

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**SIXTH SEMESTER B.TECH DEGREE EXAMINATION(R&S), MAY 2019**

**Course Code: IT306**

**Course Name: Distributed Systems**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer any two full questions, each carries 15 marks.*

		Marks
1	a) Compare between marshalling and unmarshalling.	( 2)
	b) Summarize security models with neat diagram.	(7)
	c) Explain the participants in distributed event notification	(6)
2	a) Describe the challenges in distributed systems.	( 8 )
	b) Explain the implementation of RMI with neat diagram.	(7)
3	a) Summarize the transparency features of middleware.	(5)
	b) List out the role of client and server stub procedure in RPC with neat diagram	(4)
	c) Describe in detail about any two ways to mapping requests to threads with in a server.	(6)

**PART B**

*Answer any two full questions, each carries 15 marks.*

4	a) Explain distributed file system requirements.	(8)
	b) Describe about the algorithm of Marzullo Neigor for distributed debugging	( 7)
5	a) Describe in detail about Sun NFS.	(8)
	b) Explain Christian's method for clock synchronization.	(5)
	c) State happened before relationship.	(2)
6	a) Define the terms	(3)
	a) Cuts and Consistent Cuts	
	b) Consistent Run (Linearization)	
	b) Explain the implementation of name resolution.	(7)
	c) Summarize the concept of logical clock.	(5)

**PART C**

*Answer any two full questions, each carries 20 marks.*

- 7 a) With a neat diagram explain the system model for page-based DSM (10)  
b) Describe in detail about Ricart and Agarwala's Algorithm and Mackawa's Voting Algorithm. (10)
- 8 a) Explain in detail about FIFO and causal ordering of multicast messages. (10)  
b) Describe about CORBA Services (10)
- 9 a) Explain ring based election algorithm and the bully algorithm. (10)  
b) Define the consensus problem. Describe an algorithm to solve consensus in a synchronous system (10)

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