12378

TCS – 801/TIT – 801

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)**

   (a)   How the resource sharing done in distributed system ? Explain with an example.

   (b)   Discuss the limitation of distributed system.

   (c)   What do you mean by Global state of the distributed system ? Also explain the main features of consistent Global state.

   (d)   Differentiate between Token based algorithm and non token based algorithm.

   (e)   Explain the classification of distributed mutual exclusion.

   (f)   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

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