



# MARRI LAXMAN REDDY INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

## COURSE CONTENT

ENTERPRISE CLOUD CONCEPTS								
II Semester: CSE								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
		L	T	P		C	CIA	SEE
2525812	Foundation	3	0	0	3	40	60	100
Contact Classes: 45	Tutorial Classes: Nil	Practical Classes: Nil			Total Classes: 45			
Prerequisites: UG level course in enterprise cloud concepts								

### Course Overview:

This course introduces the fundamentals of cloud computing and enterprise cloud architecture, including service models (IaaS, PaaS, SaaS) and deployment models (public, private, hybrid). It covers virtualization, containerization, cloud storage, networking, and security in enterprise environments.

### Course Objectives:

1. To understand the fundamentals of cloud computing concepts, service models, and deployment models.
2. To study cloud-enabling technologies such as virtualization, data centers, and cloud networking.
3. To analyze cloud infrastructure, resource management, and cloud architecture mechanisms in enterprise environments.
4. To evaluate cloud-based enterprise solutions, scalability techniques, and cloud management systems.
5. To develop strategies for adopting cloud-centric enterprise architectures and secure cloud-based business transformations.

### Course Outcomes: After Completion of the Course, Students should be able to

1. Design cloud delivery and deployment models for scalable e-learning and online retail platforms using public or hybrid clouds.
2. Analyze virtualization and resource replication mechanisms to optimize data center utilization in IT enterprises.
3. Evaluate cloud management systems and resource monitoring to ensure compliance and cost-effectiveness in enterprise cloud adoption.
4. Differentiate fundamental cloud architecture patterns to determine their suitability for handling dynamic financial transaction workloads.
5. Formulate cloud-centric enterprise strategies by integrating smart enterprise mechanisms to transform sectors such as healthcare and banking.

## **UNIT - I:**

### **Understanding Cloud Computing:**

Origins and influences, Basic Concepts and Terminology, Goals and Benefits, Risks and Challenges.

### **Fundamental Concepts and Models:**

Roles and Boundaries, Cloud Characteristics, Cloud Delivery Models, Cloud Deployment Models

## **UNIT - II:**

### **Cloud-Enabling Technology:**

Broadband Networks and Internet Architecture, Data Center Technology, Virtualization Technology

### **CLOUD COMPUTING MECHANISMS:**

**Cloud Infrastructure Mechanisms:** Logical Network Perimeter, Virtual Server, Cloud Storage Device, Cloud Usage Monitor, Resource Replication

## **UNIT - III:**

**Cloud Management Mechanisms:** Remote Administration System, Resource Management System, SLA Management System, Billing Management System, Case Study Example  
Cloud Computing Architecture

**Fundamental Cloud Architectures:** **Workload** Distribution Architecture, Resource Pooling Architecture, Dynamic Scalability Architecture, Elastic Resource Capacity Architecture, Service Load Balancing Architecture, Cloud Bursting Architecture, Elastic Disk Provisioning Architecture, Redundant Storage Architecture, Case Study Example

## **UNIT - IV:**

### **Cloud-Enabled Smart Enterprises**

Introduction, Revisiting the Enterprise Journey, Service-Oriented Enterprises, Cloud Enterprises, Smart Enterprises, The Enabling Mechanisms of Smart Enterprises

### **Cloud-Inspired Enterprise Transformations**

Introduction, The Cloud Scheme for Enterprise Success, Elucidating the Evolving Cloud Idea, Implications of the Cloud on Enterprise Strategy, Establishing a Cloud-Incorporated Business Strategy

## **UNIT - V:**

### **Transitioning to Cloud-Centric Enterprises**

The Tuning Methodology, Contract Management in the Cloud

### **Cloud-Instigated IT Transformations**

Introduction, Explaining Cloud Infrastructures, A Briefing on Next-Generation Services, Service Infrastructures, Cloud Infrastructures, Cloud Infrastructure Solutions, Clouds for Business Continuity, The Relevance of Private Clouds, The Emergence of Enterprise Clouds

## **TEXT BOOKS:**

1. Erl Thomas, Puttini Ricardo, Mahmood Zaigham, Cloud Computing: Concepts, Technology & Architecture 1st Edition,
2. Pethuru Raj, Cloud Enterprise Architecture, CRC Press

### REFERENCE BOOKS:

1. James Bond, The Enterprise Cloud, O'Reilly Media, Inc.

### ELECTRONIC RESOURCES:

1. <https://www.geeksforgeeks.org/cloud-computing/cloud-computing-tutorial/>
2. <https://www.simplilearn.com/tutorials/cloud-computing-resources/cloud-computinglessons>
3. <https://www.coursera.org/learn/cloud-computing-concepts>
4. <https://cloudsvers.com/tutorials>

### MATERIALS ONLINE:

1. Course template
2. Tutorial question bank
3. Tech talk and Concept Video topics
4. Open-ended experiments
5. Definitions and terminology
6. Assignments
7. Model question paper – I
8. Model question paper – II
9. Lecture notes
10. E-Learning Readiness Videos (ELRV)

