

Roll No.

Total Pages : 3

220504

December, 2019

MCA - V SEMESTER

Distributed Operating System (MCA-17-307(vii))

Time : 3 Hours]

[Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART - A

1. (a) What is the difference between Distributed & Centralized systems? (1.5)
- (b) What do you mean by failure transparency? (1.5)
- (c) What is immutable file? (1.5)
- (d) Define Caching. (1.5)
- (e) What is NUMA. (1.5)
- (f) Define Parameter marshaling in RPC. (1.5)
- (g) Define False Deadlock. (1.5)

- (h) What is the need of Election algorithm? (1.5)
- (i) What is the role of Home memory in Memnet?(1.5)
- (j) What is the role of Directory in Ring-based Multiprocessors? (1.5)

PART - B

- 2. (a) What do you mean by Distributed System? How a single system image is achieved in Distributed System? (8)
- (b) What is the purpose of Group in Group Communication? What are design issues in designing Group Communication? (7)
- 3. (a) Explain how the mutual exclusion is implemented in distributed systems. (8)
- (b) Define Deadlock. What are preventive measures for deadlock? (7)
- 4. Explain how threads can be implemented in user and in kernel space. Also compare them. (15)
- 5. What do you mean by Distributed Shared Memory? Explain its Bus-based multiprocessor architecture along with cache ownership protocol. (15)

- 6. Differentiate between the following: (5x3)
 - (a) Network DOS & Distributed DOS.
 - (b) Casual & PRAM Consistency Models.
 - (c) Stateless Servers & Stateful Servers.

- 7. Write short notes on any two of the following: (5x3)
 - (a) ATM.
 - (b) Communication in MACH.
 - (c) Distributed File System.