

# Information Storage Management and Disaster Recovery

B.E. Sem. VIII [INFT]

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## EVALUATION SYSTEM

	Time	Marks
<b>Theory Exam</b>	3 Hrs.	100
<b>Practical &amp; Oral</b>	–	–
<b>Oral Exam</b>	–	25
<b>Term Work</b>	–	25

## SYLLABUS

- **Prerequisite:** Operating Systems for Computational Devices, Networking Technology for Digital Devices, and Database Systems.
  - **Objective:** Evaluate storage architectures, including storage subsystems, DAS, SAN, NAS, and CAS. Define backup, recovery, disaster recovery, business continuity, and replication. Examine emerging technologies including IP-SAN. Understand logical and physical components of a storage infrastructure. Identify components of managing and monitoring the data center. Define information security and identify different storage virtualization technologies.
- 1. Introduction to Information Storage Technology:** Review data creation and the amount of data being created and understand the value of data to a business, Challenges in Data Storage and Management, Data Storage Infrastructure.
  - 2. Storage Systems Environment:** Components of a Storage System Environment: Disk drive components, Disk Drive Performance, Logical Components.
  - 3. Data protection:** Concept of RAID and its Components, Different RAID levels and their suitability for different application environments: RAID 0, RAID 1, RAID 3, RAID 4, RAID 5, RAID 0+1, RAID 1+0, RAID 6, Comparison of Levels.
  - 4. Intelligent Storage Systems;** Components, Intelligent Storage Array, High-level architecture and working of an intelligent storage system.
  - 5. Introduction to Networked Storage:** Evolution of networked storage, Architecture, Overview of FC-SAN, NAS, and IP-SAN. Network-Attached Storage (NAS): Benefits of NAS, Components, Implementations, File Sharing, I/O operations, Performance and Availability.
  - 6. Content Addressed Storage (CAS):** features and Benefits of a CAS. CAS Architecture, Storage and Retrieval, Examples.
  - 7. Storage Virtualization:** Forms, Taxonomy, Configuration, Challenges, Types of Storage Virtualizations.
  - 8. Information Availability & Monitoring & Managing Datacenter:** Information Availability, Business continuity, Failure Analysis, Business impact Analysis, Differentiate between business continuity (BC) and disaster recovery (DR).
  - 9. Disaster Recovery:** Backup, Methods, And Technologies, Replication technologies: Local replicas, Technologies, Restore and Restart, Multiple Replicas. Remote Replication. DR in practice.

**10. Storage Security and Management:** Security Framework, Storage security domains, List and analyzes the common threats in each domain, Security Implementations.

**11. Managing The Storage Infrastructure:** Monitoring the Storage Infrastructure, Storage Management Activities, Challenges and solutions.

**Reference Books :**

1. Information Storage and Management, (*EMC Educational Services*) Wiley India.
2. Storage Area Network Essentials: A Complete Guide to Understanding and Implementing SANs, (*Richard Barker and Paul Massiglia*) Wiley India.
3. Storage Networks: The Complete Reference, (*Robert Spalding*) Tata McGraw Hill Osborne, 2003.
4. Building Storage Networks, (*Marc Farley*) Tata McGraw Hill, Osborne, 2001.
5. Storage Area Network Fundamentals, (*Meet Gupta*) Pearson Education Limited, 2002.

