

Subject Code: 2ET4040601	Subject Title: Cloud Computing
Pre-Requisite	Knowledge of Computer Networks

COURSE OBJECTIVE:

Following are the objectives of this course:

1. To learn how to use Cloud Services
2. To implement Task Scheduling algorithms
3. To implement Virtualization
4. To Apply Map-Reduce concept to applications

TEACHING AND EVALUATION SCHEME:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)			
Lecture	Tutorial	Practical	Credit	Theory		Practical	
				University Assessment	Continuous Assessment	University Assessment	Continuous assessment
3	-	2	4	60	40	20	30

DETAILS OF COURSE CONTENTS:

Sr. NO.	TOPIC	Total Hrs.	WEIGHTAGE
1	Introduction to Cloud Technologies Cloud Computing Layers and Types of Clouds Introduction to Cloud Services Cloud Infrastructure Management Characteristics of Cloud Computing Business concerns in the cloud. Challenges and Applications	10	25%
2	Virtualization Introduction about Virtualization Virtualization of Computing, Storage and Resources Virtual cluster 2.4Types of virtualization	10	25%
3	Cloud services Introduction to Cloud Services IaaS, PaaS and SaaS Example of IaaS, PaaS and SaaS Software as a Service (SaaS): Challenges of SaaS Paradigm Infrastructure As a Services (IaaS): Background & Related Work Platform As a service (PaaS): Integration of Private and Public Cloud, Technologies and Tools for Cloud Computing	11	26%
4	1. Security Introduction about Data Security in Cloud Computing Security Concerns, Legal issues and Aspects Securing the Private and Public Cloud Architecture	07	15%

	4.4 Cloud security: Risks, Security, privacy, Trust. Security of OS, VM.		
5	2. Cloud Middleware 5.1 Introduction about cloud Middleware 3. 5.2 Open Stack Eucalyptus, Windows Azure, CloudSim, EyeOs, Aneka, Google App Engine.	04	09%

COURSE OUTCOME:

At the end of the course, students will have achieved the following learning outcome:

1. Understand the hardware, software concepts and architecture of cloud computing.
2. Realize the importance of Cloud Virtualization, Abstractions and Enabling Technologies.
3. Explore the Programming for Applications on Cloud.

LIST OF PRACTICAL:

SR. No.	Experiment
1	To demonstrate Types of Clouds.
2	To study about importance of cloud computing in Business and other marketing fields.
3	To study Types of virtualization.
4	To demonstrate infrastructure of cloud computing with diagram.
5	To create and draw Private and Public Cloud of any organization.
6	To study about Open Stack Eucalyptus.
7	To study about Windows Azure.
8	To study about EyeOs.
9	To study about Aneka.
10	To study about Google App Engine.

LIST OF REFERENCES:

Sr.no.	Title	Author
1	Cloud Computing: Principles and Paradigms	Rajkumar Buyya, James Broberg, Andrzej M Goscinski
2	Cloud Computing: A Practical Approach	Toby Velte, Anthony Velte
3	Cloud Application Architectures: Building Applications and Infrastructure in the Cloud	George Reese

LINK OF LEARNING WEB RESOURCE:

1	http://www.tutorialspoint.com/cloud_computing/cloud_computing_tutorial.pdf
2	http://www.cloudbus.org/

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes(POs)												Program Specific Outcomes(PSOs)			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CLO1	H	M	M	M	L	L	-						H	M	L	
CLO2	M	H	H	H	L	-	-						H	H	M	
CLO3	H	H	H	M	L	L	-						H	H	M	
CLO4	M	M	M	M	M	M	L						M	M	M	
CLO5	M	M	H	H	L	-	L						H	H	H	

H:High, M:Medium, L:Low