

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES(Autonomous)

DEPARTMENT OF COMPUTER SCIENCE && ENGINEERING

B TECH COURSE PROPOSED SCHEME UNDER AUTONOMOUS SYSTEM 2015-16

CLOUD COMPUTING	
CSE 411	Credits: 3
Instruction: 3Periods & 1Tut/ Week	Sessional Marks : 40
End Exam: 3Hours	End Exam Marks : 60

Prerequisites:

To Undertake this course student must have basic understanding of Data Communications and Networking Technologies.

Prior knowledge of computing and about the software systems.

Student must be familiar with the concept of , parallel and distributed programming

Course Objectives:

- To make students understand with the fundamentals and essentials of Cloud Computing.
- To provide students a sound foundation of the Cloud Computing so that they are able to start using and adopting Cloud Computing services and tools in their real life scenarios.
- To enable students exploring some important cloud computing driven commercial systems such as GoogleApps, Microsoft Azure and Amazon Web Services and other businesses cloud applications

Course outcomes:

By the end of the course, the student will be able to:	
1.	To be familiar with the basics, challenges, need of cloud computing.
2.	Able to identify infrastructure of cloud.
3.	Describe different cloud services.
4.	Analyzing different cloud data storage and cloud security options.
5.	To analyze the need to migrate to the cloud and how cloud computing might evolve.

Mapping of course outcomes with program outcomes:

Mapping	PO												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO	1	2	2		1				2	2	2	2		
	2	3	3	1	2				2	2	3	2		
	3	3	3	2	2				2	2	3	2		
	4	3	3	2	2				2	2	3	2		
	5	2	2	2		1				2	2	3	3	

SYLLABUS

Unit – I :

10 Periods

Cloud Computing Basics:

Cloud Computing Overview, Classify and describe the architecture and taxonomy of parallel and distributed computing, including shared and distributed memory, and data and task parallel computing. Explain and contrast the role of Cloud computing within this space. Intranets and the Cloud, FirstMovers in the Cloud. The Business Case for Going to the Cloud - Cloud Computing Services introduction

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Unit-II:

10 Periods

Hardware and Infrastructure-Clients:

Mobile, Thick, Thin, Security:- Data Leakage, Offloading work, Logging, Forensics, Compliance VPNs, Key management ,Network- four different levels : Basic Public Internet, The Accelerated Internet, Optimized Internet Overlay Site-to-Site VPN, Services : - identify, integration, mapping, payment, search. Accessing the Cloud – Platforms.

Unit- III:

10Periods

Cloud Services :

Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS),Software plus services - Overview, Cloud computing applications and business case for going to the cloud, Infrastructure as a Service--Amazon EC2, Platform as a Service—RightScale, Salesforce.com ,Software as a Service--Google App Engine and Salesforce , --Microsoft's take on SaaS is slightly different with their Software plus Services (sometimes they shorten it to S+S) Software plus Services

Unit – IV :

12 Periods

Cloud Storage and data storage security:

what is cloud storage? uses of cloud storage, Types of cloud storage, things looked for cloud storage, infrastructure, data types used in cloud computing, Data security challenges, VPN-Virtual Private Network ,FADE – File assured deletion ,TPA – Third Party Auditing. Cloud Security – need for security and privacy in cloud computing, Security and privacy issues

Unit-V:

12 Periods

Local Clouds,ThinClients,Thick clients:

Types of Virtualizations,Virtualization in Your Organization, Server Solutions, Thin Clients, Migrating to the Cloud - Cloud Services for Individuals, Cloud Services Aimed at the Mid-Market, Enterprise-Class Cloud Offerings, Migration, Best Practices and the Future of Cloud Computing - Analyze Your Service, Best Practices, How Cloud Computing Might Evolve.

Text Book:

1. Anthony T. Velte, Toby J. Velte, Robert Elsenpeter. “*Cloud Computing-A Practical Approach*”, 1st Edition, McGrawHill.

Reference Books:

1. Derrick Rountree and IleanaCastrillo, “*The Basics of Cloud Computing* “,
- 2.L. Wang, R. Ranjan, J. Chen, and B. Benatallah, “*Cloud Computing: Methodology, Systems, and Applications*”, CRC Press, Boca Raton, FL,USA, ISBN: 9781439856413, October 2011.
3. Buyya R., Broberg J., Goscinski A., “*Cloud Computing: Principles and Paradigms*”, John Wiley & Sons Inc., ISBN: 978-0-470-88799-8, 2011.

Web Resources:

1. <http://nptel.ac.in/courses/106106129/28>
2. <http://www.guru99.com/cloud-computing-for-beginners.html>
3. <http://www.pritee.org/index.php/study-material/cloud-computing>
4. <https://cloudacademy.com/>
5. https://www.youtube.com/watch?v=LICA-ILkO4w&list=PLmG5jF3D4ahDQ_4I9yPcRdI7q6t5RAeNN
6. https://www.youtube.com/watch?v=Vw7UxHlyDyA&list=PLFd87qVsaLhOkTLvfp6MC94iFa_1c9wrU
7. <https://www.youtube.com/watch?v=LICA-ILkO4w>