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	2023-24	23-11-2023

COURSE OUTCOMES	
1	Understanding Architecture and components of cloud computing
2	Understanding the key dimensions of the challenge of Cloud Computing
3	Assessment of the economics , financial, and technological implications for selecting cloud computing for own organization
4	Assessing the financial, technological, and organizational capacity of employer's for actively initiating and installing cloud-based applications.
5	Understanding the Cloud applications.

UNIT-I: CLOUD PLATFORM ARCHITECTURE

UNIT	Out Comes / Bloom's Level	Topics No.	Topics/Activity	Text Book/ Reference	Contact Hour	Delivery Method
I	CO1: Understanding Architecture and components of cloud computing	1.1	Introduction to Cloud Computing Architecture	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 Deployment models or 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	Advantages of Cloud 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	Distributed and Parallel Computing Systems.	**T2**	**1**	
		Revision of Cloud Platform Architecture			**1**	
				Total	**15**	
UNIT-II:VIRTUALIZATION						
II	**CO2:Understanding the key dimensions of the challenge of Cloud Computing**	2.1.	Introduction to Virtualization	T1	**2**	**Chalk & Board PPT**
		2.2	Characteristics of virtual environment	T1	**2**	
		2.3	Classification of Virtual techniques	T1	**2**	
		2.4	Virtualization and Cloud computing	T1	**2**	
		2.5	Pros and cons of Virtualization	T1	**2**	
		2.6	Technology examples-VMware and Microsoft Hyper-V.	T1	**1**	
	Content beyond syllabus	2.7	Implementation Levels Of Virtualization	T2	**1**	
		Revision of Virtualization			**1**	
				Total	**13**	
UNIT-III: INTRODUCTION TO CLOUD PLATFORMS						
III	**CO3: Apply Normalization techniques to normalize the database**	3.1.1	Introduction to Amazon Web Services (AWS)	T1	**1**	**Chalk & Board PPT**
		3.1.2	Global Infrastructure of AWS	T1	**2**	
		3.1.3	AWS services: compute	T1	**2**	
		3.1.4	AWS services:storage	T1	**2**	
		3.1.5	AWS services:database	T1	**2**	
		3.1.6	AWS services:networking	T2	**2**	
		3.2	Introduction to Microsoft Azure	T2	**2**	
		3.3	Introduction to Google App 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: CLOUD SECURITY						
IV	**CO4:Discuss transaction management using different concurrency control protocols and recovery algorithms.**	4.1	Introduction to Security	T1	**1**	**Chalk & Board PPT**
		4.2	Security planning	T1	**1**	
		4.3	understanding security of cloud	T1	**1**	
		4.4	understanding data security	T1	**1**	
		4.5	Encryption	T1	**1**	
		4.6	cloud computing applications.	T1	**1**	
		4.7	Software as a Service Security	T1	**2**	
		4.8	Virtual machine security	T1	**2**	
		4.9	Identity and access management	T1	**2**	
	Content beyond syllabus	4.10	VMM (virtual machine monitor),	R3	**1**	
		Revision of Cloud Security			**1**	
				Total	**14**	
UNIT-V: CLOUD APPLICATIONS AND STORAGE SYSTEMS						
V	**CO5: Illustrate different file organization and indexing methods.**	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	Business and consumer 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	Storage Systems: 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	Amazon Simple Storage Service (S3).	T2	**1**	
	Content beyond syllabus	5.3	Google File System.	R3	**1**	

		Revision of Cloud Applications and Storage 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**	
		CUMULATIVE PROPOSED PERIODS	**75**	

Text Books:

S. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
T1	Distributed and Cloud Computing, Kai Hwang, Geoffry C. Fox, Jack J. Dongarra MK Elsevier.
T2	Mastering Cloud Computing, Foundations and Application Programming, Raj Kumar Buyya, Christen vecctiola, S Tammaraiselvi, TMH.
T3	Cloud Computing, A Hands on approach, ArshadeepBahga, Vijay Madisetti, University Press.
T4	Cloud computing, Master cloud computing concepts,architecture and applications with real world examples and case studies, Kamal kanthiran,RuchiDoshi

Reference Books:

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.
R2	Raj Kumar Buyya,ICloud Computing: Principles and Paradigmsl,Wiley,2011.
R3	Cloud Computing, Theory and Practice, Dan C Marinescu, MK Elsevier.

Web Details:

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

		Name	Signature with Date
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