C. U. Shah University, Wadhwan City

Faculty of Computer Science
Name of Program: Master of Science Information Technology
(Web Technology)
Semester : III
w.e.f June – 2016
Teaching & Evaluation Scheme

Sr. No	Subject Code	Subject Name	Teaching Hours/Week				Credits	Evaluation Scheme/Semester							
								Theory				Practical			Total Marks
								Sessional Exam		University Exam		Internal		Uni	
			Th	Tu	Pr	Total		Mks	Hrs	Mks	Hrs	Pr	TW	Pr	
3	5CS03WCC1	Cloud Computing	4	-	2	6	5	30	1.5	70	3	10	-	40	150

Objectives: After studying of this subject, student should be able to work in cloud environment and can makecloud based applications using various available platforms with sufficient security tools applied on it.

Pre-requisites: Basic knowledge of java programming and knowledge of networking

Course Outline:

Sr. No	Chapter Name	Course Contents	Lect. Hours
1	Introduction to Cloud Computing	Defining Cloud Computing Cloud Types Deployment models Service models Characteristics of Cloud Computing Benefits of cloud computing Disadvantages of cloud computing Roots of Cloud Computing Desired features of a cloud Challenges and Risks	10
2	Cloud Architecture and Services	Cloud Computing reference model Exploring the Cloud Computing Stack Infrastructure as a Service Platform as a Service Software as a Service Virtualization Understanding Hypervisors	10

3	Storage as a Service	Overview, Storage as a Service, Providers, Security, Reliability, Advantages , Cautions, Outages, Theft
		Cloud Storage Providers
		   1. Amazon Simple Storage Service (S3)
		   2. Nirvanix
		   3. Google BigtableDatastore
		   4. MobileMe
		   5. Live Mesh
			10

4	Cloud Service Providers	Google
		   1. Google App Engine
		   2. Google Web Toolkit
		Microsoft
		   1. Azure Services Platform
		   2. Windows Live
		   3. Exchange Online
		   4. SharePoint Services
		   5. Microsoft Dynamics CRM
		Amazon
		   1. Amazon Elastic Compute Cloud (Amazon EC2)
		   2. Amazon SimpleDB
		   3. Amazon Simple Storage Service (Amazon S3)
		   4. Amazon CloudFront
		   5. Amazon Simple Queue Service (Amazon SQS)
		   6. Elastic Block Store
		Salesforce.com
		   1. Force.com
		   2. Salesforce.com CRM
		   3. AppExchange
			10

5	Cloud Security	Overview, Cloud Security Challenges and Risks
		Security Awareness, Training, and Education
		Trusted Cloud Computing
		Trusted Computing Characteristics
		Secure Execution Environments and Communications
		   1. Secure Execution Environment
		   2. Secure Communications
		Identity Management and Access Control
		Identity Management
		   1. Passwords
		   2. Tokens
		   3. Memory Cards
		   4. Smart Cards
		   5. Biometrics
		   6. Implementing Identity Management
		Access Control
		   1. Controls
		   2. Models for Controlling Access
		   3. Single Sign-On (SSO)
			15

		Autonomic Security		
		1. Autonomic Systems 2. Autonomic Protection 3. Autonomic Self-Healing Disaster Recovery Planning		
			TOTAL	**55**

Reference Books:

1. Velte T., Velte A., Elsenpeter R., "Cloud Computing – A practical Approach", Tata McGrawHill

2. Sosinsky B., "Cloud Computing Bible", Wiley India

3. Mastering Cloud Computing by RajkumarBuyya, C. Vecchiola& S. ThamaraiSelviMcGRAW Hill Publication

4. Miller Michael, "Cloud Computing: Web Based Applications that Change the Way You Work and CollaborateOnline", Pearson Education India

5. RajkumarBuyyaet. el., Cloud Computing: Principles and Paradigms, Wiley India Edition