



Seventh Semester B.E. Degree Examination, Dec.2023/Jan.2024

Storage Area Networks

Max. Marks: 100

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

Module-1

- 1 a. List and explain in brief the key characteristics of a data center. (10 Marks)
- b. Explain the logical components of a host. (10 Marks)

OR

- 2 a. Explain RAID levels with respect to RAID1, RAID 0+1 and RAID 6 with neat diagrams. (10 Marks)
- b. Explain the Read and write operations through cache. (10 Marks)

Module-2

- 3 a. Explain FC protocol stack along with Addressing. (10 Marks)
- b. Explain storage and Retrieval process in OSD. (10 Marks)

OR

- 4 a. Explain iSCSI protocol stack and PDU. (10 Marks)
- b. Explain the components of NAS with I/O operations. (10 Marks)

Module-3

- 5 a. Explain the backup granularity levels. (07 Marks)
- b. Explain source based data deduplication method. (07 Marks)
- c. Explain BC planning life cycle. (06 Marks)

OR

- 6 a. Explain the modes of remote replication techniques. (07 Marks)
- b. Explain how changes to source and target can be tracked. (07 Marks)
- c. Explain CDP based local replication. (06 Marks)

Module-4

- 7 a. Explain in brief about IaaS and PaaS cloud service models. (10 Marks)
- b. List and explain the characteristics of cloud computing. (10 Marks)

OR

- 8 a. Explain the three cloud deployment models with neat diagrams. (10 Marks)
- b. List and describe the considerations to be made while adopting cloud infrastructure. (10 Marks)

Module-5

- 9 a. Explain the three levels of implementing security measures in virtualized cloud environment. (10 Marks)
- b. Explain how authentication and authorization can be provided to NAS file sharing using Kerberos. (10 Marks)

OR

- 10 a. Explain how IP SAN can be secured using CHAP authentication technique. (10 Marks)
- b. Explain the elements of the risk triad. (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.