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

Question Paper Code: 130001

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

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	What do you understand by <i>DCF</i> ? Give a suitable example.	2	K1	CO1
2.	How are the different types of cloud storage classified?	2	K2	CO1
3.	Compare the topologies of FC-SAN, NAS and IP-SAN.	2	K2	CO2
4.	How does the iSCSI protocol stack work?	2	K2	CO2
5.	What is meant by business continuity? Define the key terminology used.	2	K1	CO3
6.	How would you define backup granularity?	2	K1	CO3
7.	Mention the process involved in allocating storage to a new server or host.	2	K2	CO4
8.	List the key parameters used to monitor storage infrastructure performance.	2	K1	CO4
9.	Define data consistency in the context of storage systems.	2	K1	CO5
10.	Mention the different modes of remote replication and the technologies that support them.	2	K2	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	Describe in detail about the major challenges faced in data storage and data management, highlighting their causes and possible solutions.	13	K2	CO1
	(OR)			
b)	Explain the concepts of Data center infrastructure with an example.	13	K2	CO1
12. a)	i. Evolution of SAN Technology with an example.	7	K2	CO2
	ii. Illustrate the concepts of iSCSI protocol, protocol stack, and topologies.	6		
	(OR)			
b)	Discuss the differences between Network Attached Storage (NAS) devices and general-purpose servers configured for file sharing. What are the advantages and limitations of each approach? How do NAS devices provide specialized file storage and sharing features compared to general-purpose servers?	13	K2	CO2
13. a)	Demonstrate the Business Continuity Planning (BCP) life cycle. Outline the main phases involved and discuss the activities and objectives of each phase. How does the BCP life cycle ensure the resilience of an organization against disruptions?	13	K2	CO3
	(OR)			
b)	Illustrate the concept of backup granularity and its impact on data recovery. Discuss the different levels of backup granularity, such as full backups, incremental backups, and differential backups. How does choosing the appropriate backup granularity affect the efficiency and effectiveness of the backup strategy?	13	K2	CO3
14. a)	Discuss the concept of a storage security framework. What are the primary components and domains within this framework? Explain how each component contributes to securing storage systems. How do these components work together to ensure data protection and compliance with security policies?	13	K2	CO4
	(OR)			
b)	Explain the various parameters that should be monitored in a storage infrastructure. How each parameter affects storage performance and reliability? Provide specific examples of monitoring practices and tools that can help in tracking these parameters effectively.	13	K2	CO4

15. a) Discuss in detail the concepts, techniques, and technologies used in local replication, supporting your explanation with a suitable example. 13 K2 CO5

(OR)

b) Elaborate in detail on the different modes, technologies, and network infrastructures used for remote replication. Discuss how each component supports data availability, recovery, and business continuity in enterprise storage environments. 13 K2 CO5

PART – C

(1 x 15 = 15 Marks)

Q.No.	Questions	Marks	KL	CO
16. a)	Describe the Fiber Channel (FC) technology, including its key features and benefits. Explain the major components of a Fiber Channel SAN and their roles in ensuring efficient storage management. How does Fiber Channel connectivity support high-performance data transfer in SAN environments?	15	K2	CO2
(OR)				
b)	Demonstrate the process of failure analysis and its role in business continuity planning. Additionally, discuss the Business Impact Analysis (BIA) process, including its objectives and methods. How does BIA contribute to effective business continuity planning?	15	K2	CO3