote interface
- (b) What are the public and private keys ? List the key differences and issue in public keys cryptography and private key cryptography
- (c) Write short notes on following :
  - (i) Architecture of distributed Event Notification.
  - (ii) Remote procedure call.

4. Attempt **any two** parts of the following : (2x10=20)

- (a) Compare and contrast the methods of concurrency control for transactions. Explain the methods for concurrency control in distributed transactions.
- (b) What do you mean by two phase Locking ? How it is different from strict two phase Locking ? Explain.
- (c) Explain the following :
  - (i) Fault tolerant services
  - (ii) Highly available services.

5. Attempt **any two** parts of the following : (2x10=20)

- (a) Explain the term "routing". How routing problem can be classified ? Also Discuss the criterion for good routing algorithms.
- (b)
  - (i) What are traversal algorithms ? Discuss the properties of this algorithm.
  - (ii) Explain Tarry's algorithm for traversing connected networks.
- (c) Write short notes on following :
  - (i) CORBA services
  - (ii) Deadlock free packet switching

- o o o -