Cloud Computing

[As per Choice Based Credit System (CBCS) Scheme]
(Effective from the Academic Year 2021-22)
As Per NEP 2020

SEMESTER – V

Course Code	**21BCA54(B)**	CIE Marks	50
Number of Lecture Hours/Week	03	SEE Marks	50
Total Number of Lecture Hours	42	Exam Hours	03
CREDITS - 03			

Course Objectives:

- To introduce the concepts of Cloud and Cloud Computing, Services and Virtualization.
- To make students understand different types of cloud services and Private Public Cloud, Design and Implementation.
- To analyse the cloud offering and understands management and virtualization of cloud
- To understand Virtualization of Cloud.
- To understand cloud infrastructure and storage area network.

Revised Bloom's Taxonomy Levels: L1 – Remembering, L2 – Understanding, L3 – Applying, L4 – Analysing, L5 – Evaluating, and L6 - Creating

Module-1	**Teaching Hours**	**RBT Levels**
Introduction to cloud: Introduction, Why Cloud, Cloud and Virtualization, Cloud Service Requirement, Cloud and Dynamic Infrastructure, Advantages and disadvantages of cloud. **Cloud Deployment Models:** Cloud Characteristics, Cloud Deployment Models: Public, Private, Hybrid, Security in a Public Cloud, Public Versus Private Clouds, Cloud Infrastructure Self Service.	08	L1,L2, L3,L4, L5
Module -2		
Cloud as a Service: Introduction, Gamut of Cloud Solution: PaaS(Platform as a service), SaaS(Software as a Services), IaaS(Infrastructure as a Service), Cloud Strategy, Cloud Design and Implementation Using SOA, Concept of Cloud Model, Cloud Service Defined.	08	L1,L2, L3,L4, L5
Module -3		
Cloud Solution and Offerings: Introduction, Cloud Ecosystem, Cloud Business Process Management, Cloud Service Management, CoD(Computing on demand), Information Storage, Retrieval, Archive, and Protection, Cloud Analytics Information Security.	08	L1,L2, L3,L4, L5
Module -4		
Cloud Management and Virtualization: **Cloud Management:** Provisioning, Asset Management, Cloud Governance, High Availability and Disaster Recovery. **Virtualization:** Introduction, Definition of Virtualization, Virtualization Benefits, Server Virtualization, Virtual Infrastructure Requirement.	08	L1,L2, L3,L4, L5

Module 5		
Cloud Infrastructure: Introduction, Storage Virtualization, Storage Area Networks, Network-Attached Storage, Cloud Server Virtualization, Networking Essential to the Cloud.	08	L1,L2, L3,L4, L5

Course Outcomes

On successful completion of the course, the students will be able to

CO1: Gain the basic knowledge of Cloud Computing.
CO2: Understand How to Use Cloud in Various Application like Amazon, Mega Cloud etc
CO3: To develop the Cloud Services.
CO4: Understand the foundations of cloud management and virtualization technology
CO5: To develop cloud server virtualization and SAN.

Question Paper Pattern

The Question Paper will have Ten Questions.
There will be two questions from each module.
Each question will have questions covering all the topics under a module.
The students will have to answer 5 full questions, selecting one full question from each module.

Text Books:

1. Dr.Kumar Saurabh, Fourth Edition, **WILEY-INDIA** 2014
2. A Srinivasan and J.Suresh, **PEARSON**
3. Rajkumar Buyya, Christian Vecchiola, MC Graw hill Education, 2013
4. DAN C. MARINESCU, MK(Morgan Kaufmann) 2013
5. Michael J. Kavis ,**WILEY,** Wiley CIO Series, Second Edition, 2014

References Books:

1. Anthony T, Velte ,Toby J.Velte , Robert Elsenpetter, Indian Edition.
2. Ray Rafaels ,Cloud Computing.