



PRESIDENCY UNIVERSITY

BENGALURU

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End - Term Examinations – MAY/ JUNE 2025

Date: 02-06-2025

Time: 01:00 pm – 04:00 pm

School: SOCSE	Program: B. Tech-CSN	
Course Code : CSE2054	Course Name: Storage Area Networks.	
Semester: IV	Max Marks: 100	Weightage: 50%

CO - Levels	C01	C02	C03	C04	C05
Marks	26	26	24	24	-

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

10Q x 2M=20M

1.	List the factors that have contributed to the growth of digital data.	2 Marks	L1	C01
2.	Recall Connectivity with its physical disk components.	2 Marks	L1	C01
3.	List the different kinds of storage media available.	2 Marks	L2	C01
4.	List the key functions of RAID controller	2 Marks	L1	C02
5.	Why is RAID 1 not a substitute for a backup?	2 Marks	L1	C02
6.	Define RAID and name the two methods of RAID Implementation.	2 Marks	L1	C02
7.	Define the structure of Object.	2 Marks	L1	C03
8.	Explain Physical Tape Library and Virtual Tape Library.	2 Marks	L2	C03
9.	Discuss Backup Targets.	2 Marks	L2	C04
10.	Explain advantages of distributed memory model.	2 Marks	L2	C04

Part B

Answer the Questions.

Total Marks 80M

11.	a.	Explain the core elements of data center along with its key characteristics.	10 Marks	L2	CO1
	b.	Illustrate volume manager and compute virtualization with neat diagram.	10 Marks	L2	CO1
Or					
12.	a.	Explain in detail disk drive components with suitable diagram.	10 Marks	L2	CO1
	b.	Define file system. Explain the process of mapping user files to disk storage.	10 Marks	L2	CO1
13.	a.	Define RAID. List and Explain different RAID levels with reference to nested RAID, RAID3 and RAID5 with neat diagram.	10 Marks	L2	CO2
	b.	With neat diagram explain the structure of read and write operations in cache.	10 Marks	L2	CO2
Or					
14.	a.	Explain the components of Intelligent Storage Systems.	10 Marks	L2	CO2
	b.	Summarize the concept of High-end and MidRange Storage Systems.	10 Marks	L2	CO2
15.	a.	Summarize Object-Based Storage Architecture with neat diagram	10 Marks	L2	CO3
	b.	Explain the process of storing objects in OSD and retrieving objects in OSD with neat sketch.	10 Marks	L2	CO3
Or					
16.	a.	Explain Block-level Storage Virtualization and Virtual SAN (VSAN) in detail with neat diagram	10 Marks	L2	CO3
	b.	Illustrate the Block I/O request and Object I/O request.	10 Marks	L2	CO3
17.	a.	With a neat diagram, explain the steps involved in backup and restore operation	10 Marks	L2	CO4
	b.	Discuss different backup topologies in detail.	10 Marks	L2	CO4
Or					
18.	a.	Explain the uses and challenges of local replication.	10 Marks	L2	CO4
	b.	Explain storage array based local replication in detail.	10 Marks	L2	CO4