



# 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

<b>ENTERPRISE CLOUD CONCEPTS LAB</b>								
<b>II Semester: CSE</b>								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
2225836	Foundation	L	T	P	C	CIA	SEE	Total
		0	0	4	2	40	60	100
<b>Contact Classes: Nil</b>	<b>Tutorial Classes: Nil</b>	<b>Practical Classes: 60</b>			<b>Total Classes: 60</b>			
<b>Prerequisites:</b> Basic understanding of computer systems, hardware, software, and operating environments.								

### Course Overview:

The Enterprise Cloud Concepts Lab is a practical-oriented course designed to provide hands-on experience with enterprise-level cloud computing technologies, platforms, and deployment models. This lab complements theoretical cloud computing concepts by enabling students to implement, configure, and manage cloud-based infrastructure and services in real-world scenarios.

### Course Objectives:

1. To understand the fundamental concepts and architecture of cloud computing through practical implementation.
2. To develop hands-on experience in creating and managing virtual machines using virtualization tools such as VirtualBox and VMware.
3. To learn the deployment and execution of cloud-based applications using platforms like Google App Engine and OpenStack.
4. To gain practical knowledge of distributed computing frameworks such as Hadoop for processing large-scale data.
5. To enhance skills in configuring, managing, and evaluating cloud infrastructure and cloud based services for enterprise applications.

### Course Outcomes:

1. Demonstrate the setup and configuration of virtualization platforms such as VirtualBox or VMware with multiple operating systems.
2. Install compilers and execute applications within virtualized environments.
3. Develop and deploy simple web applications using cloud platforms such as Google App Engine.
4. Perform file and resource sharing between virtual machines and understand network configuration.
5. Launch and manage cloud instances using open-source platforms such as TryStack/OpenStack and configure Hadoop for distributed computing.

### List of Experiments:

1. Install VirtualBox/VMware Workstation with different flavors of linux or windows OS on top of windows7 or 8.
2. Install a C compiler in the virtual machine created using virtual box and execute Simple Programs
3. Install Google App Engine. Create a hello world app and other simple web applications using python/java.

4. Find a procedure to transfer the files from one virtual machine to another virtual machine.
5. Find a procedure to launch virtual machine using trystack (Online Openstack Demo Version)
6. Install Hadoop single node cluster and run simple applications like word count.

#### **TEXT BOOKS:**

1. Cloud Computing: Concepts, Technology, Security, and Architecture *2nd Edition*, Thomas Erl, Eric Barceló Monroy, Pearson.
2. Cloud Technologies and Services: Theoretical Concepts and Practical Applications *1st Edition*, M. Scott Kingsley, Springer.
3. Cloud Enterprise Architecture *1st Edition*, Pethuru Raj, Routledge

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1. Cloud Computing: Concepts, Technology, Security, and Architecture *2nd Edition* — Thomas Erl, Eric Barceló Monroy.
2. Cloud Technologies and Services: Theoretical Concepts and Practical Applications *1st Edition* — M. Scott Kingsley
3. Cloud Enterprise Architecture *1st Edition* — Pethuru Raj

#### **ELECTRONIC RESOURCES:**

1. <https://docs.aws.amazon.com/>
2. <https://learn.microsoft.com/azure>
3. <https://cloud.google.com/docs>
4. <https://www.coursera.org/>
5. <https://www.udemy.com/>

#### **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)