

Course Content of Information Storage and Management v3

1. Introduction to Information Storage

- Digital data and its types
- Information storage
- Key characteristics of data center
- Evolution of computing platforms

2. Third Platform Technologies

- Cloud computing and its essential characteristics
- Cloud services and cloud deployment models
- Big data analytics
- Social networking and mobile computing
- Characteristics of third platform infrastructure
- Imperatives for third platform transformation

3. Data Center Environment

- Building blocks of a data center
- Compute systems and compute virtualization
- Software-defined data center

4. Intelligent Storage Systems

- Components of an intelligent storage system
- Components, addressing, and performance of hard disk drives and solid state drives
- RAID
- Types of intelligent storage systems
- Scale-up and scale-out storage architecture

5. Block-Based Storage System

- Components of block-based storage system
- Storage provisioning and storage tiering

6. File-Based Storage System

- Components and architecture of NAS
- NAS file sharing methods
- File-level virtualization and tiering

7. Object-Based and Unified Storage

- Components of object-based storage device (OSD)
- Key features of OSD
- Storage and retrieval process in OSD system
- Unified storage architecture

8. Software-Defined Storage

- Attributes of software-defined storage
- Architecture of software-defined storage
- Functions of the control plane
- Software-defined storage extensibility

9. Fibre Channel SAN

- Software-defined networking
- FC SAN components and architecture
- FC SAN topologies, link aggregation, and zoning
- Virtualization in FC SAN environment

10. Internet Protocol SAN

- iSCSI protocol, network components, and connectivity
- Link aggregation, switch aggregation, and VLAN
- FCIP protocol, connectivity, and configuration

11. Fibre Channel over Ethernet SAN

- Components of FCoE SAN
- FCoE SAN connectivity

- Converged Enhanced Ethernet
- FCoE architecture

12. Introduction to Business Continuity

- Impact of information unavailability
- Business continuity planning lifecycle
- Eliminating single points of failure
- Application resiliency

13. Backup and Archive

- Backup architecture
- Backup targets and methods
- Data deduplication
- Cloud-based and mobile device backup
- Data archive

14. Replication

- Uses of replication and its characteristics
- Compute-based, storage-based, and network-based replication
- Data migration
- Disaster Recovery as a Service (DRaaS)

15. Securing the Storage Infrastructure

- Information security goals
- Storage security domains
- Threats to a storage infrastructure
- Security controls to protect a storage infrastructure
- Governance, risk, and compliance

16. Managing the Storage Infrastructure

- Storage infrastructure management functions

- Storage infrastructure management processes