BUDDHA INSTITUTE OF MANAGEMENT

DEPARTMENT OF COMPUTER APPLICATION

ACADEMIC YEAR 2025-26 (ODD Semester)

LESSON PLAN

Semester: III	Section: A	Course Code: BMC014(MCA)	Contact Hours /week**: 5**
Course name: Cloud Computing			# of credits: 3
Teacher's name:**Mr. Prashant Sharma**			Designation: AP
Sessional Marks: 30		End Semester Examination Marks: 70	University Exam Hours: 3

Prerequisites if any:
NA

Content delivery methods:	By Face to face delivery, Presentation, Tutorial etc.

COURSE SYLLABUS (as prescribed by University / Board)

Module No	UNIT Contents	Hours	COs
1	**Introduction:** Cloud Computing – Definition of Cloud – Evolution of Cloud Computing – Underlying Principles of Parallel and Distributed, History of Cloud Computing - Cloud Architecture - Types of Clouds - BusinessmodelsaroundClouds–MajorPlayersinCloudComputing-issuesinClouds-Eucalyptus- Nimbus- Open Nebula, CloudSim.	13	CO1

2	**Cloud Services:** Types of Cloud services: Software as a Service- Platform as a Service –Infrastructure as a Service - Database as aService - Monitoring as a Service –Communication as services. Service providers- Google, Amazon, Microsoft Azure, IBM, Sales force.	08	CO2
3	**Collaborating Using Cloud Services:** Email Communication over the Cloud - CRM Management – ProjectManagement-Event Management - Task Management – Calendar - Schedules - Word Processing – Presentation–Spreadsheet-Databases–Desktop-SocialNetworksand Groupware.	12	CO3
4	**Virtualization for Cloud:** Need for Virtualization – Pros and cons of Virtualization – Types of Virtualization – System VM, Process VM, Virtual Machine monitor – Virtual machine properties - Interpretation andbinarytranslation,HLLVM- supervisors– Xen, KVM, VMware, Virtual Box, Hyper-V.	13	CO4
5	**Security, Standards and Applications:** Security in Clouds: Cloud security challenges – Software as a Service Security, Common Standards: The Open Cloud Consortium – The Distributed management Task Force – Standards for application Developers – Standards for Messaging – Standards for Security, End user access to cloudcomputing, Mobile Internet devices and the cloud. Hadoop – MapReduce – Virtual Box — Google App Engine – Programming Environment for Google App Engine	16	CO5

COURSE OUTCOMES: At the end of the Course, the Student will be able to:

CO1	UnderstandtheconceptsofCloudComputing,keytechnologies, strengthsand limitationsof cloud computing.
CO2	Developtheabilitytounderstandandusethearchitecturetocompute and storage cloud, service and models.
CO3	Understandtheapplicationincloudcomputing.
CO4	Learnthekeyandenablingtechnologiesthathelpinthedevelopmentof cloud.
CO5	Explainthecoreissuesofcloudcomputingsuchasresource management and security.

Mapping of CO v/s PO:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO1												
CO2												
CO3												
CO4												
CO5												
Average												

	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
Average			

Correlation levels: 1-Slight (Low) 2-Moderate (Medium) 3-Substantial (High)

Gap in the syllabus	Topics related to more CRM

Topics to be covered beyond syllabus	N/A

LESSON PLAN

Lecture	Module	Scheduled				Conducted			
		Topic	*RBT Levels	C O Mapping	Date	Topic	Date	No. Of Students	Faculty Sign
1	I	Introduction	L2	CO1					
2		Definition of Cloud – Evolution of Cloud Computing	L2						
3		Underlying Principles of Parallel and Distributed	L2						
4		History of Cloud Computing	L2						
5		Cloud Architecture	L2						
6		Types of Clouds	L2						
7		BusinessmodelsaroundClouds– MajorPlayersinCloudComputing-	L2						
8		**Tutorial-1**							
9		issuesinClouds	L3						
10		Eucalyptus	L2						
11		Nimbus	L2						
12		Open Nebula, CloudSim.	L2						

13		**Tutorial-2**							
14		Cloud Services	L2						
15		Types of Cloud services: Software as a Service- Platform as a Service – Infrastructure as a Service	L2						
16		Database as aService - Monitoring as a Service –Communication as services.	L2						
17	II	Service providers-	L2	CO2					
18		**Tutorial-3**							
19		Google, Amazon	L3						
20		Microsoft Azure, IBM, Sales force.	L3						
21		**Tutorial-4**	L2						
22		Collaborating Using Cloud Services	L3						
23		Email Communication over the Cloud	L2						
24		CRM Management	L2						
25	**III**	ProjectManagement-Event Management - Task Management	L3	CO3					
26		Calendar	L3						
27		Schedules	L3						
28		**Tutorial-5**	L3						
29		Word Processing – Presentation–	L3						

		Spreadsheet							
30		Databases	L2						
31		Desktop	L2						
32		SocialNetworksand Groupware	L2						
33		**Tutorial-6**	L2						
34	**IV**	Virtualization for Cloud: Need for Virtualization	L2	CO4					
35		Pros and cons of Virtualization	L2						
36		Types of Virtualization							
37		System VM,	L2						
38		Process VM	L2						
39		**Tutorial-7**	L3						
40		Virtual Machine monitor	L3						
41		Virtual machine properties	L3						
42		Interpretation andbinarytranslation	L3						
43		HLLVM- supervisors– Xen	L3						
44		KVM, VMware	L3						
45		Virtual Box, Hyper-V.	L3						
46		**Tutorial-8**	L2						

47		Security, Standards and Applications	L2						
48		Security in Clouds	L3						
49		Cloud security challenges	L3						
50		Software as a Service Security	L2						
51		Common Standards: The Open Cloud Consortium	L3						
52		The Distributed management Task Force	L3						
53		Standards for application Developers	L3						
54		Standards for Messaging – Standards for Security	L3						
55		End user access to cloudcomputing Mobile Internet devices and the cloud.	L3						
56		**Tutorial-9**	L3						
57		Hadoop	L3						
58	V	MapReduce	L3	CO5					
59		Virtual Box	L2						
60		Google App Engine	L2						
61		Programming Environment for Google App Engine	L2						
62		**Tutorial-10**	L3						

63		Revision							
64		Revision							
65		Revision							
66		Revision							
67		Revision							
68		Revision							
69		Revision							
70		Revision							
71		Revision							

Class Test	**Syllabus**
CT-01	**0-21**
CT-02	**22-46**
PRE-AKTU	**0-62**

***Revised Bloom's Taxonomy (RBT) Levels:**
L1 – Remembering; L2 – Understanding; L3 – Applying; L4 – Analysing; L5 – Evaluating; L6 - Creating

References:
Text books :(As per University / Board syllabus)

T1. Thomas Erl,"Cloud Computing: Concepts, Technology, Security & Architecture, 2nd Edition" published by Pearson

T2. Shanjiva Shankar Dubey, “Cloud computing and beyond”, Dream Tech Press.

Reference Books:(As per University / Board syllabus)

R1. Douglas E. Comer, “The Cloud Computing”, CRC Press.

R2Dr.Anand Nayar,“Handbook of Cloud Computing”, BPB Publication

Faculty Sign **HOD’s sign**