Paper Code: ECS-701	Roll No.										

B.TECH

(SEM VII) ODD SEMESTER EXAMINATION 2015-16

(Distributed Systems)

[Time: 3 hrs.] **[Max. Marks: 100]**

Note- ***Attempt All Questions. All Questions carry equal marks*:-**

Question-1 Attempt any two parts. **(10x2=20)**

1. What are distributed systems? Give some advantages of distributed systems.
2. Explain design and implementation issues of Distributed shared memory.
3. Differentiate logical and vector clocks. What are the limitations of Lampert's logical clock ?

Question-2 Attempt any two parts. **(10x2=20)**

1. Discuss the central approach to achieve mutual exclusion in distributed system, How performance of distributed mutual exclusion algorithms are measured ?
2. What are Phantom deadlocks ? Under, what circumstances are the Phantom deadlocks reported ?
3. Write on classification of agreement problems and in what way, consensus problem is different than other problems in distributed systems.

Question-3 Attempt any two parts. **(10x2=20)**

1. What do you understand by Byzantine agreement problem ? Show that Byzantine agreement cannot always be reached among four processors, if two processors are faulty.
2. What are limitations of centralised deadlock detection ? How it is overcomed in distributed deadlock detection ?
3. What do you understand by Network file sytem (NFS) ? Clearly state the following features of NFS : (i) Stateless server (ii) Virtual file system.

Question-4 Attempt any two parts. **(10x2=20)**

1. What is checkpointing in message passing system ? Explain the recovery in message passing system using asynchronous checkpointing scheme.
2. What is single point of failure and how distribution can help here?
3. Discuss various design and implementation issues of DFS.

Question-5 Attempt any two parts. **(10x2=20)**

1. How does a procedure call at remote system take place ? Discuss one to one and one to many in Group Communication.
2. Why are distributed system more difficult to design than centralized time sharing system?
3. Write Short note on Release consistency model.