



CBCS SCHEME

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18CS822

Eighth Semester B.E. Degree Examination, Dec.2024/Jan.2025 Storage Area Networks

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What is data center? List and explain the core components of data center. (10 Marks)
- b. With neat diagram explain the process of mapping user files to the disk storage subsystem with an LVM. (10 Marks)

OR

- 2 a. Explain the five disk drive components. (10 Marks)
- b. Compute the total disk service time (TS), IOPS and response time (R) given the average seek time 5 ms, disk rotation speed of 15000 revolutions per minute or 250 revolutions per second. 40MB/s internal data transfer rate and I/o with block size of 32 KB at 96 percent disk controller utilization. (10 Marks)

Module-2

- 3 a. With diagram explain the different RAID techniques. (10 Marks)
- b. What is RAID? Explain the RAID levels with reference to RAID 0, RAID 3, RAID 5 with diagram. (10 Marks)

OR

- 4 a. Describe with neat block diagram the components of Intelligent storage system. (10 Marks)
- b. List and explain the components of Fibre Channel (FC) storage area network. (10 Marks)

Module-3

- 5 a. Discuss different iSCSI topologies with neat diagram. (10 Marks)
- b. With diagram explain FCIP protocol stack. (10 Marks)

OR

- 6 a. What is NAS? Explain the benefits of NAS. (10 Marks)
- b. List and explain the two common NAS file sharing protocols. (10 Marks)

Module-4

- 7 a. Explain with a neat diagram BC planning life cycle. (10 Marks)
- b. What business continuity? Explain the BC terminology in detail. (10 Marks)

OR

- 8 a. With diagram explain Back-up architecture. (10 Marks)
- b. Explain backup and restore operation with neat diagram. (10 Marks)

Module-5

- 9 a. Explain the different replication terminology and also list the various uses of local replica. (10 Marks)
- b. With neat diagram explain storage array based local replication. (10 Marks)

OR

- 10 a. With neat diagram explain two basic modes of remote replication. (10 Marks)
- b. Explain the security domains of a storage system environment with neat diagram. (10 Marks)

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