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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- VI EXAMINATION – SUMMER 2020

Subject Code: 2160710

Date:02/11/2020

Subject Name: DISTRIBUTED OPERATING SYSTEM

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) Explain remote procedure call (RPC). **03**
(b) What are the main differences between a network operating system and a distributed operating system? **04**
(c) Describes the issues in designing distributed operating system. **07**

- Q.2** (a) How computer clocks are implemented? **03**
(b) Explain fault tolerance. **04**
(c) Prove that the presence of a cycle in a general resource allocation graph is a necessary but not a sufficient condition for the existence of deadlock. **07**

OR

- (c) Explain mutual exclusion in distributed operating system. **07**
Q.3 (a) Explain process migration. **03**
(b) Describe different models for organizing threads. **04**
(c) What is false sharing? Discuss the importance of granularity of locks in combating the false sharing problem. **07**

OR

- Q.3** (a) Explain the advantage of process migration. **03**
(b) List the main differences and similarities between threads and processes. **04**
(c) Describe the file sharing semantics in distributed file system. **07**

- Q.4** (a) Explain granularity. **03**
(b) List out the different consistency models and explain any one. **04**
(c) Differentiate between the terms "location transparency" and "location independency." Which is a more powerful feature and why? **07**

OR

- Q.4** (a) Explain shared memory page. **03**
(b) Describe the methods for solving thrashing problems in distributed shared memory. **04**
(c) What is name cache? Explain types of name caches. **07**

- Q.5** (a) Explain JAVA RMI. **03**
(b) Write a short note on: web proxy caching. **04**
(c) Explain concept of replication in web hosting system. **07**

OR

- Q.5** (a) Explain worm and logic bomb with their consequences. **03**
(b) Define attacks. Explain types of attacks. **04**
(c) Draw and explain architecture of SUN Network File System. **07**
