



## Course Content of Cloud Computing

### **(Session 1)**

#### **1. Introduction to Cloud Computing**

- ❖ What is the cloud?
- ❖ History of Cloud Computing
- ❖ How Cloud Computing Works
- ❖ Advantages & Disadvantages
- ❖ Applications for Businesses
- ❖ Cloud Service Providers

#### **2. Amazon Web Services**

#### **3. Microsoft Azure**

#### **4. Google Appengine**

- ❖ Cloud Computing Architecture
- ❖ Cloud Computing Terminology

#### **5. Communication-as-a-Service (CaaS)**

#### **6. Infrastructure-as-a-Service (IaaS)**

#### **7. Monitoring-as-a-Service (MaaS)**

#### **8. Software-as-a-Service (SaaS)**

#### **9. Platform-as-a-Service (PaaS)**

### **(Session 2)**

#### **10. Virtualization**

- ❖ Virtualization Basics
- ❖ Objectives
- ❖ Benefits of Virtualization



## 11. VMware

## 12. Xen

## 13. KVM

## 14. Building Cloud Networks

- ❖ Designing and Implementing a Data Center-Based Cloud
- ❖ Industry and International Standards
- ❖ Communication Requirements for Cloud Implementation

## 15. Public/Private Internet

## 16. Routing to the Datacenter

## 17. Switching within the Data Center

## 18. Bandwidth

## 19. Security

- ❖ NAS, SAN, CAS
- ❖ Redundancy

## Day 2 (Session 3)

## 20. Private Clouds & Amazon Web Services

- ❖ What is it?
- ❖ Advantages & Disadvantages
- ❖ Installing a Private Cloud

## 21. Eucalyptus

## 22. Open Nebula

## 23. Open Stack

- ❖ AWS Overview
- ❖ Amazon S3
- ❖ VPC
- ❖ Cloud Front
- ❖ Elastic Map Reduce
- ❖ Cloud watch
- ❖ Cloud Formation



- ❖ Amazon RDS
- ❖ Amazon SQS
- ❖ Amazon IAM
- ❖ Amazon Route 53
- ❖ Amazon DynamoDB
- ❖ Amazon Storage Gateway

## **Project to be Covered**

- ❖ Cloud Architectures
- ❖ Foundations of Cloud Computing
- ❖ Research in Cloud Computing
- ❖ Building Enterprise Cloud Computing Environment using a Network of Computers
- ❖ Application Case Studies in Engineering, Image Processing, and Media Rendering
- ❖ Platform for building Clouds and their Innovative Application
- ❖ Cloud Computing Platforms
- ❖ Guidelines for setting up of CLOUDS LAB