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Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S7 (S, FE) / S7 (PT) (S, FE) Examination December 2023 (2015 Scheme)

Course Code: CS407

Course Name: DISTRIBUTED COMPUTING

Max. Marks: 100 Duration: 3 Hours

PART A

Answer all questions, each carries 4 marks. Marks

1		Explain any four features that characterize the distributed system.	4
2		Distinguish between loosely coupled and tightly coupled systems.	4
3		Define mobile agents.	4
4		What is the importance of sockets in the communication system?	4
5		Explain the purpose of marshalling in DS.	4
6		What do you mean by flat file service in DFS?	4
7		Explain concurrency control in a distributed environment.	4
8		What is serializability in concurrency control?	4
9		What is mutual exclusion? Why it is needed in a distributed environment?	4
10		Is the election algorithm an effective way to select a master? Justify your answer.	4

PART B

Answer any two full questions, each carries 9 marks.

11	a)	Discuss the issues while implementing a workstation model and give solutions for each.	9
12	a)	How can we use proxy servers and caches in the architecture model? Explain	9
13	a)	Analyze the security risks in an interaction model.	4
	b)	Explain the significance of transparency in a distributed system.	5

PART C

Answer any two full questions, each carries 9 marks.

14	a)	How can we use IP multicast in group communication? Explain	9
15	a)	How can API be used for data communication? Explain	9
16	a)	How the Unix file system is used to implement a DFS?	4
	b)	What factors should be considered, when client integration is done?	5

PART D

Answer any two full questions, each carries 12 marks.

17	a)	Explain issues that must be addressed when concurrent transactions take place.	12
18	a)	Explain Maekawa's voting algorithm.	12
19	a)	Discuss the Deadlock situations in concurrent transactions.	6
	b)	Explain the centre server algorithm.	6

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