Program: BE Computer Engineering
Curriculum Scheme: Revised 2016
Examination: Final Year Semester VIII
Course Code: CSC802 and Course Name: Distributed Computing

Time: 1 hour **Max Marks:50**

1	In the token passing approach of distributed systems, processes are organized in a ring structure
(a)	Logically
(b)	Physically
(c)	Both logically and physically
(d)	No specific to any structure
2	Difference in precision between a prefect reference clock and a physical clock is known as_____
(a)	Clock drift rate
(b)	Drift
(c)	Skew
(d)	Clock synchronization
3	In mutual exclusion algorithm, number of messages per Critical Section invocation should be_____.
(a)	minimized
(b)	Maximized
(c)	Remain same
(d)	monotonic
4	_____is the problem that occurs when high priority processes keep executing and low priority processes get blocked for indefinite time
(a)	Deadlock
(b)	Starvation
(c)	Fairness
(d)	monotonic
5	The difference between logical and physical clocks?
(a)	Logical clocks measure the time of day and Physical clocks are used to mark relationships among events in a distributed system
(b)	Both are the same
(c)	Physical clocks measure the time of day and Logical clocks are used to mark relationships among events in a distributed system.
(d)	Both measures the time of day.
6	The sections of a program that need exclusive access to shared resources are referred as_____
(a)	Critical sections
(b)	deadlocks
(c)	fairness
(d)	starvation
7	_____defined a relation called happens-before
(a)	Berkeley
(b)	Lamport
(c)	Vector
(d)	Cristian
8	Centralize algorithm has one basic disadvantage.
(a)	Single point failure
(b)	Many process
(c)	Not fair
(d)	deadlock
9	The Lamport's mutual exclusion algorithm requires _____ messages per Critical Section invocation
(a)	(N - 1)
(b)	3(N - 1)
(c)	2(N - 1)
(d)	5(N - 1)
10	The Mekawa mutual exclusion algorithm requires _____ messages per Critical Section invocation
(a)	2N
(b)	2 √N
(c)	3N
(d)	3 √N
11	Cristian's Algorithm is _____
(a)	Passive Time Server Algorithm
(b)	Active Time Server Algorithm
(c)	Distributed mutual exclusion
(d)	Logical algorithm
12	The Ricart Agarwala mutual exclusion algorithm requires _____ messages per Critical Section invocation
(a)	(N - 1)
(b)	3(N - 1)
(c)	2(N - 1)
(d)	5(N - 1)
13	The difference in the time value of two Clocks is called_____
(a)	Clock drift
(b)	Clock skew
(c)	Clock synchronization
(d)	Difference clock
14	In _____ each node periodically sends a message to the time server.
(a)	Passive Time Server Centralized Algorithm
(b)	Active Time Server Centralized Algorithm
(c)	Global Averaging Distributed Algorithms
(d)	Localized Averaging Distributed Algorithms
15	_____ is a process that prevents multiple threads or processes from accessing shared resources at the same time
(a)	Deadlock
(b)	Critical section
(c)	Mutual Exclusion
(d)	Message passing
16	The _____ is used to store a constant value that is decided based on the frequency of oscillation of the quartz crystal

(a)	Counter register
(b)	Quartz crystal
(c)	Constant register
(d)	ALU
17	In which algorithm, One process is elected as the coordinator.
(a)	Distributed mutual exclusion algorithm
(b)	Centralized mutual exclusion algorithm
(c)	Vector Algorithm
(d)	Lamport algorithm
18	If a and b are two events within the same process and a occurs before b, then clock of a (C(a)) is always _____then clock of b (C(b))
(a)	lesser
(b)	greater
(c)	equal
(d)	Cant say
19	In distributed systems, a logical clock is associated with _____.
(a)	each instruction
(b)	each process
(c)	each register
(d)	each ALU
20	_____ is a physical clock synchronization Algorithm
(a)	Cristian
(b)	vector
(c)	Lamport
(d)	Ring
21	If two event a and b are parallel, then _____.
(a)	a and b monotonic
(b)	C(a) = C(b)
(c)	C(a) > C(b)
(d)	C(a) < C(b)
22	To enforce …… two functions are provided enter-critical and exit-critical, where each function takes as an argument the name of the resource that is the subject of competition.
(a)	Deadlock
(b)	Starvation
(c)	Mutual exclusion
(d)	Synchronization
23	The _____ is used to provide security to the shared resources, processes & channels used for their interactions.
(a)	Interaction model
(b)	Fault model
(c)	Architectural model
(d)	Security model
24	The _____ model is required in order to build systems with predictable behavior in case of fault
(a)	Interaction model
(b)	Fault model
(c)	Architectural model
(d)	Security model
25	____ defines the way in which the components of the system interact with each other & mapped onto an underlying network of component.
(a)	Interaction model
(b)	Fault model
(c)	Architectural model
(d)	Security model
26	_____ allows multiple computers with diverse hardware, operating system & network to solve complex problem
(a)	Cluster computing
(b)	Grid computing
(c)	Centralized system
(d)	Cluster and gri computing
27	Among the following option which is not main focus of Distributed System
(a)	Availability
(b)	Reliability
(c)	Scientific Performance
(d)	Resource sharing
28	Security for information resource does not include
(a)	Availability
(b)	Concurrency
(c)	Confidentiality
(d)	Integrity
29	Which among below is not a technique commonly used for scaling in Distributed System
(a)	Hiding Communication Latency
(b)	Hide Performance
(c)	Hide Distribution
(d)	Hide Replication
30	The _____consist of a network of personal computers, each with its own hard disk nad local files system and interconnected over the network termed as diskful workstations
(a)	Workstation model
(b)	Workstation -server model
(c)	Processor-pool model
(d)	Client-server model
31	Advantage in ___ model is that some of its processors can work as servers, if the load has increased or if more users are logged in and demand new services.
(a)	Workstation model
(b)	Workstation -server model
(c)	Processor-pool model
(d)	Client-server model
32	_____ model consist of multiple work stations coupled with powerful servers with extra hardware to store the file system s and other software like databases

(a)	Workstation model
(b)	Workstation -server model
(c)	Processor-pool model
(d)	Client-server model
33	The V-system in distributed computing system is based on _____.
(a)	Workstation model
(b)	Workstation -server model
(c)	Processor-pool model
(d)	Client-server model
34	The response time is short since process migration is not required in _____
(a)	Workstation model
(b)	Workstation -server model
(c)	Processor-pool model
(d)	Client-server model
35	_____ refers to degree of tolerance against component failure and errors
(a)	Performance
(b)	Availability
(c)	Integrity
(d)	Reliability
36	Which among below is not Distributed system models are
(a)	Architectural model
(b)	Interaction model
(c)	Fault model
(d)	Performance model
37	_____ is computing form where heterogeneity is key advantage.
(a)	Cluster computing
(b)	High performance computing
(c)	Grid computing
(d)	Cluster & grid computing
38	____ 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
39	The transparency that enables multiple instances of resources to be used, is called ____ transparency
(a)	Concurrency
(b)	Performance
(c)	Scaling
(d)	Replication
40	_____ implies that the user need not be aware whether the resource is in volatile memory or on the disk.
(a)	Relocation Transparency
(b)	Location Transparency
(c)	Migration Transparency
(d)	Persistence Transparency
41	Which is not a characteristic in Distributed Operating System
(a)	Enabling Interprocess communication
(b)	Uniform process management
(c)	Local control management
(d)	Different kernel implementation
42	A _____ system enables a distributed system to behave like a virtual uniprocessor, even though the system operates on collection of machines
(a)	DOS
(b)	NOS
(c)	Middleware
(d)	Operating system
43	The type of communication where a message is stored by the communication system only as long as the sending and receiving application are executing.
(a)	Transient communication
(b)	Persistent communication
(c)	Synchronous communication
(d)	Asynchronous communication
44	The type of communication where a message that has been submitted for transmission is stored by the communication system as long as it takes to deliver it to the receiver
(a)	Transient communication
(b)	Persistent communication
(c)	Synchronous communication
(d)	Asynchronous communication
45	The type of communication where a sender continues its execution immediately after it has submitted its message for transmission
(a)	Transient communication
(b)	Persistent communication

(c)	Synchronous communication
(d)	Asynchronous communication
46	The type of communication where the sender is blocked until its message is stored in a local buffer at the receiving host, or actually delivered to the receiver.
(a)	Transient communication
(b)	Persistent communication
(c)	Synchronous communication
(d)	Asynchronous communication
47	E-mail system is an example of
(a)	Persistent asynchronous communication
(b)	Persistent synchronous communication
(c)	Transient asynchronous communication
(d)	Transient synchronous communication
48	UDP is an example of
(a)	Persistent asynchronous communication
(b)	Persistent synchronous communication
(c)	Transient asynchronous communication
(d)	Transient synchronous communication
49	The local operating system on the server machine passes the incoming packets to the _____
(a)	Server stub
(b)	Client stub
(c)	Client operating system
(d)	Client process
50	The collection of protocols used in a particular system is called a protocol suite or
(a)	Protocol collector
(b)	Protocol list
(c)	Protocol stack
(d)	Protocol queue
51	Registration of a server makes it possible for a client to locate the server and
(a)	Bind to it
(b)	Listen to it
(c)	Refer to it
(d)	Store to it
52	All communication in distributed systems is based on sending and receiving (low level) messages because of
(a)	The absence of shared memory
(b)	The presence of heterogeneity
(c)	The absence of synchronization
(d)	The presence of complexities
53	Which among the following is not performed be RPC Runtime
(a)	Retransmission
(b)	Routing
(c)	Marshalling
(d)	Encryption
54	In RPC, _____ handles transmission of messages across the network between client and the server machine
(a)	Rpc transmission
(b)	Rpc runtime
(c)	Rpc communication
(d)	Rpc interface
55	RPC allows a computer program to cause a subroutine to execute in _____
(a)	Its own address space
(b)	Another address space
(c)	Both its own address space and another address space
(d)	Applications address space
56	A system that offers intermediate-term storage capacity for messages, without requiring either the sender or receiver to be active during message transmission is suitable for
(a)	Persistent asynchronous communication
(b)	Transient asynchronous communication
(c)	Persistent synchronous communication
(d)	Transient synchronous communication
57	Method invocations between objects in the same process are
(a)	Static method invocations
(b)	Dynamic method invocations
(c)	Local method invocations
(d)	Temporal method invocations
58	An identifier that can be used throughout a distributed system to refer to a particular unique remote object is
(a)	Remote object procedure
(b)	Remote object reference
(c)	Remote object syntax
(d)	Remote object index
59	Every remote object has a remote interface that specifies which of its
(a)	Methods can be invoked remotely
(b)	Parameters can be used remotely
(c)	Methods can be invoked locally
(d)	Parameters can be invoked locally
60	An RPC (remote procedure call) is initiated by the _____
(a)	Server
(b)	Client
(c)	Client after server
(d)	A third party
61	The process initiated by a method invocation, which may result in further invocations on methods in other objects is called

(a)	A creation
(b)	An action
(c)	A reaction
(d)	An invitation
62	Inter Process Communication takes place via
(a)	Shared memory and message passing
(b)	Decentralized memory and message passing
(c)	Shared memory and message replicating
(d)	Decentralized memory and message replicating
63	Which failures Response lies outside a specified time interval
(a)	Timing Failure
(b)	Omission failure
(c)	Crash Failure
(d)	Arbitrary Failure
64	client-centric consistency provides guarantees for a _____ concerning the consistency of accesses to a data store by that client.
(a)	Single Client
(b)	Multiple Client
(c)	Single Server
(d)	Multiple Server
65	Which of the following is not example of Information redundancy
(a)	parity
(b)	checksum
(c)	Hamming codes
(d)	Rollback if transaction aborts
66	In _____ all processes see only those memory reference operations in the correct order that are potentially causally related
(a)	Continuous Consistency
(b)	Causal Consistency
(c)	Sequential Consistency
(d)	Eventual Consistency
67	Which of the following is not Message Ordering Multicast
(a)	Unordered multicasts
(b)	FIFO-ordered multicasts
(c)	Causally-ordered multicasts
(d)	LIFO-ordered multicasts
68	Which multicast delivers messages so that potential causality between different messages is preserved
(a)	Unordered multicasts
(b)	FIFO-ordered multicasts
(c)	Causally-ordered multicasts
(d)	Totally-ordered multicasts
69	Which of the following is not comes under Dependability
(a)	Availability
(b)	Reliability
(c)	Maintainability
(d)	Redundancy
70	If a system goes down for one millisecond every hour, then how much availability it has?
(a)	99.09 percent
(b)	99.9999 percent
(c)	00.99 percent
(d)	99.3 percent
71	_____ used in replication of stocks
(a)	Numerical deviation
(b)	Staleness deviation
(c)	Ordering deviation
(d)	Time deviation
72	_____is often used for Web caches
(a)	Numerical deviation
(b)	Staleness deviation
(c)	Ordering deviation
(d)	Time deviation
73	Which of the following is disadvantage of active replication
(a)	Consistent replicas
(b)	Minimal bandwidth costs
(c)	Size of the parameters is small
(d)	Processing power
74	The effect of a write operation by a process on data item x will always be seen by a successive read operation on x by the same process.
(a)	Read-your-writes
(b)	Monotonic-writes
(c)	Monotonic-Reads
(d)	Writes-follow-reads
75	Which Consistency is used to guarantee that users of a network newsgroup see a posting of a reaction to an article only after they have seen the original article
(a)	Read-your-writes
(b)	Monotonic-writes
(c)	Monotonic-Reads
(d)	Writes-follow-reads
76	The absence of _____consistency is sometimes experienced when updating Web documents and subsequently viewing the effects.
(a)	Read-your-writes
(b)	Monotonic-writes
(c)	Monotonic-Reads
(d)	Writes-follow-reads
77	Write the event of following notations:M ~P ~C

(a)	A crash occurs after sending the completion message and printing the text.
(b)	A crash happens after sending the completion message, but before the text could be printed.
(c)	A crash happens before the server could do anything.
(d)	The text printed, after which a crash occurs before the completion message could be sent.
78	Write the event of following notations:M ~C (~P)
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(c)	A crash happens before the server could do anything.
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79	DNS is an example of
(a)	Continuous Consistency
(b)	Causal Consistency
(c)	Sequential Consistency
(d)	Eventual Consistency
80	Staleness deviations relate to the _____
(a)	first time a replica was updated
(b)	first time a replica was not updated
(c)	last time a replica was updated
(d)	last time a replica was not updated
81	_____ cover the case of dealing with arbitrary failures by process Q, yet these failures are benign: they cannot do any harm.
(a)	Fail-stop failures
(b)	Fail-noisy failures
(c)	fail-silent failures
(d)	Fail-safe failures
82	In which type of failures we assume that communication links are nonfaulty, but that process P cannot distinguish crash failures from omission failures
(a)	Fail-stop failures
(b)	Fail-noisy failures
(c)	fail-silent failures
(d)	Fail-safe failures
83	What are the advantages of file replication?
(a)	Improves availability &performance
(b)	Decreases performance
(c)	Improves consistency
(d)	Improves speed
84	For which file transfer model, cache management is harder due to the variable-length data for different access requests.
(a)	File-level transfer model
(b)	Block-level transfer model
(c)	Byte-level transfer model
(d)	Record-level transfer model
85	Advantage of Data-caching model over the Remote service model
(a)	Reduces network traffic
(b)	Contention for the file servers
(c)	Increased performance
(d)	Contention for Network
86	What is the advantage of caching in remote file access?
(a)	Reduced network traffic by retaining recently accessed disk blocks
(b)	Faster network access
(c)	Copies of data creates backup automatically
(d)	Copies of data resolves inconsistencies
87	In the case of_____ changes to an open file are only locally visible.
(a)	Mutable Files
(b)	Immutable Files
(c)	Atomic Transactions
(d)	Session Semantics
88	Remote service model for file accessing has
(a)	Reduced contention for the network
(b)	Reduced network traffic
(c)	Client's request is performed at the server's node
(d)	No contention for the file servers
89	A cache in which location is the easiest to implement
(a)	Server's main memory
(b)	Client's disk
(c)	Client's main memory
(d)	Server's Disk
90	In a distributed file system, when a file's physical storage location changes _____
(a)	File name needs to be changed
(b)	File name need not to be changed
(c)	File's host name needs to be changed
(d)	File's local name needs to be changed
91	What are the characteristics of transaction semantics?
(a)	The users of this model are interested in the atomicity property for their transaction
(b)	Suitable for applications that are concerned about coherence of data
(c)	Easy to implement in a single processor system
(d)	Write-back enhances access performance
92	What is NOT the characteristics of session semantics?
(a)	Each client obtains a working copy from the server
(b)	When file is closed, the modified file is copied to the file server
(c)	The burden of coordinating file sharing is ignored by the system
(d)	Easy to implement in a single processor system

93	_____ identifies the names of those enterprise-level networks around the world that are linked together via phone, satellite, or other communication systems
(a)	Global Naming Service
(b)	Directory Services
(c)	CODA Files
(d)	Andrew File System
94	Which file system implements the most stringent semantics of file sharing
(a)	Unix Semantics
(b)	Session Semantics
(c)	Transaction Semantics
(d)	Network Semantics
95	Which one is NOT a part of the sets of services underlying the Google Search Engine
(a)	Crawling
(b)	Testing
(c)	Ranking
(d)	Indexing
96	_____ acts between name servers and their clients.
(a)	Name machine
(b)	Context node
(c)	Naming agents
(d)	Main servers
97	Which cache location gives Maximum performance gain for file systems
(a)	Server's main memory
(b)	Client's main memory
(c)	Server's Disk
(d)	Client's disk
98	DIT in Domain Name Space stands for
(a)	Direct Information Transparency
(b)	Directory Implicit Transfer
(c)	Direct Information Token
(d)	Directory Information Tree
99	A file appears to the file server as an ordered sequence of records in
(a)	Unstructured files
(b)	Structured files
(c)	Immutable files
(d)	Mutable files
100	Web-based office suite supporting shared editing of documents held on Google servers.
(a)	Gmail
(b)	Google Talk
(c)	Google News
(d)	Google Docs
101	In NFS, all client-server communication is done through
(a)	RPC
(b)	RMI
(c)	Message Oriented Communication
(d)	Streams
102	A system is fault tolerant if it can continue to operate in the _____
(a)	presence of failures
(b)	absence of failures
(c)	presence of replication
(d)	absence of replication