

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VI (New) EXAMINATION – WINTER 2019****Subject Code: 2160710****Date: 12/12/2019****Subject Name: Distributed operating system****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) Define distributed operating system and give its applications. **03**
(b) Explain Remote procedure call (RPC). **04**
(c) Explain the major issues in designing a distributed operating system. **07**

- Q.2** (a) List the various issues in designing load balancing algorithm. **03**
(b) Explain various types of file sharing semantics. **04**
(c) Explain mutual exclusion in distributed operating system. **07**

OR

- (c) Explain process migration and its related issues in heterogeneous system. **07**
Q.3 (a) Define the following terms related to distributed file systems: file replication, file caching, fault tolerance. **03**
(b) State the desirable features of a good message passing system. **04**
(c) What is consistency model in shared memory system? Explain strict, sequential and causal consistency model. **07**

OR

- Q.3** (a) What is thread? Explain different models for organizing the thread in brief. **03**
(b) Name and explain the various strategies used to handle deadlocks in distributed systems briefly. **04**
(c) What is DNS? Differentiate the DNS with respect to its design in normal OS and DOS. **07**

- Q.4** (a) Describe Java RMI components. **03**
(b) Explain thrashing and false sharing in distributed shared memory. **04**
(c) Sketch and explain the architecture of Web based system. **07**

OR

- Q.4** (a) Which are the characteristics features of system oriented names in naming system? **03**
(b) Differentiate tightly coupled and loosely coupled multiprocessor system. **04**
(c) Explain the replication for web hosting systems and replication of web applications with example. **07**

- Q.5** (a) List the related issues in designing human oriented names. **03**
(b) Differentiate symmetric and asymmetric cryptosystem. **04**
(c) Explain the architecture of distributed shared memory with its design and implementation issues. **07**

OR

- Q.5** (a) List common goals of computer security. **03**
(b) Explain SUN network file system with its architecture. **04**
(c) Explain various types of attacks on computer system. **07**
