BHARATIYA VIDYA BHAVAN'S

SARDAR PATEL INSTITUTE OF TECHNOLOGY

MUNSHI NAGAR, ANDHERI (WEST), MUMBAI – 400 058, India

(Autonomous College Affiliated to University of Mumbai)

End Semester Examination

Max. Marks: 60 | Duration: 3 hr
Class: TYMCA | Semester: V
Course Code: MCA51 | Date: 25/11/19
Subject: Distributed Computing and Cloud Computing | Time: 10.00 to 1.00 pm

Instructions: (1) All questions are compulsory.
(2) Draw neat diagrams
(3) Assume any necessary data but justify the same.

Q. No.	Questions	Max. Marks	CO
Q.1 A	How would you construct the model of blocking and nonblocking types of IPC. which is easier to implement and why ?	6	1_2_1.2.1
B	Why do some distributed applications make use of stateless server inspite of the fact that stateful servers provide easier programming paradigm and are typically more efficient than stateless servers ?	6	1_2_1.2.1
Q.2 A	Why election algorithms are normally needed in distributed systems? A LAN based distributed system has a broadcast facility. Suggest and elaborate simple election algorithm for use in this system.	6	2_2_2.2.4
B	How the shared memory consistency can be maintained in distributed systems with the help of consistency models?	6	2_2_2.3.1
Q.3 A	How would you Categorize different Thread Models in distributed Computing?	6	3_2_2.2.4
	OR		
	For the given data find out the the following and Conclude your answer 1.Serial Assignment Execution Cost & Communication cost & Total cost 2.Optimal Assignment Execution Cost & Communication cost & Total cost	6	3_2_2.2.4

Intertask Communication cost

	t1	t2	t3	t4	t5	t6
t1	0	6	4	0	0	12
t2	6	0	8	12	3	0
t3	4	8	0	0	11	0
t4	0	12	0	0	5	0
t5	0	3	11	5	0	0
t6	12	0	0	0	0	0

Execution Cost

Serial Assignment : t1 ->n1 , t2 ->n1, t3 ->n1, t4 ->n2, t5 ->n2, t6 ->n2.

Optimal Assignment : t1 ->n1, t2 ->n1, t3 ->n1, t4 ->n1, t5 ->n1, t6 ->n2

B	What is an immutable file ? Can a file system be designed to function correctly by using only immutable files ? If no, explain why. If yes, explain how basic operations (create,read,delete,write) can be performed in this file system for shared files ?	6	3_2_2.2.5
Q.4 A	Compare Public Cloud and Private Cloud Model	6	4_2_2.2.4
B	Summarize XaaS in your own words	6	4_2_2.2.2
	OR		
	Illustrate virtualization in cloud computing.	6	4_2_2.2.2
Q.5 A	How would you compare Cloud Computing and Grid computing ?	6	4_2_2.24
B	Outline the main characteristics of Cloud computing	6	4_2_2.2.2