



R18 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

Subject code:2E6EC

B.Tech VI Semester Regular/Supplementary Examinations, June 2022

DISTRIBUTED SYSTEMS (COMPUTER SCIENCE & ENGINEERING)

Maximum Marks: 70

Date:17.06.2022 Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 Write the different trends in distributed systems?
- 2 What are different types of models for developing distributed systems?
- 3 What is clocks drift rate?
- 4 What are the two modes of synchronization?
- 5 List the types of communication paradigm in DS?
- 6 What is the use of RMI registry?
- 7 Write the Non-functional requirements of peer-to-peer middleware system?
- 8 Define metadata.
- 9 What are the three phases of Transaction in Concurrency Control?
- 10 How the Lock timeouts can be used to resolve Deadlocks.

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 Write the following challenges in Distributed System:
 - A. Scalability (2)
 - B. Security (2)
 - C. Failure handling (2)
 - D. Quality of service (2)
 - E. Concurrency (2)

OR

- 12 Explain the Client-server and Peer-to-Peer architectures of Distributed System. (10)

- 13 Explain the Algorithms for Mutual Exclusion in Distributed System. (10)

OR

- 14
 - A. Explain the process of Multicast Communication in Distributed System. (5)
 - B. List the types of message ordering in Multicast Communication with their working process. (5)

- 15 Elaborate the characteristics of Interprocess Communication in Distributed System. (10)
OR
- 16 Explain both the fundamental concepts of Distributed Object Model :
A. Remote Object Reference (5)
B. Remote Interface (5)
- 17 Write the File service Architecture of Distributed File Systems with a neat sketch. (10)
OR
- 18 Explain the architecture of Common Object Request Broker Architecture (CORBA) and its Objects and services. (10)
- 19 Explain the operations in the Coordinator Interface of the Distributed Transactions. (10)
OR
- 20 Write a short note on the following of Concurrency control
A. Deadlock Prevention (5)
B. Deadlock Detection (5)