SWARNANDHRA
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Accredited by National Board of Accreditation, AICTE, New Delhi,Accredited by NAAC with "A" Grade – 3.32 CGPA,Recognized under 2(f) & 12(B) of UGC Act 1956, Approved by AICTE, New Delhi,Permanent Affiliation to JNTUK, Kakinada Seetharampuram, W.G.DT., Narsapur-534280, (Andhra Pradesh)

DEPARTMENT OF ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

Course Code	Course Title	Semester/ Regulation	Branch	Contact Periods /Week	Academic Year	Date of commencement of Semester
20AM6T02	CLOUD ARCHITECTURE AND SERVICES	VI	AIML	5	2024-25	18-11-2024

COURSE OUTCOMES	
1	Understanding Architecture and components of cloud computing
2	Understanding the key dimensions of the challenge of Cloud Computing
3	Assessmentoftheeconomics,financial,andtechnologicalimplicationsforselectingcloud computing for own organization
4	Assessingthefinancial,technological,andorganizationalcapacityofemployer'sforactively initiating and installing cloud-based applications.
5	Understanding the Cloud applications.

UNIT-I:CLOUDPLATFORMARCHITECTURE						
UNIT	Out Comes / Bloom'sLevel	Topics No.	Topics/Activity	Text Book/ Reference	Contact Hour	Delivery Method
I	CO1: Understanding Architectureand components of cloudcomputing	1.1	Introduction to Cloud ComputingArchitecture	T1	1	Chalk & Board PPT
		1.2	Cloud computing services	T1	1	
		1.3	Infrastructure as a service(Iaas)	T1	1	
		1.4	Platform as a service (Paas)	T1	1	
		1.5	Software as a service (Saas)	T1	1	
		1.6	Cloud computing Deploymentmodelsor types of cloud	T1	1	
		1.7	Public cloud	T1	1	
		1.8	Private cloud	T1	1	
		1.9	Hybrid cloud	T1	1	

		1.10	AdvantagesofCloud computing	T1	1	
		1.11	Service Oriented Architecture (SOA)	T1	1	
		1.12	Cloud infrastructure	T1	1	
		1.13	Economics of the cloud	T1	1	
	Content beyond syllabus	1.14	DistributedandParallel Computing Systems.	T2	1	
		RevisionofCloudPlatform Architecture			1	
				Total	**15**	
UNIT-II:VIRTUALIZATION						
II	**CO2:Understanding the key dimensions of the challengeofCloud Computing**	2.1.	Introductionto Virtualization	T1	**2**	**Chalk &Board PPT**
		2.2	Characteristicsofvirtual environment	T1	**2**	
		2.3	ClassificationofVirtual techniques	T1	**2**	
		2.4	VirtualizationandCloud computing	T1	**2**	
		2.5	Prosandconsof Virtualization	T1	**2**	
		2.6	Technology examples-VMwareand Microsoft Hyper-V.	T1	**1**	
	Content beyond syllabus	2.7	ImplementationLevelsOf Virtualization	T2	**1**	
		Revision of Virtualization			**1**	
				Total	**13**	
UNIT-III:INTRODUCTIONTOCLOUDPLATFORMS						
III	**CO3: Apply Normalization techniques to normalize the database**	3.1.1	IntroductiontoAmazon Web Services (AWS)	T1	**1**	**Chalk & Board PPT**
		3.1.2	GlobalInfrastructureof AWS	T1	**2**	
		3.2.1	AWSservices:compute	T1	**2**	
		3.2.2	AWS services: storage	T1	**2**	
		3.2.3	AWS services: database	T1	**2**	
		3.2.4	AWS services: networking	T2	**2**	
		3.2	IntroductiontoMicrosoft Azure	T2	**2**	
		3.3	IntroductiontoGoogleApp Engine (GAE).	T2	**2**	

	Content beyond syllabus	3.4	SQL Azure & Azure tables	R1	**1**	
		Revision of Introduction to Cloud Platforms			**1**	
				Total	**17**	
UNIT-IV:CLOUDSECURITY						
IV	**CO4:Discuss transaction managementusing different concurrencycontrol protocols and recoveryalgorithms.**	4.1	Introduction to Security	T1	**1**	**Chalk &Board PPT**
		4.2	Security planning	T1	**1**	
		4.3	understandingsecurityof cloud	T1	**1**	
		4.4	understanding data security	T1	**1**	
		4.5	Encryption	T1	**1**	
		4.6	cloudcomputing applications.	T1	**1**	
		4.7	SoftwareasaService Security	T1	**2**	
		4.8	Virtualmachinesecurity	T1	**2**	
		4.9	Identityandaccess management	T1	**2**	
	Content beyond syllabus	4.10	VMM(virtualmachine monitor),	R3	**1**	
		Revision of Cloud Security			**1**	
				Total	**14**	
UNIT-V:CLOUDAPPLICATIONSANDSTORAGESYSTEMS						
V	**CO5: Illustrate different file organizationand indexingmethods.**	5.1.1	Cloud Applications: Scientific Applications	T2	**1**	**Chalk &Board PPT**
		5.1.2	Health care	T2	**1**	
		5.1.3	Geo science and Biology	T2	**1**	
		5.1.4	Businessandconsumer applications	T2	**1**	
		5.1.5	CRM and ERP	T2	**1**	
		5.1.6	Social networking	T2	**1**	
		5.1.7	Media Applications	T2	**1**	
		5.2.1	StorageSystems:Evolution of storage technology	T2	**1**	
		5.2.2	storage models	T2	**1**	
		5.2.3	files systems and database	T2	**1**	
		5.2.4	AmazonSimpleStorage Service (S3).	T2	**1**	
	Content beyond syllabus	5.3	Google File System.	R3	**1**	

		RevisionofCloudApplicationsandStorage Systems	1	
Discussion of previous year question paper			1	
Discussion of previous year question paper			1	
Discussion of previous year question paper			1	
		Total	**16**	
		CUMULATIVEPROPOSEDPERIODS	**75**	

TextBooks:

S. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
T1	Geoffry C.Fox, Jack J.Dongarra MK Elsevier,Distributedand CloudComputing, Kai Hwang
T2	Raj Kumar Buyya, Christen Vecctiola, S Tammaraiselvi, TMH,MasteringCloudComputing,FoundationsandApplicationProgramming.
T3	ArshadeepBahga,VijayMadisetti,UniversityPress,CloudComputing,AHandsonapproach.
T4	Kamal kanthiran,Ruchi Doshi,Cloud computing,Master cloud computing concepts,Architecture and applications with real world examples and case studies.

ReferenceBooks:

S. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
R1	Cloud Computing, A Practical Approach, Anthony T Velte, Toby J Velte, Robert Elsenpeter, TMH, 2017
R2	RajKumar Buyya,Wiley,Cloud Computing: Principles and Paradigms, 2011
R3	Dan C Marinescu, MK Elsevier,CloudComputing, Theory and Practice, 2013

WebDetails:

1	https://aws.amazon.com/what-is-cloud-computing/
2	https://www.geeksforgeeks.org/virtualization-cloud-computing-types/?ref=lbp
3	http://www.itbriefcase.net/network-server-storage-and-desktop-virtualization
4	https://www.javatpoint.com/virtualization-in-cloud-computing
5	https://www.tutorialspoint.com/cloud_computing/cloud_computing_security.htm

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