1. (a) What is a distributed system? How it is different from a networked system? 
(b) What are the various architectural models of distributed systems? Explain any one of them in details.

2. (a) What are the limitations of Lamport’s logical clocks. Give a suitable algorithm that ensures causal ordering of messages.
(b) Write a short note on vector clocks.

3. (a) What is difference between a connection less and a connection oriented communication protocol.
(b) Write an explanatory note on Remote Procedure Call.

4. (a) What is a transaction? Explain nested transactions in detail.
(b) Write in detail the Ricart Agarwala Algorithm. How it optimizes the Lamport’s algorithm?

5. (a) Explain a distributed deadlock detection algorithm. How a deadlock can be resolved?
(b) Write an explanatory note on distributed file system.

6. (a) What are the issues in load distribution? Explain each with the help of suitable example.
(b) Write an expainatory note on real time distributed systems.