



Sub Committee for Curriculum Development

Course Name: Introduction to Cloud Computing

(UG/PG): UG

Number of Credits: 4

Level: 3

Learning Objective(s): Cloud computing is a recent model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. Clouds are currently used mainly in commercial settings and focus on on-demand provision of IT infrastructure. Cloud computing can play a significant role in a variety of areas including innovations, virtual worlds, e-business, social networks, or search engines. But currently, it is still in its early stages, with consistent experimentation to come.

Cloud computing solutions are currently used in settings where they have been developed without addressing a common programming model, open standard interfaces, adequate service level agreements or portability of applications. Developers making an effort in Cloudifying their applications cannot port them elsewhere. On successful completion of the course the students should will learn the concepts of cloud computing. They should have hands – on experimentation with sales force platform for customization of an application.

Pedagogy:

Lectures
Class room discussion
Hands on Exercise

Pre-requisites:

Student should be familiar with basic concepts of client server network, database server, application server.

Course Outline:

Sr. No.	Topics	Hours
1	What is computing? Types of computing, what is cloud computing, why cloud computing, challenges and opportunities, how it works?, private Vs public cloud. Introduction to microsoft azure, sales force, openstack and eucalyptus	12
2	Cloud Computing Software-as-a-service: SaaS – introduction and concepts with example Platform-as-a-service: PaaS - introduction and concepts with example Hardware-as-a-service: HaaS - introduction and concepts with example Infrastructure-as-a-service: IaaS - introduction and concepts with	12

	example	
	Google Cloud Infrastructure Google File System – how it works Search engine – google vs metacrawler Map Reduce – usage of framework	7
3	Amazon Web Services SOAP API – how to replace with TCP-IP protocol Query API – database API for handling queries User Authentication and authorization – through ldap or open ldap server	6
4	Lab work – Sales force environment will be used for Customization of an application.	23
	Total	60

Book Recommended:

- 1) Cloud Application and Architectures: Building Applications and Infrastructure in the Cloud
- 2) Cloud Computing Implementation, Management, and Security by J. W. Rittinghouse and J. F. Ransome
- 3) Building Applications in the Cloud: Concepts, Patterns, and Project by C. M. Moyer

Research Papers/Articles recommended for reading: NA

Suggested Evaluation Methods:

Theory Assignment
On line exams
Lab Assignments
Presentations

Parallel/Similar courses the existing curriculum:

S.No.	Name of the course	Institute where it was offered

Name of Member	Pravin Metkewar	Harshad Gune			
Designation	Associate Professor	Deputy Director			
Org. / Inst.	SICSR	SICSR			
Signature					

Name of the Expert:

Signature:

Date: