

IV B.Tech II Semester Regular/Supplementary Examinations, July - 2021

DISTRIBUTED SYSTEMS

(Common to Computer Science and Engineering and Information Technology)

Time: 3 hours**Max. Marks: 70***Question paper consists of Part-A and Part-B**Answer ALL sub questions from Part-A**Answer any FOUR questions from Part-B*

PART-A(14 Marks)

1. a) Define and Give examples of Distributed systems. [3]
- b) Write about IGMP. [3]
- c) Why distributed garbage collection is important? [2]
- d) What is the role of kernel in OS? [2]
- e) What are the goals of distributed file system? [2]
- f) List the advantages of Data replication. [2]

PART-B(4x14 = 56 Marks)

2. a) Discuss various issues and challenges involved in the implementation of Distributed Systems. [7]
- b) How the security model ensures security to the interacting processes in a Distributed System? Explain. [7]
3. a) Draw the structure of UDP datagram and explain about various structures available in JAVA API for UDP transmission. [7]
- b) What is meant by Multicast transmission in Distributed Systems? Explain some of the important applications of Multicast Transmission in Distributed systems. [7]
4. a) With a neat sketch, Explain the implementation of Remote Method Invocation. [7]
- b) Discuss the issues in design and implementation of RMI in Distributed Systems. [7]
5. a) What are the design issues of distributed operating system? [7]
- b) Explain any five advantages of creating Threads over multiple execution environments. [7]
6. a) Write the differences between Overlay networks and IP routing. [7]
- b) What are the requirements for mutual exclusion in Distributed systems? Explain about various metrics used for evaluating the performance of mutual exclusion algorithms in Distributed systems. [7]
7. a) Write about the Local and Global Wait-for graphs. [7]
- b) Explain the passive replication model for fault tolerance in distributed systems. [7]