CBCS SCHEME

USN | | | | | | | | | |

17CS754

Seventh Semester B.E. Degree Examination, July/August 2021
Storage Area Networks

Time: 3 hrs. Max. Marks: 100

Note: ***Answer any FIVE full questions.***

1 a. Describe with suitable diagram RAID 0+1 and RAID 5. Computer the number of disk required in RAID 6 and RAID 1 when an application generates 5200 IOPS with 60% of them being reads, if 15K RPM drive is rated to perform 180 IOPS per drive were used. **(10 Marks)**

b. Explain core elements of data center and the key characteristics of classical data center. **(10 Marks)**

2. a. Explain the logical component of a host
 i) Operating system
 ii) Volume manager
 iii) File system
 iv) Device drivers. **(10 Marks)**

b. List all the benefits of an intelligent storage system and explain Read and Write operation in cache. **(10 Marks)**

3 a. Discuss the process of handling I/O in a NAS environment with help of a diagram. **(10 Marks)**

b. Explain Fibre channel architecture with suitable diagram. **(10 Marks)**

4 a. Explain zoning and its type. **(10 Marks)**

b. Explain with diagram the process of storing and retrieving objects in OSD. **(10 Marks)**

5 a. Explain briefly the following terminologies.
 i) Disaster recovery
 ii) RPO
 iii) RTO
 iv) Hot and Cold site
 v) Data vault. **(10 Marks)**

b. List and explain different back up topologies with help of diagram. **(10 Marks)**

6 a. Describe source based data deduplication and Target based data deduplication with the help of diagram. **(10 Marks)**

b. Discuss Array based synchronous and Asynchronous Remote Replication mode with help of diagram. **(10 Marks)**

7 a. Explain the different cloud service model. **(10 Marks)**

b. Explain the characteristics of cloud computing. **(10 Marks)**

8 a. Explain the steps involved in transitioning from classic data center to cloud computing environment services. **(10 Marks)**

b. Explain cloud deployment model. **(10 Marks)**

9 a. Explain how authentication and authorization can be provided to NAS file sharing using Kerberos. **(10 Marks)**

b. Explain storage infrastructure management challenges. **(10 Marks)**

10 a. Explain the monitoring parameters and components monitored for storage management. **(10 Marks)**

b. Explain how IPSAN can be secured using CHAP authentication technique. **(10 Marks)**

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.