

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (OLD) EXAMINATION – SUMMER 2019

Subject Code: 180701

Date: 13/05/2019

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) Define distributed system. What is main motivation of distributed system? **07**
Explain advantages and disadvantages of distributed systems.
- (b) Write and explain the algorithm of constructing a DFS spanning tree with specified root. **07**
- Q.2** (a) Why traditional network protocols are not suitable for distributed systems? **07**
Explain VMTP protocol used for distributed system.
- (b) What is atomic broadcast? Explain Group Communication Mechanism **07**
- OR**
- (b) Draw and explain ATM cell format. **07**
- Q.3** (a) Explain construction a DFS spanning tree for a specified root. **07**
- (b) Discuss and compare various election algorithms **07**
- OR**
- Q.3** (a) Explain RPC Architecture. What is the role of IDL file in RPC? **07**
- (b) Enumerate the various issues in clock synchronization. Classify the clock synchronization algorithms and explain Berkeley algorithm with an example. **07**
- Q.4** (a) Discuss load estimation policy and Process transfer policy in load balancing algorithms. **07**
- (b) How does process migration takes place in heterogeneous systems? **07**
- OR**
- Q.4** (a) What is object location? How is it carried out in a distributed system? Discuss various object-locating mechanisms. **07**
- (b) How problem is specified using formal model? Explain asynchronous point to point message passing and asynchronous broadcast. **07**
- Q.5** (a) Which are the different types of process scheduling techniques? Explain desirable features for good scheduling algorithm. **07**
- (b) What is coherence protocol? Explain how the MRMW protocol is implemented. **07**
- OR**
- Q.5** (a) Explain the DNS name service and bind implementation of DNS. **07**
- (b) Write a note on following (any 4) **07**
- (1) Name Space
 - (2) Name resolution
 - (3) Name Server
 - (4) Context binding
 - (5) Broadcast and converge cast on spanning tree.
