SCHEME OF COURSE WORK

Course Details:

Course Title	**: Information Storage Security and Management (PE-V)**			
Course Code	**: 15CT1134**	**L T P C**	**: 4 0 0 3**	
Program:	**: B.Tech.**			
Specialization:	**: Computer Science & Engineering, Information Technology**			
Semester	**: VII**			
Prerequisites	**: Information Storage Systems**			
Courses to which it is a prerequisite	**: NIL**			

Course Outcomes (COs):

1	Design business continuity plan.
2	Select a local replication technology to provide data backup.
3	Distinguish between different remote replication technologies.
4	Discuss security issues and how to mitigate them.
5	Select appropriate storage management software.

CourseOutcome Versus **ProgramOutcomes** Versus **Program Specific Outcomes:**

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO-1		3				3	3				3				
CO-2		3			3	3							2	1	
CO-3		2			3	3							1	1	
CO-4		2												1	
CO-5		2											1		

3 - Strongly correlated, 2 - Moderately correlated, 1-Weakly correlated,Blank – No correlation

Assessment Methods:	Assignment /Quiz/ Mid-Test / End Exam

Teaching-Learning and Evaluation

Week	TOPIC / CONTENTS	Course Outcomes	Sample questions	TEACHING-LEARNING STRATEGY	Assessment Method & Schedule
1	INTRODUCTION TO BUSINESS CONTINUITY: Information Availability, BC Terminology, BC Planning Life Cycle, Failure Analysis, Business Impact Analysis,	CO1	1. Describe various planned and unplanned occurrences of information unavailability in the context of data center operations. 2. Explain various backup and restore operations.	▫ Lecture ▫ PPT	
2	BC Technology Solutions, Concept in Practice: PowerPath.BACKUP AND ARCHIVE: Backup Purpose	CO1		▫ Lecture ▫ PPT	Assignment (Week 4 - 6)
3	Backup Considerations, Backup Granularity, Recovery Considerations, Backup Methods, Backup Architecture, Backup and Restore Operations Backup Topologies	CO1	1. List and explain the considerations in using tape as the backup technology. What are the challenges in this environment? 2. Describe the benefits of using	▫ Lecture ▫ Discussion	Mid-Test 1& Quiz-1
4	Backup in NAS Environments, Backup Targets,	CO1		▫ Lecture	

	Data De duplication for Backup, Backup in Virtualized Environments, Data Archive, Archiving Solution Architecture, Concepts in Practice: NetWorker, Avamar, and Data Domain.		a virtual tape library over a physical tape library.	▫ Discussion	(Week 9)
5	LOCAL REPLICATION: Replication Terminology, Uses of Local Replicas, Replica Consistency, Local Replication Technologies , Tracking Changes to Source and Replica, Restore and Restart Considerations, Creating Multiple Replicas	CO2	1. Describe the uses of a local replica in various business operations. 2. Describe about continuous data protection technology and its benefits over array-based replication technologies.	▫ Lecture ▫ PPT	Mid-Test 1 & Quiz-1 (Week 9)
6	Local Replication in a Virtualized Environment, Concepts in Practice: TimeFinder, SnapView, and RecoverPoint.	CO2		▫ Lecture ▫ PPT ▫ Discussion	
7	REMOTE REPLICATION: Modes of Remote Replication, Remote Replication Technologies, Three- Site Replication, Data Migration Solutions,	CO3	1. What are the considerations for implementing synchronous remote replication?	▫ Lecture ▫ PPT ▫ Discussion	
8	Remote Replication and Migration in a Virtualized Environment, Concepts in Practice: SRDF, MirrorView, and Recover Point.	CO3		▫ Lecture ▫ PPT	
9	**Mid-Test 1 & Quiz-1**				
10	CLOUD COMPUTING: Cloud Enabling Technologies , Characteristics of Cloud Computing, Benefits of Cloud Computing	CO3	1. How does cloud computing bring in business agility?	▫ Lecture ▫ PPT	Assignment (Week 14 - 16) Mid-Test 2 & Quiz-2 (Week 18)
11	Cloud Service Models, Cloud Deployment Models, Cloud Computing Infrastructure, Cloud Challenges, Cloud Adoption Considerations, Concepts in Practice: Vblock.	CO3		▫ Lecture ▫ PPT	
12	SECURING THE STORAGE INFRASTRUCTURE: Information Security Framework, Risk Triad, Storage Security Domains	CO4	1. Explain various security concerns and measures in the virtualized and cloud environment. 2. Describe management of cloud infrastructure and services. 3. Research storage multitenancy and its advantages and disadvantages	▫ Lecture ▫ PPT	
13	Security Implementations in Storage Networking, Securing Storage Infrastructure in Virtualized and Cloud Environments, Concepts in Practice: RSA and VMware Security Products.	CO4		▫ Lecture ▫ PPT	
14	MANAGING THE STORAGE INFRASTRUCTURE: Monitoring the Storage Infrastructure	CO5		▫ Lecture ▫ PPT	
15	Storage Infrastructure Management Activities, Storage Management Need	CO5		▫ Lecture ▫ PPT	Mid-Test 2 & Quiz-2 (Week 18)
16	Storage Infrastructure Management Challenges, Developing an Ideal Solution	CO5		▫ Lecture ▫ Discussion	
17	Lifecycle Management, Storage Tiering, Concepts in Practice: Infrastructure Management Tools.	CO5		▫ Lecture ▫ Discussion	
18	**Mid-Test 2 & Quiz-2**				
19/20	**END EXAM**				