PARSHWANATH CHARITABLE TRUST'S

A.P. SHAH INSTITUTE OF TECHNOLOGY
Department of Computer Science and Engineering
Data Science

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

Class: TE	**Semester:VI**	**Subject: CSDLO6012-DC**
Date:22/02/2024	**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	PO2
Q.1.	**Attempt any two.**	**[10]**			
i	Summarize characteristics, Advantages, disadvantages and applications of distributed systems.	[5]	CO1	L2	
ii	Illustrate various architectural models in a distributed system with neat diagrams.	[5]	CO1	L2	
iii	Differentiate multiprocessor and multicomputer systems.	[5]	CO1	L2	
iv	Compare Network OS, Distributed OS and middleware in the design of distributed systems.	[5]	CO1	L2	
Q.2.	**Attempt any one**	**[10]**			
i	Construct a distributed Communication model by selecting appropriate components of Remote Procedure Call (RPC)?	[10]	CO2	L2	
ii	Apply Stream Oriented communication principles to organize RSVP for resource reservation in a distributed system.	[10]	CO2	L2	

Q.3.	**Attempt any two.**	**[20]**			
i	Apply Happened-Before relationship for synchronizing logical clock with an example.	[10]	CO3	L2	
ii	Identify the requirements of the election algorithm in a distributed system. Articulate different forms of election algorithms in detail with an example.	[10]	CO3	L2	
iii	Apply Maekwa's algorithm to achieve mutual exclusion.	[10]	CO3	L2	