



C. U. SHAH UNIVERSITY
Wadhwan City

FACULTY OF: Computer Science

DEPARTMENT OF: Master of Science (Information Technology) in Web Technology

SEMESTER : III

CODE:5CS03WIC1

NAME: Introduction to Cloud Computing

Teaching and Evaluation Scheme W. E. F. : June – 2018

Sr. No	Subject Code	Subject Name	Teaching Hours/Week				Credits	Evaluation Scheme/Semester							
			Th	Tu	Pr	Total		Theory				Practical			Total Marks
								Sessional Exam		University Exam		Internal		Uni.	
								Marks	Hrs	Marks	Hrs	Pr	TW	Pr	
3	5CS03WIC1	Introduction to Cloud Computing	4	-	-	4	4	30	1.5	70	3	-	-	-	100

Objectives: After studying of this subject, student should be able to work in cloud environment and can make cloud 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:

Ch. No.	Chapter Name	Topics	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	<p>Overview, Storage as a Service, Providers, Security, Reliability, Advantages , Cautions, Outages, Theft</p> <p>Cloud Storage Providers</p> <ol style="list-style-type: none"> 1. Amazon Simple Storage Service (S3) 2. Nirvanix 3. Google BigtableDatastore 4. MobileMe 5. Live Mesh 	10
4	Cloud Service Providers	<p>Google</p> <ol style="list-style-type: none"> 1. Google App Engine 2. Google Web Toolkit <p>Microsoft</p> <ol style="list-style-type: none"> 1. Azure Services Platform 2. Windows Live 3. Exchange Online 4. SharePoint Services 5. Microsoft Dynamics CRM <p>Amazon</p> <ol style="list-style-type: none"> 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 <p>Salesforce.com</p> <ol style="list-style-type: none"> 1. Force.com 2. Salesforce.com CRM 3. AppExchange 	10
5	Cloud Security	<p>Overview, Cloud Security Challenges and Risks</p> <p>Security Awareness, Training, and Education</p> <p>Trusted Cloud Computing</p> <p>Trusted Computing Characteristics</p> <p>Secure Execution Environments and Communications</p> <ol style="list-style-type: none"> 1. Secure Execution Environment 2. Secure Communications <p>Identity Management and Access Control</p> <p>Identity Management</p> <ol style="list-style-type: none"> 1. Passwords 2. Tokens 3. Memory Cards 4. Smart Cards 5. Biometrics 6. Implementing Identity Management <p>Access Control</p> <ol style="list-style-type: none"> 1. Controls 2. Models for Controlling Access 3. Single Sign-On (SSO) <p>Autonomic Security</p> <ol style="list-style-type: none"> 1. Autonomic Systems 2. Autonomic Protection 3. Autonomic Self-Healing <p>Disaster Recovery Planning</p>	15
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