COURSE CODE	COURSE TITLE	L	T	P	C
1152IT116	INFORMATION STORAGE MANAGEMENT	3	0	0	3

Course Category:

~~Foundation (0)~~ /~~ Program Core (1) ~~/ **Program Elective (2)**~~ / Allied Elective (3) / University Elective (4) / Value Education Elective (5) / Independent Learning (6) / Industry – Higher Learning Institute Interaction (7).~~

a. Preamble :

This course Information Storage Management , provides an introduction to information storage technology , storage system environment and components of storage system; introduction to data protection , and intelligent storage system; introduction to networked storage , content addressed storage; introduction to storage virtualization , information availability ,monitoring, managing data center; introduction to disaster recovery , storage security and management, and managing the storage infrastructure.

b. Prerequisite Courses:

- Database storage
- Data ware housing.

c. Related Courses:

- Parallel computer architecture.
- Database Administration.

d. Course Educational Objectives:

Students undergoing this course are expected:

- Understanding logical and physical components of a storage infrastructure.
- Evaluating storage architectures, including storage subsystems, DAS, SAN, NAS, CAS
- Define information security and identify different storage virtualization technologies
- Define backup, recovery, disaster recovery, business continuity, and replication

e. Course Outcomes:

Upon the successful completion of the course, students will be able to:

CO Nos.	Course Outcomes	Knowledge Level (Based on revised Bloom's Taxonomy)
CO1	Analyze Data storage technology	K2
CO2	Explain about Storage system architecture , concepts like RAID, parity algorithms, Array caching and logical partioning	K1
CO3	Describe concepts like DAS, SAN, CAS ,NFS etc	K1
CO4	Explain recovery and continuity technique	K1
CO5	Describe about Industry management standards (SNMP, SMI-S, CIM), Key management metrics (thresholds, availability, capacity, security, performance)	K1

f. Correlation of COs with POs :

CO1	**M**		**L**		**L**							
CO2	**M**		**L**		**M**							
CO3	**M**		**M**		**M**							
CO4	**M**				**M**							
CO5	**M**				**M**							

H- High; M-Medium; L-Low

g. Course Content:

UNIT I Introduction to Storage Technology L- 9

Data proliferation and the varying value of data with time & usage, Sources of data and states of data creation, Data center requirements and evolution to accommodate storage needs, Overview of basic storage management skills and activities, The five pillars of technology, Overview of storage infrastructure components, Evolution of storage, Information Lifecycle Management concept, Data categorization within an enterprise, Storage and Regulations.

UNIT II Storage Systems Architecture L- 9

Intelligent disk subsystems overview, Contrast of integrated vs. modular arrays, Component architecture of intelligent disk subsystems, Disk physical structure components, properties, performance, and specifications, Logical partitioning of disks, RAID & parity algorithms, hot sparing, Physical vs. logical disk organization, protection, and back end management, Storage system connectivity protocols.

UNIT III Introduction to Networked Storage 1 L- 9

JBOD, DAS, SAN, NAS, & CAS evolution, Direct Attached Storage (DAS) environments: elements, connectivity, & management, Storage Area Networks (SAN): elements & connectivity, Fibre Channel principles, standards, & network management principles, SAN management principles,

UNIT IV Introduction to Networked Storage 2 **L- 9**

Network Attached Storage (NAS): elements, connectivity options, connectivity protocols (NFS, CIFS, ftp), & management principles, IP SAN elements, standards (SCSI, FCIP, FCP), connectivity principles, security, and management principles, Content Addressable Storage (CAS): elements, connectivity options, standards, and management principles, Hybrid Storage solutions overview including technologies like virtualization & appliances

UNIT V Introduction to Information Availability **L- 9**

Business Continuity and Disaster Recovery Basics, Local business continuity techniques, Remote business continuity techniques, Disaster Recovery principles & techniques.

TOTAL: 45 periods

h. Learning Resources

i.Text Books :

1. Stephen Haag and Maeve Cummings, "Information Systems Essentials, II Edition, Mc-
   a. graw /Irwin 2008.
2. Ralph Stair "principles of information Systems, VI edition, 2003.

ii.Reference:

1. Harold koontz and Heinz Weirich," Essentials of management" ,fifth edition, Tata McGraw Hill,1998

iii. Online resources

1. www.cs.washington.edu/education/courses/cse341/95au/.../storage.ht...
2. education.emc.com › Home › Training › Learning Paths
3. www.faadooengineers.com › ... › FaaDoOEngineers.com Recycle Bin
4. www.cs.cmu.edu/~fp/**course**s/15312-f03/handouts/18-**storage**.pdf