

<b>Started on</b>	Tuesday, 9 December 2025, 10:47 AM
<b>State</b>	Finished
<b>Completed on</b>	Tuesday, 9 December 2025, 10:51 AM
<b>Time taken</b>	4 mins 32 secs
<b>Marks</b>	23.00/25.00
<b>Grade</b>	<b>92.00</b> out of 100.00

**Question 1**

Complete

Mark 1.00 out of 1.00

A full binary tree has nodes with:

- a. Exactly two children
- b. Only one child
- c. 1 or 3 children
- d. 0 or 2 children

**Question 2**

Complete

Mark 1.00 out of 1.00

A HashMap stores data as:

- a. Key-value pairs
- b. Circular buffers
- c. Single values
- d. Indexed blocks

**Question 3**

Complete

Mark 1.00 out of 1.00

A method can be overridden only if:

- a. It is static
- b. Return type is unrelated
- c. It is private
- d. Signature is identical

**Question 4**

Complete

Mark 1.00 out of 1.00

A process becomes a zombie when:

- a. Parent calls exec()
- b. Parent exits before child
- c. Child is blocked on I/O
- d. Child exits and parent does not call wait()

**Question 5**

Complete

Mark 1.00 out of 1.00

A pull request is used to:

- a. Delete branches
- b. Tag commits
- c. Clone a repository
- d. Merge changes into a branch

**Question 6**

Complete

Mark 1.00 out of 1.00

Average-case hash table lookup time is:

- a.  $O(n \log n)$
- b.  $O(\log n)$
- c.  $O(1)$
- d.  $O(n)$

**Question 7**

Complete

Mark 1.00 out of 1.00

Calling run() directly:

- a. Executes on the current thread
- b. Halts the JVM
- c. Starts a new thread
- d. Throws exception

**Question 8**

Complete

Mark 1.00 out of 1.00

Constructor chaining within the same class uses:

- a. super()
- b. static()
- c. this()
- d. default()

**Question 9**

Complete

Mark 1.00 out of 1.00

Deleting a node after a given node in a singly linked list takes:

- a.  $O(n^2)$
- b.  $O(n)$
- c.  $O(\log n)$
- d.  $O(1)$

**Question 10**

Complete

Mark 0.00 out of 1.00

DFS is useful for:

- a. Minimum spanning tree
- b. Cycle detection
- c. Shortest path
- d. Error correction

**Question 11**

Complete

Mark 1.00 out of 1.00

DHCP provides:

- a. Hardware addressing
- b. Automatic IP configuration
- c. Encryption
- d. Error reporting

**Question 12**

Complete

Mark 1.00 out of 1.00

In TCP/IP, the Application Layer maps to which OSI layers?

- a. Transport and Network
- b. Physical and Data Link
- c. Application, Presentation, Session
- d. Network and Data Link

**Question 13**

Complete

Mark 1.00 out of 1.00

Internal fragmentation occurs because:

- a. Pages are fixed sized
- b. Memory holes form
- c. Memory overlaps
- d. Segments vary in size

**Question 14**

Complete

Mark 1.00 out of 1.00

Jenkins pipelines are defined using:

- a. settings.xml
- b. Jenkinsfile
- c. Dockerfile
- d. pom.xml

**Question 15**

Complete

Mark 1.00 out of 1.00

Minikube is used to:

- a. Deploy apps to AWS
- b. Manage Docker Hub
- c. Run local single-node Kubernetes clusters
- d. Load balance services

**Question 16**

Complete

Mark 1.00 out of 1.00

Routers forward packets based on:

- a. MAC address
- b. ARP table
- c. Port number
- d. IP address

**Question 17**

Complete

Mark 0.00 out of 1.00

The page replacement algorithm with the lowest theoretical page faults is:

- a. Optimal
- b. LRU
- c. Clock
- d. FIFO

**Question 18**

Complete

Mark 1.00 out of 1.00

Which block always executes?

- a. throw
- b. finally
- c. catch
- d. try

**Question 19**

Complete

Mark 1.00 out of 1.00

Which command lists running containers?

- a. docker info
- b. docker run
- c. docker images
- d. docker ps

**Question 20**

Complete

Mark 1.00 out of 1.00

Which mechanism ensures reliable TCP delivery?

- a. Token passing
- b. Time slicing
- c. Broadcast flooding
- d. Sliding window with acknowledgments

**Question 21**

Complete

Mark 1.00 out of 1.00

Which operation does NOT belong to a queue?

- a. peek
- b. dequeue
- c. enqueue
- d. push

**Question 22**

Complete

Mark 1.00 out of 1.00

Which scheduling algorithm may cause starvation due to continuous arrival of shorter jobs?

- a. Priority (Non-Preemptive)
- b. SJF
- c. Round Robin
- d. FCFS

**Question 23**

Complete

Mark 1.00 out of 1.00

Which service launches virtual machines?

- a. SNS
- b. EC2
- c. RDS
- d. CloudFront

**Question 24**

Complete

Mark 1.00 out of 1.00

Which statement about pipes is TRUE?

- a. Pipes support bidirectional communication by default
- b. Pipes preserve message boundaries
- c. Pipes deliver data in FIFO order
- d. Pipes can be used between unrelated processes

**Question 25**

Complete

Mark 1.00 out of 1.00

Which subnet mask corresponds to /20?

- a. 255.255.248.0
- b. 255.255.192.0
- c. 255.255.240.0
- d. 255.255.255.0