C.V. RAMAN POLYTECHNIC, BBSR
Department of Computer Science & Engineering

LESSON PLAN

Session (2025-2026)

Discipline: Computer Science & Engineering	**Semester:6th Summer/2025**	**Name of the Teaching Faculty: Mr.Amardeep Das** **Email ID: amardeep@cvrp.edu.in**
Subject: Cloud Computing, Theory-03	**No. Of Days / Week :04**	**Start Date: 22.12.2025** **End Date: 18.04.2026**

Week	Class Day	Theory Topics
1st	1st	**Unit-1: Introduction to Cloud Computing** Historical development
	2nd	Vision of Cloud Computing, Cloud computing Reference model
	3rd	Characteristics of Cloud computing, Cloud computing environment, Cloud Service requirements
	4th	Cloud and Dynamic Infrastructure, Cloud Adoption Cloud applications
2nd	1st	**Unit-2: Cloud Computing Architecture** Introduction Cloud Reference Model
	2nd	Types of Clouds
	3rd	Cloud Interoperability and standards Cloud computing Interoperability use cases
	4th	Role of standards in Cloud Computing environment
3rd	1st	**Unit -3: Scalability and Fault Tolerance** Introduction Scalability and Fault Tolerance Cloud solutions Cloud Ecosystem

	2nd	Cloud Business process management Portability and Interoperability Cloud Service management
	3rd	Testing under Control Cloud Offerings
	4th	Cloud service Controls Virtual desktop Infrastructure
4th	1st	**Unit-4: Cloud Management and Virtualization Technology** Create a virtualized Architecture. Data Centre Resilience Agility
	2nd	Cisco Data Centre Network architecture
	3rd	Storage Provisioning Asset Management Concept of Map Reduce Cloud Governance
	4th	Load Balancing High Availability Disaster Recovery
5th	1st	**Unit – 5: Virtualization** Virtualization Virtualisation benefits
	2nd	Desktop and Application Virtualisation Network Virtualisation
	3rd	Local desktop Virtualisation Desktop as a service
	4th	**QUIZ TEST**
6th	1st	Server Virtualisation
	2nd	Block and File level Storage Virtualisation
	3rd	Virtual Machine Monitor
	4th	Infrastructure Requirements
7th	1st	VLAN and VSAN
	2nd	**Unit- 6: Cloud Security** Cloud Security Fundamentals
	3rd	Cloud security services
	4th	Cloud security services
8th	1st	Design Principles
	2nd	Secure Cloud software requirements
	3rd	Policy Implementation
	4th	Cloud Computing Security Challenges
9th	1st	**Unit- 7: Cloud Computing Security Architecture**

	2nd	Architectural Considerations	
	3rd	Information Classification	
	4th	Virtual Private Networks	
10th	1st	Public Key and Encryption Key management	
	2nd	Digital certificates	
	3rd	Key management	
	4th	Memory Cards	
11th	1st	Implementing Identity Management	
	2nd	Controls and Autonomic System	
	3rd	**Unit- 8: Market Based Management of Clouds**	
	4th	Cloud Information security vendors	
12th	1st	Cloud Federation, characterization	
	2nd	Cloud Federation stack	
	3rd	Third Party Cloud service	
	4th	Case study	
13th	1st	**Unit-9: Hadoop**	
	2nd	Introduction	
	3rd	Data Source	
	4th	Data storage and Analysis	
14th	1st	Comparison with other system	
	2nd	**Quiz Test**	
	3rd	**Revision**	
	4th	**Revision**	
15th	1st	**Discussion of Question Answer**	
	2nd	**Discussion of Question Answer**	
	3rd	**Discussion of Question Answer**	
	4th	**Discussion of Question Answer**	

Concerned Faculty   **H.O.D**