

R16

Code No: 137CA

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech-IV Year I Semester Examinations, March - 2021

DISTRIBUTED SYSTEMS
(Computer Science and Engineering)

Time: 3 Hours

Max. Marks: 75

Answer any Five Questions
All Questions Carry Equal Marks

- 1.a) What do you mean by Grid computing and Cloud computing?
b) Explain the Client-server and Peer-to-Peer architectural models with neat diagrams. [6+9]
- 2.a) Define the terms: logical clock and logical time.
b) Describe Chandy and Lamport's snapshot algorithm for determining global states of distributed systems with an illustration. [2+13]
3. How to implement mutual exclusion between processes in a distributed system using Ricart and Agrawala's algorithm? Explain. [15]
- 4.a) What is meant by serialization? Explain how to implement object serialization in JAVA with sample code.
b) Discuss briefly about remote method invocation in distributed systems. [7+8]
- 5.a) Write down the characteristics of file system.
b) Draw the architecture of Sun Network File System and describe various services and operations supported by NFS. [5+10]
- 6.a) Outline the drawbacks of locking mechanism.
b) Explain optimistic concurrency control mechanism in detail. [7+8]
7. Explain in detail about Two-phase commit protocol with an illustrative example and mention its merits and demerits. [15]
8. Explain in detail about Edge chasing technique for distributed deadlock detection. [15]

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