Sample Questions

Computer Engineering

Subject Name: Distributed Computing **Semester: VIII**

Multiple Choice Questions

Choose the correct option for following questions. All the Questions carry equal marks	
1.	_____ and _____ are used to hide the access and location of the system.
Option A:	access transparency, location transparency.
Option B:	migration transparency, replication transparency
Option C:	network transparency, location transparency
Option D:	failure transparency, network transparency
2.	The two popular remote object invocation models are
Option A:	RPC and RMI
Option B:	CORBA and RMI
Option C:	MOM and RPC
Option D:	MPI and MOM
3.	In distributed systems, a logical clock is associated with _____
Option A:	each instruction
Option B:	each register
Option C:	each process
Option D:	none of the mentioned
4.	Process transfer policy in Load-balancing algorithms is_____
Option A:	Determines how to exchange load information among nodes
Option B:	Determines to which node the transferable process should be sent
Option C:	Determines the total number of times a process can migrate
Option D:	Determines whether to execute a process locally or remotely
5.	Client centric consistency model useful in applications where_____
Option A:	Data is static
Option B:	One client always updates data store
Option C:	Data updation is not required
Option D:	Data storage is not required
6.	In distributed file system, file name does not reveal the file's _____
Option A:	Local name
Option B:	Global name
Option C:	Cache location
Option D:	Physical storage location
7.	The Ricart & Agrawala distributed mutual exclusion algorithm is:

Option A:	More efficient and more fault tolerant than a centralized algorithm.
Option B:	More efficient but less fault tolerant than a centralized algorithm.
Option C:	Less efficient but more fault tolerant than a centralized algorithm.
Option D:	Less efficient and less fault tolerant than a centralized algorithm.
8.	The kernel is _____ of user threads.
Option A:	a part of
Option B:	the creator of
Option C:	unaware of
Option D:	aware of
9.	What is stub?
Option A:	transmits the message to the server where the server side stub receives the message and invokes procedure on the server side
Option B:	Perform encryption and decryption
Option C:	Perform Routing operation
Option D:	Perform Retransmission of message
10.	In a distributed file system, _____ is mapping between logical and physical objects.
Option A:	Client interfacing
Option B:	Naming
Option C:	Migration
Option D:	Heterogeneity
11.	RPC is an example of ----------
Option A:	synchronous communication
Option B:	asynchronous communication
Option C:	persistent communication
Option D:	time independent operation
12.	What is a remote object reference?
Option A:	The variables referenced by the Method Invocation
Option B:	An identifier for the skeleton referred by a client
Option C:	An identifier for the proxy referenced by a client
Option D:	An identifier for a remote object that is valid throughout a distributed system
13.	In a distributed file system, _____ is mapping between logical and physical objects.
Option A:	Client interfacing
Option B:	Naming
Option C:	Migration
Option D:	Heterogeneity
14.	Concurrency transparency is
Option A:	Where users cannot tell where an object is physically located in the system
Option B:	Hide differences in data representation and how an object is accessed
Option C:	Hide that an object may be shared by several independent users

Option D:	Hide that an object is replicated
15.	Client centric consistency model useful in applications where_____
Option A:	Data is static
Option B:	One client always updates data store
Option C:	Data updates not required in the local store
Option D:	Data storage is not required
16.	The ring election algorithm works by
Option A:	Having all nodes in a ring of processors send a message to a coordinator who will elect the leader
Option B:	Sending a token around a set of nodes. Whoever has the token is the coordinator.
Option C:	Sending a message around all available nodes and choosing the first one on the resultant list
Option D:	Building a list of all live nodes and choosing the largest numbered node in the list
17.	What is a stateless file server?
Option A:	It keeps tracks of states of different objects
Option B:	It maintains internally no state information at all
Option C:	It maintains only client information in them
Option D:	It maintains only client access information in them
18.	In which file model, a new version of the file is created each time a change is made to the file contents and the old version is retained unchanged
Option A:	Unstructured files
Option B:	Structured files
Option C:	Immutable files
Option D:	Mutable files
19.	The Ricart Agrawala distributed mutual exclusion algorithm is:
Option A:	More efficient and more fault tolerant than a centralized algorithm.
Option B:	More efficient but less fault tolerant than a centralized algorithm.
Option C:	Less efficient but more fault tolerant than a centralized algorithm.
Option D:	Less efficient and less fault tolerant than a centralized algorithm.
20.	Which of the following is NOT a technique for achieving scalability
Option A:	Centralization
Option B:	Distribution
Option C:	Replication
Option D:	Caching
21.	A layer which lies between an operating system and the applications running on it is called as -
Option A:	Firmware
Option B:	Hardware
Option C:	Software
Option D:	Middleware

22.	Goals of Distributed system does not include-
Option A:	Resource sharing
Option B:	Access to remote resources
Option C:	Sharing memory space
Option D:	Concurrent process execution
23.	which of the following is not the commonly used semantics for ordered delivery of multicast messages-
Option A:	Absolute ordering
Option B:	Persistent ordering
Option C:	Consistent ordering
Option D:	Casual ordering
24.	The type of transparency that enables resources to be moved while in use without being noticed by users and application is-
Option A:	Location Transparency
Option B:	Migration Transparency
Option C:	Relocation Transparency
Option D:	Access Transparency
25.	A paradigm of multiple autonomous computers, having a private memory, communicating through a computer network, is known as-
Option A:	Distributed computing
Option B:	Cloud computing
Option C:	Centralized computing
Option D:	Parallel computing
26.	Following is not the common mode of communication in Distributed system-
Option A:	RPC
Option B:	RMI
Option C:	Message Passing
Option D:	Shared memory
27.	Following is not the physical clock synchronization algorithm-
Option A:	Lamport’s Scalar Clock synchronization
Option B:	Christians clock synchronization
Option C:	Berkley clock synchronization
Option D:	Network time protocol
28.	Distributed Mutual Exclusion Algorithm does not use-
Option A:	Coordinator process
Option B:	Token
Option C:	Logical clock for event ordering
Option D:	Request and Reply message
29.	Vector Timestamp Ordering Algorithm is an example of-

Option A:	Centralized Mutual Exclusion
Option B:	Distributed Mutual Exclusion
Option C:	Physical Clock Synchronization
Option D:	Logical Clock Synchronization
30.	What is fault tolerance in distributed Computing?
Option A:	Ability of system to continue functioning in the event of a complete failure.
Option B:	Ability of system to continue functioning in the event of a partial failure.
Option C:	Ability of system to continue functioning when system is properly working.
Option D:	Ability of distributed system to work in all conditions.
31.	In Task Assignment Approach, we have to-
Option A:	Minimize IPC cost
Option B:	Maximize IPC cost
Option C:	Fix IPC cost
Option D:	Keep constant IPC cost
32.	Backward error recovery requires-
Option A:	Grouping
Option B:	Assurance
Option C:	Check pointing
Option D:	Validation
33.	Which of these consistency models does not use synchronization operations?
Option A:	Sequential
Option B:	Weak
Option C:	Release
Option D:	Entry
34.	Which is not possible in distributed file system?
Option A:	File replication
Option B:	Migration
Option C:	Client interface
Option D:	Remote access
35.	X.500 is a-
Option A:	Directory services
Option B:	Naming services
Option C:	Replication services
Option D:	Consistency services
36.	A DFS is executed as a part of-
Option A:	System specific program
Option B:	Operating system
Option C:	File system
Option D:	Application program
37.	Processes on the remote systems are identified by-

Option A:	Host ID
Option B:	Identifier
Option C:	Host name and identifier
Option D:	Process ID
38.	The function of load-balancing algorithm is-
Option A:	It tries to balance the total system load by transparently transferring the workload from heavily loaded nodes to lightly loaded
Option B:	It helps the process to know the time by simply making a call to the operating system.
Option C:	allows a process to access named entity
Option D:	It synchronizes the clocks
39.	A Multi-threaded Server has following threads-
Option A:	Dispatcher Thread
Option B:	Client Thread
Option C:	Worker Thread
Option D:	Client and Server Thread
40.	Maekawa's Mutual Exclusion Algorithm is based on-
Option A:	Coordinator selection
Option B:	Token
Option C:	Voting
Option D:	Tickets

Descriptive Questions

What are the different architecture models of Distributed System? Explain with suitable diagrams.
Write a short note on Raymond's Tree based Mutual exclusion algorithm.
What is RPC? Explain model of RPC.
What are different data centric consistency model?
Write a short note on code migration.
Explain Bully election algorithm with example.
Define fault tolerance. Describe different types of faults.
Explain Hadoop distributed file system.
Explain Bully election algorithm with an example and different scenarios. Use neat diagrams for the same.
Draw and explain the general architecture of a Message-Queuing System
What are the features of Andrew File System? Define File service architecture of AFS?
Briefly describe the architecture and server operations of NFS.
Explain the different issues and steps involved in a good Load Balancing algorithm
Explain the Centralized algorithms for Mutual Exclusion in Distributed Systems.
Describe File caching schemes in brief.
What is the need for Code Migration? Explain the code migration issues in detail.
Define remote procedure call (RPC)? Describe the working of RPC in detail.

What is an open distributed system and what benefits does openness provide?
Explain Cristian's algorithm for physical clock synchronization
Describe the role of stubs in Remote Procedure Calls.
Define fault tolerance. Describe the different types of faults.
What are the different architecture models of Distributed System? Explain one with a suitable diagram.
Write a short note on the advantages of code migration.
Explain Stream oriented communication with example.
Explain Berkeley physical clock algorithm
Explain different load estimation policies used by load balancing approach.
Differentiate between NOS, DOS and Middleware in the design of a distributed systems.
Differentiate between Data Centric and Client centric Consistency models with examples.
What are the steps involved in the execution of Maekawa's Algorithm for Mutual Exclusion
Write short note on - Group Communication.
What is replication in distributed system? Explain the advantages of replication.
Write short note on - Network File System (NFS)
Discuss the Bully algorithm with appropriate example. State its advantages and disadvantages.
What are the different model of distributed system? Explain.
How Monotonic Read consistency model is different from Read your Write consistency Model? Support your answer with suitable example.