GURU NANAK INSTITUTE OF TECHNOLOGY
An Autonomous Institute under MAKAUT
2021
DISTRIBUTED OPERATING SYSTEM
CS605B

TIME ALLOTTED: 3HR **FULL MARKS:70**

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable

GROUP – A
(Multiple Choice Type Questions)

Answer any ***ten*** from the following, choosing the correct alternative of each question: **10×1=10**

			Marks	CO No.
1.	(i)	Distributed System is a- a) Loosely coupled system b) Tightly coupled system c) Both a and b d) Neither a nor b	1	CO1
	(ii)	____ is software architecture used to build a distributed system from a network connected by high speed network. a) DOS b) NOS c) Middleware d) Operating system	1	CO1
	(iii)	If no special machines are in a architecture which manage network resources is known a) Space based b) Tightly coupled c) Loosely coupled d) Peer to peer	1	CO1
	(iv)	Network operating system runs on a) Server b) Every system in the network c) Both A &B d) None on these	1	CO1
	(v)	An RPC (remote procedure call) is initiated by the: a) server b) client c) both (a) and (b) d) neither (a) nor (b)	01	CO2
	(vi)	Which of the following allocates/deallocates buffers a) RRL b) Stub/skeleton layer c) Transport layer d) Networking layer	1	CO2

(vii)	What called for RPC mechanism a) Message passing b) Message retrieving c) Message delivering d) Message synchronizing		1	CO2
(viii)	_____ is not possible in distributed file system. a) File replication b) Migration c) Client interface d) Remote access		1	CO2
(ix)	Desirable features of a distributed file system a) Location Transparency b) User mobility c) High availability d) All the above		01	CO3
(x)	What are the advantages of file replication? a) Improves availability & performance b) Decreases performance c) Decreases availability d) d) Increases Cost		1	CO3
(xi)	What is a common problem found in distributed system? a) Process Synchronization b) Communication synchronization c) Deadlock problem d) Power failure		1	CO3
(xii)	In distributed systems, what will the transaction coordinator do? a) Starts the execution of transaction b) Breaks the transaction into number of sub transactions c) Coordinates the termination of the transaction d) All of the mentioned		1	CO3

GROUP – B
(Short Answer Type Questions)

(Answer any *three* of the following) **3 x 5 = 15**

			Marks	**CO No.**
2.	a)	In what respect distributed computing system is better than parallel processing system?	3	CO1
	b)	Explain the classification of the distributed operating system?	2	CO1
3.	a)	What is IPC?	1	CO2
	b)	Explain RPC Call message and Reply message format.	4	CO2
4.		Discuss the Lamport's Logical clock algorithm.	5	CO3
5.	a)	What is process migration	2	CO4
	b)	What are the advantages of process migration?	3	CO4
6.		Describe blocking and non-blocking types of IPC.	5	CO2

GROUP – C
(Long Answer Type Questions)

(Answer any *three* of the following) **3 x 15 = 45**

			Marks	CO No.
7.	a)	Write down the features of DOS.	5	CO1
	b)	Explain DOS Architecture with proper diagram.	5	CO1
	c)	Write down the advantages of DOS.	5	CO1
8.	a)	What is the meaning of "heterogeneity" in Distributed system?	3	CO2
	b)	What is Synchronization?	2	CO2
	c)	Discuss RPC implementation mechanism with proper diagram.	6	CO2
	d)	Differentiate between casual ordering of event and consistent ordering of event.	4	CO2
9.	a)	What is mutual exclusion?	2	CO3
	b)	How Bully algorithm is used to select coordinator for centralized algorithm to achieve mutual exclusion?	6	CO3
	c)	What are the Similarities and Dissimilarities between Process and Thread?	3	CO3
	d)	What is Fault Tolerance and load balancing in distributed system?	4	CO3
10.	a)	What is distributed file system?	2	CO4
	b)	Explain different file models for distributed file system.	5	CO4
	c)	How the modification of a file on clients' node can be simultaneously cached on multiple node?	5	CO4
	d)	Differentiate between system oriented and human oriented names.	3	CO4
11.		Write short notes (any three)	3x5=15	
	a)	The Andrew file store	5	CO5
	b)	Distributed Deadlock Detection	5	CO1
	c)	Clock Synchronization and implementation of computer clock	5	CO2
	d)	Token ring algorithm for mutual exclusion	5	CO3
	e)	Process migration	5	CO4