DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
DATA SCIENCE
UNIT TEST-II

Class: TE **Semester:VI** **Subject: CSDLO6012-DC**

Date:19/04/2024 **Time:02.00-03.30** **Max marks: 40**

Note the following instructions

1. **Attempt all questions.**
2. **Draw neat diagrams wherever necessary.**
3. **Write everything in Black ink (no pencil) only.**
4. **Assume data, if missing, with justification.**

Q.N	Questions	MARKS	CO	Bloom's Taxonomy Level	PO
Q.1.	**Attempt any two.**	**[15]**			
i	Compare and contrast load sharing with task assignment and load balancing strategies in the context of scheduling within a distributed system.	[10]	CO4	L2	
	OR				
ii	Analyze the process of code migration, detailing the factors involved and the challenges it presents. Evaluate the role of mobile agents in facilitating code migration, considering their functionalities and advantages in comparison to other methods.	[10]	CO4	L2	
iii	Evaluate the desirable characteristics of a global scheduling algorithm.	[5]	CO4	L2	
	OR				
iv	Examine the distinctions between processes and threads, and assess the differences in execution between user-level and kernel-level threads.	[5]	CO4	L2	
Q.2.	**Attempt any two**	**[15]**			
i	Analyze the necessity of Client Centric Consistency Models in contrast to Data Centric	[10]	CO5	L2	

	Consistency Models. Subsequently, illustrate each one of them..				
	OR				
ii	Assess the significance of fault tolerance in distributed systems and analyze the role of recovery mechanisms in ensuring system reliability and availability.	[10]	CO5	L2	
iii	Justify how the Monotonic Read Consistency Model is different from Read Your Write Consistency Model. Support your answer with suitable examples.	[5]	CO5	L2	
	OR				
iv	Summarize the concept of replication, and enumerate its advantages.	[5]	CO5	L2	
Q.3.	**Attempt any one**	**[10]**			
i	Apply different file models, file accessing models, and file-caching schemes to contribute to the efficiency and scalability of distributed file systems.	[10]	CO6	L2	
ii	Illustrate the key factors of NFS, AFS, and HDFS in their approaches to distributed file system architecture and functionality.	[10]	CO6	L2	