



VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 130004

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – NOV. / DEC. 2025

Seventh Semester

Computer Science and Technology

U19CTV42 – INFORMATION STORAGE AND MANAGEMENT

(Regulation 2019)

Time: Three Hours

Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	List two key challenges in managing information in a data center.	2	K1	CO1
2.	How do applications contribute to data generation within a data center?	2	K2	CO1
3.	Identify and describe two commonly used iSCSI network topologies employed for storage connectivity.	2	K2	CO2
4.	What is Content-Addressed Storage, and how does it store and retrieve data using unique content identifiers instead of regular file names or locations?	2	K1	CO2
5.	Identify two important terminologies commonly used in Business Continuity.	2	K1	CO3
6.	State the purpose of Restore Operations in data backup.	2	K1	CO3
7.	Provide one practical example of a storage allocation activity involved in managing system memory or disk space.	2	K2	CO4
8.	Mention two storage infrastructure management activities.	2	K2	CO4
9.	Identify and list the key domains that form the foundation of storage security.	2	K2	CO5
10.	Provide one example of a tool commonly used to monitor and manage storage infrastructure performance.	2	K2	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	With a neat diagram, explain the data center infrastructure and its essential elements.	13	K2	CO1

(OR)

	b)	Illustrate the components of an Intelligent Storage System and describe the function of each component.	13	K2	CO1
12.	a)	Describe the Fiber Channel (FC) architecture and explain how FC connectivity is established between servers and storage devices.	13	K2	CO2
		(OR)			
	b)	Compare and contrast block storage, file storage, and object storage, highlighting typical use cases for each.	13	K2	CO2
13.	a)	Describe the Business Continuity Planning life cycle with a neat diagram and explain each phase.	13	K2	CO3
		(OR)			
	b)	Illustrate the backup architecture and describe the role played by each of its components.	13	K2	CO3
14.	a)	Apply the concept of a Storage Security Framework to design a secure storage environment and explain the key security domains involved.	13	K3	CO4
		(OR)			
	b)	Illustrate file system space management techniques and explain how they help in efficient utilization of storage resources.	13	K3	CO4
15.	a)	Explain how various local replication technologies help in safeguarding data within a storage array.	13	K2	CO5
		(OR)			
	b)	Describe the modes of remote replication and explain how they differ in terms of performance and recovery objectives.	13	K2	CO5

PART – C

(1 x 15 = 15 Marks)

Q.No.	Questions	Marks	KL	CO
16. a)	A banking organization manages multiple databases and transaction systems. Due to frequent downtime and poor data retrieval speed, they are exploring advanced storage solutions. <ul style="list-style-type: none"> • Identify the key components of their data center infrastructure that need to be upgraded. • Suggest suitable storage technologies to improve data reliability and performance. • Justify your recommendations with respect to connectivity, host, and DBMS considerations. 	15	K2	CO1
	(OR)			
b)	Discuss in detail the various backup methods and architectures such as full, incremental, differential, and cloud-based solutions and analyze how each approach contributes to safeguarding data and enabling quick recovery during system failures or disasters. Illustrate your discussion with real-world examples and suggest the most suitable strategy to ensure sustainable business continuity.	15	K2	CO3