

# 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.

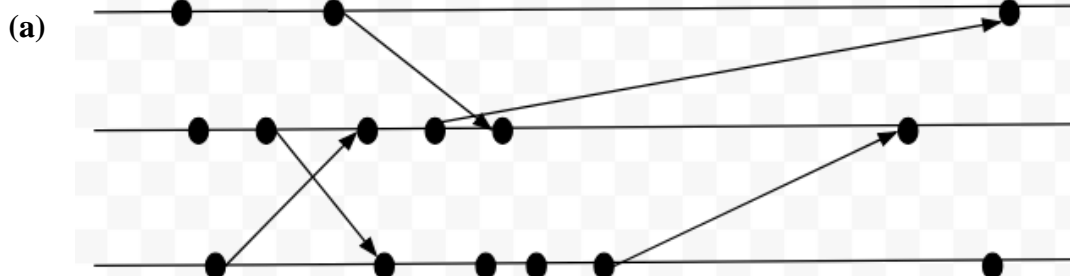
- Q.1** (a) What is a distributed system? How a distributed system does projects a single system image? Discuss the design issues of distributed system. **07**
- (b) Explain any two protocols of distributed systems. **07**

- 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**