Seat No: _____ **Enrollment No: _____**

PARUL UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

M.Tech. Summer 2017 - 18 Examination

Semester: 1 **Date: 29/05/2018**
Subject Code: 03201135 **Time: 02:00pm to 04:30pm**
Subject Name: Distributed Operating System **Total Marks: 60**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 A) Draw and explain architecture of SUN Network File System. **(05)**

B) Explain the following two consistency model. **(05)**

1) Sequential consistency model

2) Weak consistency model

C) Discuss the difference between the work station server model and processor pool model in terms of availability. **(05)**

Q.2 **Answer the following questions**. (Attempt any three) (Each five mark) **(15)**

A) Discuss relative advantages and disadvantages of monolithic kernel and microkernel approaches for designing a distributed operating system.

B) Define external data representation with applying any one approach.

C) What is a "Deadlock"? What are the Four necessary conditions for deadlock to occur?

D) Differentiate the flat and nested transactions.

Q.3 A) Explain the execution of RPC in inter-process communication. **(07)**

B) Explain Deadlock Prevention algorithm with suitable example. **(08)**

OR

B) Explain Fundamentals model of distributed system. **(08)**

Q.4 A) Give suitable example based on Optimistic Concurrency Control in transaction. **(07)**

OR

A) The operations performed by a server are non-idempotent. Describe a mechanism for implementing exactly-once IPC semantics in this case. **(07)**

B) What is Logical Clock? Explain vector timestamp method with suitable example. **(08)**