CBCS SCHEME

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18CS822

Eighth Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026
Storage Area Networks

Time: 3 hrs. Max. Marks: 100

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

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.

Module-1

1 a. What is data and information? Explain by giving examples for each. **(04 Marks)**

b. Describe the core elements of a data center with a neat diagram. **(08 Marks)**

c. Explain with neat diagram, the evolution of storage architecture. **(08 Marks)**

OR

2 a. Explain in detail the disk drive components with neat diagram. **(10 Marks)**

b. What is a file system? Explain the process of mapping user files to disk storage. **(10 Marks)**

Module-2

3 a. Differentiate between Hardware RAID and Software RAID. **(04 Marks)**

b. Explain the various RAID techniques. **(10 Marks)**

c. Describe the types of Intelligent storage systems. **(06 Marks)**

OR

4 a. Discuss the various components of Fibre Channel (FC) SAN. **(08 Marks)**

b. Explain the structure of Cache with neat diagram. **(06 Marks)**

c. Discuss the Cache-management and Data protection methods. **(06 Marks)**

Module-3

5 a. Explain the different iSCSI topologies with a neat diagram. **(08 Marks)**

b. What is FCIP? Describe the FCIP protocol stack with a neat diagram. **(06 Marks)**

c. Discuss the benefits of NAS. **(06 Marks)**

OR

6 a. Explain the various components of Network Attached Storage (NAS) with a neat diagram. **(08 Marks)**

b. With a neat diagram, explain Gateway network attached storage connectivity. **(08 Marks)**

c. Compare Network File System (NFS) and Common Internet File System (CIFS). **(04 Marks)**

Module-4

7 a. What is business continuity (BC)? Explain the BC terminology in detail. **(10 Marks)**

b. Explain with a figure, the backup and restore operations. **(10 Marks)**

OR

8 a. Explain Business Continuity (BC) planning life cycle with a neat diagram. **(10 Marks)**

b. Discuss the various backup topologies. **(10 Marks)**

Module-5

9 a. Describe the Host-based local replication with a neat diagram. **(08 Marks)**

b. Explain the storage Array-Based replication with a neat diagram. **(08 Marks)**

c. Discuss the uses of local replication. **(04 Marks)**

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OR

10 a. Explain the synchronous and asynchronous remote replication with neat diagrams. **(10 Marks)**

b. Describe the Kerberos network authentication protocol with neat diagram. Discus the steps involved in authorization process. **(10 Marks)**

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