



## ISM 2022 - ISM 2022.pdf

Information Storage And Management (SRM Institute of Science and Technology)

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**B.Tech. DEGREE EXAMINATION, DECEMBER 2022**  
Fifth Semester

**18CSE360T – INFORMATION STORAGE AND MANAGEMENT**  
(For the candidates admitted from the academic year 2018-2019 to 2021-2022)

**Note:**

- (i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40<sup>th</sup> minute.
- (ii) **Part - B** should be answered in answer booklet.

Time: 2½ Hours

Max. Marks: 75

**PART – A (25 × 1 = 25 Marks)**

Answer **ALL** Questions

- |  | Marks | BL | CO | PO |
|--|-------|----|----|----|
| 1. All cloud computing applications suffer from the inherent _____ that is intrinsic in their WAN connectivity<br>(A) Noise (B) Propagation<br>(C) Latency (D) Errors  | 1     | 2  | 1  | 1  |
| 2. If a disk drives rotational speed is 100 rpm, what is the average rotational latency<br>(A) 0.3 sec (B) 0.5 sec<br>(C) 3 ms (D) 5 ms  | 1     | 4  | 1  | 1  |
| 3. What is key advantage of disk striping over a single disk?<br>(A) Performance (B) Space utilization<br>(C) Protection (D) Availability  | 1     | 2  | 1  | 1  |
| 4. What three data center management functions are interdependent?<br>(A) Accessibility, scalability and (B) Provisioning, monitoring and security reporting<br>(C) Integrity, manageability and (D) Configuration, integrity and security scalability | 1     | 2  | 1  | 1  |
| 5. Which one of the following it not an example of storage virtualization?<br>(A) CHS to LBA addressing (B) Virtual machines<br>(C) Host based volume management (D) LUN creation  | 1     | 1  | 1  | 1  |
| 6. Ports operate in _____ data transmission mode with transmit (Tx) and receive (Rx) link<br>(A) Duplex mode (B) Half duplex mode<br>(C) Single mode (D) Hybrid mode   | 1     | 1  | 2  | 1  |
| 7. Logical partitioning in SAN is called as<br>(A) Mapping (B) Clustering<br>(C) Zoning (D) Divisioning  | 1     | 2  | 2  | 1  |



8. Fc-2 protocol is used for  
 (A) Data transmission (B) Data encryption/decryption  
 (C) Login, discovery (D) Framing and flow control
9. Enterprise SAN ensure availability and performance by using  
 (A) FC switch (B) FC hub  
 (C) FC fabricated switch (D) FC
10. \_\_\_\_\_ authentication adds a second level of security by adding authentication on both directions of ISCSI Protocol  
 (A) Unidirectional (B) Directed  
 (C) Bidirectional (D) End to end
11. Backup method that are based on the stage of the application when it is performed  
 (A) Archival (B) Incremental  
 (C) Hot (D) Cumulative
12. An approach for performing a backup in virtualized environment  
 (A) Hypervisor (B) Image-based backup  
 (C) Backup and archive (D) Target based data deduplication
13. \_\_\_\_\_ is an industry standard TCP/IP based protocol specifically designed for a backup in a NAS environment  
 (A) Network data management protocol (B) Simple network management protocol  
 (C) LAN free based protocol (D) Backup topology
14. \_\_\_\_\_ results in overloading the network with the backup data and using application server resources to move the backup data  
 (A) Server based backup (B) Server less backup  
 (C) Backup targets (D) Direct attached backup
15. What does the number of files to be backed up affect in a backup and recovery environment?  
 (A) Media type (B) Catalog size  
 (C) Amount of media (D) Number of tape libraries
16. When someone overhears a conversation the unauthorized access to this information is called  
 (A) Snooping (B) Vulnerability  
 (C) Eavesdropping (D) Denial of service
17. \_\_\_\_\_ prevents unauthorized switch from joining any existing switch in the fabric  
 (A) Fabric binding (B) Rbac  
 (C) Access control list (D) Users
18. Which of the following organization does not provide open ID authentication  
 (A) Google (B) Amazon  
 (C) Yahoo (D) IBM





- |  |                  |
|--|------------------|
| 19. KDC refers o   | 1    1    4    1 |
| (A) Kerberos distribution center    (B) Key division center                                      |                  |
| (C) Kerberos division center    (D) Key division center  |                  |
|  |                  |
| 20. Which function used for chap authentication  | 1    1    4    1 |
| (A) Hash function    (B) Linear function   |                  |
| (C) Private key function    (D) Public key function  |                  |
|  |                  |
| 21. _____ stages are utilized for wellbeing and security in the cloud                            | 1    1    5    1 |
| (A) Cloud security protocols    (B) AWS  |                  |
| (C) One drive    (D) Cloud work local protection platforms                                       |                  |
|  |                  |
| 22. _____ is hosted by an organization within its data center                                    | 1    2    5    1 |
| (A) Externally hosted private cloud    (B) On premise private cloud                              |                  |
| (C) Community cloud    (D) Hybrid cloud  |                  |
|  |                  |
| 23. The SLA servers as the foundation for the expected level of service between _____ and _____. | 1    1    5    1 |
| (A) Owner and provider    (B) Organization and consumer  |                  |
| (C) Organization and provider    (D) Consumer and provider                                       |                  |
|  |                  |
| 24. In cloud storage level _____ is the lowest level of storage and the closest to the hardware  | 1    2    5    1 |
| (A) Files    (B) Data sets   |                  |
| (C) Objects    (D) Blocks  |                  |
|  |                  |
| 25. Which attribute analysis the applications suitability to be ported to the cloud              | 1    2    5    1 |
| (A) Application attributes    (B) Service attributes   |                  |
| (C) Cloud attributes    (D) Private attributes   |                  |

**PART – B (5 × 10 = 50 Marks)**

Answer ALL Questions

Marks    BL    CO    PO

- |   |                   |
|---|-------------------|
| 26. a. Elaborate the various cache parameter cache page size, read versus write, cache allocation, cache prefetch size and write a side size. | 10    3    1    1 |
|---|-------------------|

(OR)

- |   |                   |
|---|-------------------|
| b. An application has 1000 heavy users at a peak of 2 IOPS each and 2000 typical users at a peak of 1 IOPS each. It is estimated that the application also experience on overhead of 20 percent for other workloads. The read/write ratio for the application is 2:1. Calculate RAID corrected IOPS for RAID I/O, RAID 5 and RAID 6 | 10    4    1    1 |
|---|-------------------|

- |  |                   |
|--|-------------------|
| 27. a. Explain the I/O operation in NAS environment. | 10    2    2    1 |
|--|-------------------|

(OR)

- |  |                   |
|--|-------------------|
| b. Describe the process of assigning FC address to a node when logging in to the network for the first time. | 10    3    2    1 |
|--|-------------------|



28. a. Categorize and explain the various planned and unplanned occurrences of information unavailability in the context of data center operations. 10 4 3 1

(OR)

b. Relate the ways to share files between host and virtual machine. 10 2 3 1

29. a. Develop a check list for auditing the security of a storage environment with SAN, NAS and iSCSI environment. Explain how you will perform the audit. 10 3 4 1

(OR)

b. Illustrate security monitoring with a neat diagram. 10 3 4 1

30. a. Analyze the various cloud infrastructure mechanism in detail. 10 4 6 1

(OR)

b. Explain accessibility monitoring with an example. 10 3 5 1

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