Printed Pages : 1 Roll No. ECS701

B. TECH.

THEORY EXAMINATION (SEM–VIII) 2016-17

DISTRIBUTED SYSTEM

Time : 3 Hours ***Max. Marks : 100***

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION-A

1. Explain the following : **(10×2=20)**
   - **a)** List out the short comings of Lamport's logical clock.
   - **b)** Why there is no Global clock in Distributed System? Give reason
   - **c)** Give the limitations of Distributed System.
   - **d)** What do you mean by Termination Detection?
   - **e)** Name Distributed Deadlock Detection Algorithms.
   - **f)** Differentiate between Process and Threats?
   - **g)** Explain the term Phantom Deadlock.
   - **h)** What is Digital Signature?
   - **i)** Differentiate between Fault & Failure?
   - **j)** Which layer provides a security handshake to initiate the TCP/IP connection?

SECTION-B

2. Attempt any **five** of the following : **(10×5=50)**
   - **a)** What is Lamport's Logical Clock? For Lamoport clock system prove that for any two events 'a' & 'b' if a-> b, then C(a)<C(b), but vice versa is not true.
   - **b)** Explain Bully Algorithm.
   - **c)** Define Distributed System with example.
   - d) Write short note on-
     - i. Atomic Commit in Distributed DBMS
     - ii. Communication Deadlock
   - e) Show that Byzantine Agreement cannot always be reached among four processors if two processor are faulty.
   - f) Explain Ricart-Agrawala Algorithm for Mutual Exclusion.
   - g) Describe Memory Coherence.
   - h) Fault Tolerance can be achieved by Error Processing? Explain.

SECTION-C

Attempt any two of the following : **(15×2=30)**

3. What are the design issues of Distributed System? Also discuss challenges in Distributed System.
4. Discuss the following-
   a. "An approach to Concurrency Control based on Time Stamping is inherently superior to an approach based on Locking". Give argument either in favor of or against the statement.
   b. Explain why Time Stamping cannot lead to Deadlock and Locking can.
5. Discuss the following-
   a. ARP
   b. RARP
   c. Deadlock Free Packet Switching