

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VIII • EXAMINATION – SUMMER 2014

Subject Code: 180701

Date: 05-06-2014

Subject Name: Distributed Systems

Time: 10:30 am TO 01:00 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) i) What is a distributed System? What are the advantages of it? **03**
iii) Compare the distributed computing models. **04**
(b) i) What is logical clock? What is its significance in a distributed system? **03**
ii) What is process migration? What are the main steps involved in process migration? **04**
- Q.2** (a) i) What are threads? Differentiate between threads and processes. **03**
ii) What is dead lock? List four necessary and sufficient conditions for a deadlock to occur. **04**
(b) Discuss the desirable features of a good message-passing system. **07**
- OR**
- (b) What is the significance of RMI in distributed systems? Explain the process of RMI execution **07**
- Q.3** (a) What is ordered message delivery? Discuss different types of message ordering. **07**
(b) Why mutual exclusion is more complex in distributed systems? Categorize and compare mutual exclusion algorithms. **07**
- OR**
- Q.3** (a) Enumerate the various issues in clock synchronization and classify clock synchronization algorithms. **07**
(b) Define causal ordering. Explain how logical clocks are implemented in distributed systems. **07**
- Q.4** (a) Discuss the issues in designing load-sharing algorithms. **07**
(b) What is consistency? Discuss the various consistency models used in DSM system. **07**
- OR**
- Q.4** (a) Discuss the issues in designing load-balancing algorithms. **07**
(b) What is coherence protocol? Explain how the MRMW protocol is implemented. **07**
- Q.5** (a) What is a name server? What is namespace? Explain the name resolution. **07**
(b) How the problem is specified using formal model? Discuss the formal models for message passing system. **07**
- OR**
- Q.5** (a) How object locating is carried out in Distributed System? Discuss different object-locating mechanisms. **07**
(b) How the process is specified using formal model? Define the process execution and admissibility using formal model. **07**
