Roll No. ..... Total No. of Pages : 2

BT-8/JX 9503

Distributed Operating Systems

Paper : CSE-440

Time : Three Hours] [Maximum Marks : 75

Note :– Attempt any **FIVE** questions, selecting at least **ONE** question from each Unit. Each question carries 15 marks.

UNIT—I

1. (a) Write any eight necessary characteristics of distributed operating system that make it different from a traditional operating system. 8

   (b) How do serializers solve several deficiencies of monitors ? 7

2. (a) Compare and contrast the communication and synchronization mechanisms of CSP and ADA. 8

   (b) Give a reader's priority solution to the readers-writers problem using CSP. 7

UNIT—II

3. (a) Discuss Lamport's mutual exclusion algorithm. 8

   (b) Explain with trace a tree based mutual exclusion algorithm. 7

4. (a) Explain Mackawa's algorithm. 8

   (b) Write a note on comparative performance of token based Vs non-token based mutual exclusion algorithm. 7

UNIT—III

5. Explain centralized and distributed deadlock detection strategies. 15

6. Discuss Chandi-Misra's both distributed deadlock detection algorithms for the AND and OR model. 15

UNIT—IV

7. Discuss above-average algorithm for load balancing. 15

8. (a) Explain caching in detail in distributed operating system. 10

   (b) What is task migration ? Also discuss various steps involved in task migration. 5