



CBCS SCHEME

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18CS822

Eighth Semester B.E. Degree Examination, June/July 2023

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. Define data center. List and explain the key elements of data center. Explain the characteristics of data center elements with diagram. (10 Marks)
- b. Explain with neat diagram the evolution of storage architecture. (06 Marks)
- c. With diagram explain about compute virtualization. (04 Marks)

OR

- 2 a. Explain disk drive components with diagram. (10 Marks)
- b. Discuss disk service time and disk I/O controller utilization. (10 Marks)

Module-2

- 3 a. List the different RAID levels where parity technique has been adopted. Explain any three. (10 Marks)
- b. Different between software and hardware RAID. (04 Marks)
- c. With diagram explain different RAID techniques. (06 Marks)

OR

- 4 a. Explain types of Intelligent storage systems. (10 Marks)
- b. Explain with neat diagram the components of fibre channel storage area networks. (10 Marks)

Module-3

- 5 a. Discuss different iSCSI topologies with neat diagram. (06 Marks)
- b. Briefly explain about iSCSI protocol stack. (04 Marks)
- c. Explain the components of NAS with neat sketch. Briefly explain the benefits of NAS. (10 Marks)

OR

- 6 a. Explain NAS implementations in detail. (06 Marks)
- b. Discuss about NAS file sharing protocols. (04 Marks)
- c. With diagram explain about FCIP protocol stack and FCIP topology. (10 Marks)

Module-4

- 7 a. Describe failure analysis in business continuity. Mention important BC technology solutions. (10 Marks)
- b. With a neat diagram, explain the steps involved in backup and restore operation. (10 Marks)

OR

- 8 a. What is business continuity? Explain the BC terminology in detail. (10 Marks)
- b. Discuss different backup topologies. (10 Marks)

Module-5

- 9 a. Explain FC SAN security architecture and IPSAN security implementations with diagram. (10 Marks)
- b. Explain the following :
i) Uses of local replica
ii) LVM based replication
iii) Full volume mirroring (10 Marks)
- OR
- 10 a. Explain storage security domains. (10 Marks)
- b. What is remote replication? Explain storage array based remote replication. (10 Marks)
