

FACULTY OF COMPUTER APPLICATIONS
Bachelor of Science (Data Science)

- **Sem.** : **6**
- **Subject Code** : **05DS0602**
- **Subject** : **Cloud Computing**
- **Course Objectives** :
 1. To understand the principles and paradigm of Cloud Computing
 2. To identify the types and model of cloud computing
 3. To learn about cloud service models to effectively utilize cloud the resources.
 4. To understand Service Level Agreements in the cloud for reliable and efficient service delivery
 5. To illustrate application of cloud computing in real world.
- **Prerequisites** : Basic knowledge of Computer network and operating system

Unit No	Topics Covered	No of lectures required
1	<p>Introduction to Cloud Computing</p> <p>Introduction to Computing, computing Paradigm – Cluster, Parallel, Grid Computing, Cloud Computing-definitions, characteristics and benefits of cloud computing, applications of cloud computing</p>	12
2	<p>Cloud Computing Types and Models</p> <p>Key drivers for cloud computing, Cloud computing And outsourcing, Types of Scalability, Define Load balancer and use of load balancers</p> <p>Private cloud, Components of private cloud, implementation of private cloud, Hardening of private cloud ,Use cases of Private cloud, Public cloud, community cloud, Hybrid cloud, Public versus Community cloud</p>	13

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3	Cloud Computing Services Infrastructure as a service, Platform as a service, Leveraging PaaS, Language and PaaS, Software as a service, Database as a service, Specialized cloud services	11
4	SLA with Cloud Service Providers The concept of SLA, SLA Aspects and Requirements, Service Availability, Cloud Outages, Credit calculation for SLA Breaches, Sample SLA for Amazon, Rackspace, Google, HP etc.	12
5	Cloud computing case studies Cloud computing consumer case studies: Nutritious Foods, Gamysoft, Andrew sportwear ERPs Cloud case studies from IBM: American Airlines , UBank	12

Course Outcomes :

1. Students will be able to understand the core concepts of cloud computing paradigm.
2. Students will be able to illustrate types and model of cloud computing.
3. Students will be able to describe various services offered in cloud computing.
4. Students will be able to understand the role of Service Level Agreements in business needs of cloud environments.
5. Students will be able to identify the applications of cloud computing in different domains, assessing their benefits and limitations in various contexts

Course Outcomes – Program Outcomes Mapping Table :

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	L								L		
CO2		M								L	
CO3			H								
CO4			M		H						M
CO5						L		M			

Text Book :

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1. Cloud Computing – Fundamentals, Industry Approach and Trends, Rishabh Sharma, ISBN-9788126553068, Wiley
2. Cloud Computing: Black Book , Kailash Jayaswal, Jagannath Kallakurchi, Donald J Houde, Dr. Deven Shah , Dreamtech Publications (ISBN 978-93-5119- 418-7)
3. Rajkumar Buyyaet. el., Cloud Computing: Principles and Paradigms, Wiley India ,First Edition

Reference Books :

1. Mastering Cloud Computing by Rajkumar Buyya, C. Vecchiola & S. Thamarai Selvi , McGRAW Hill Publication, First Edition
2. Cloud Computing: A practical approach by Anthony T. Vetle , Tata McGraw Hill Education Private Limited (2009)
3. Cloud Computing Bible. Barrie Sosinsky. John Wiley & Sons. ISBN-13: 978-0470903568, First Edition

Web References :

1. <http://www.cloudbus.org/>
2. <https://aws.amazon.com/>

References :

1. Coursera
2. UdeMy

Syllabus Coverage from text /reference book & web/app reference:

Unit #	Chapter Numbers
1	Book 1 Chapter 1 and 2
2	Book 2 Chapter 4 & 6
3	Book 2 Chapter 3
4	Book 3 Chapter 16
5	Book 1 Chapter 10