PRESIDENCY UNIVERSITY
BENGALURU

School Of Computer Science and Engineering & Information Science

Lateral Entry-End-Term Examinations, Aug 2024

Odd Semester: 2023 - 24

Course Code: CSE2052

Course Name: Distributed Systems

Department: CSE

Date: 08.08.2024

Time: 9.30 pm - 12.30 pm

Max Marks: 100

Weightage: 50%

Instructions:

(i) Read the all questions carefully and answer accordingly.

(ii) Do not write any matter on the question paper other than roll number.

Q. No		Questions	Marks	CO	RBT
1	a.	Summarize the characteristics of a distributed system.	4	CO1	L1
	b.	What is the need of distributed system? List the distributed system challenges.	6	CO1	L2
	c.	Describe Remote Invocation.	10	CO1	L3

<div align="center">OR</div>

Q. No		Questions	Marks	CO	RBT
2	a.	Give an example of URL.	4	CO1	L1
	b.	Give five types of hardware resource and software resource that can usually be shared. Give examples of their sharing as it occurs in practice in distributed system?	6	CO1	L2
	c.	Use the World Wide Web as an example to illustrate the concept of resource sharing, client and server. What are the advantages and disadvantages of HTML, URLs and HTTP as core technologies for information browsing? Are any of these technologies suitable as a basis for client-server computing in general?	10	CO1	L3

Q. No		Questions	Marks	CO	RBT
3	a.	Define reliability in group communication? Explain why it is different than reliability in direct communication.	4	CO2	L1
	a.	Explain in detail about Minicomputer model with neat sketch.	6	CO2	L2
	b.	Describe OSI model illustrating t with the layers that it uses for its functioning.	10	CO2	L3

<div align="center">OR</div>

Q. No		Questions	Marks	CO	RBT
4	a.	A service is implemented by several servers. Explain why resources might be transferred between them. Would it be satisfactory for clients to multicast all requests to the group of servers as a way of achieving mobility transparency for clients?	4	CO2	L1
	b.	List out and explain the communication paradigms associated with a distributed system.	6	CO2	L2

	c.	Differentiate Primitive Data Structures and Non-Primitive Data Structures.	10	CO2	L3

5	a.	Mention the characteristics of peer to peer systems.	4	CO3	L1
	b.	Explain the different types of file models in detail.	6	CO3	L2
	c.	How does Andrew file system (AFS) ensure that the cache copies files are up to date when file may be updated by several clients?	10	CO3	L3

OR

6	a.	Define overlay network with an example.	4	CO3	L1
	b.	Explain file service architecture in detail.	6	CO3	L2
	c.	Explain Napster and its legacy with neat sketch.	10	CO3	L3

7	a.	How to synchronize two clocks in **A** and **B**?	4	CO4	L1
	b.	Explain the properties of transaction.	6	CO4	L2
	c.	Explain election algorithm in detail.	10	CO4	L3

OR

8	a.	Define mutual exclusion.	4	CO4	L1
	b.	Explain Concurrency control in detail.	6	CO4	L2
	c.	Discuss the invocation semantics that can be achieved when the request-reply protocol is implemented over a TCP/IP connection, which guarantees that data is delivered in the order sent, without loss or duplication. Take into account all of the conditions causing a connection to broken.	10	CO4	L3

9	a.	Mention the goals of process migration.	4	CO5	L1
	b.	List out the desirable features of scheduling algorithm.	6	CO5	L2
	c.	Explain Logical clock through Lamport's Algorithm.	10	CO5	L3

OR

10	a.	List out the concepts to achieve the goal of process management.	4	CO5	L1
	b.	Explain Election Algorithm	6	CO5	L2
	c.	Explain the process migration mechanism in detail.	10	CO5	L3