

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (OLD) EXAMINATION – WINTER 2018

Subject Code: 180701

Date: 19/11/2018

Subject Name: Distributed Systems

Time: 02:30 PM TO 05:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

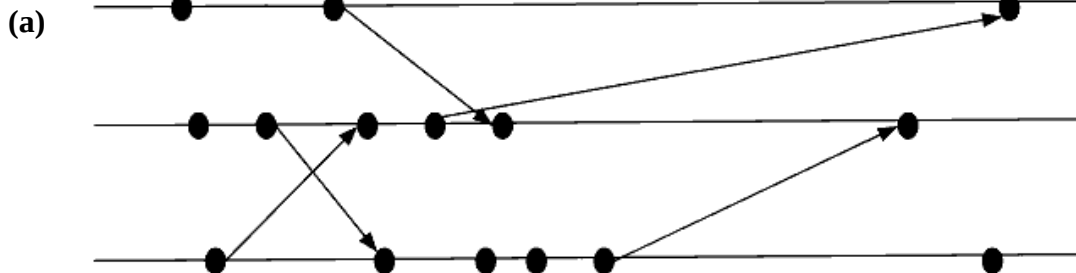
- Q.1 (a) What is a distributed system? How a distributed system does projects a single system image? Discuss the design issues of distributed system. 07
- (b) Explain any two protocols of distributed systems. 07

- Q.2 (a) Explain IPC synchronization techniques in distributed systems. 07
- (b) Write a note on RPC. 07

OR

- (b) Write a note on RMI. 07

- Q.3 (a) 07



Assign the clock timing according to Lamport's logical clock.

- (b) Write a note on Vector clock and enlist the advantages of it in comparison of Lamport's logical clock. 07

OR

- Q.3 (a) Define thrashing in DSM. Also explain methods for solving thrashing problem in DSM. 07
- (b) How problem is specified using formal model? Explain asynchronous point to point message passing and asynchronous broadcast. 07

- Q.4 (a) Explain any two techniques of load balancing in distributed systems. 07
- (b) Write a note on Process migration. 07

OR

- Q.4 (a) Discuss thread synchronization. 07
- (b) What is consistency? Discuss the various consistency models used in DSM system. 07

- Q.5 (a) What is coherence protocol? Explain how the MRMW protocol is implemented. 07
- (b) Explain ways of naming of a file in distributed systems. 07

OR

- Q.5 (a) Explain the common approaches to user authentication. What problems are associated with these approaches? 07
- (b) How does DFS differ from a file system used for a centralized time-sharing system? 07