

Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Internal	Final Exam	Total
BCAMJ-404	Cloud Computing	Major	2	0	0	4	40	60	100

Course Outcomes

At the end of the course the student will be able to	
CO1	Explain the foundational understanding of cloud computing and its impact.
CO2	Analyze cloud infrastructure components and their roles in building cloud environments.
CO3	Describe cloud service models and their benefits in various scenarios.
CO4	Evaluate security issues and solutions to enhance cloud security.
CO5	Apply cloud-based tools and services to manage data in specific applications.

Detailed Syllabus**Section-A**

Unit 1: Introduction to Cloud Computing: Evolution and History of Cloud Computing, Introduction to Cloud Computing, Features of Cloud Computing, Cloud Computing for various users, Advantages of Cloud Computing and Limitations of Cloud Computing.

(10 Hrs)

Unit 2: Cloud Infrastructure & Architecture: Cloud Computing Architecture, Cloud Architecture Components, virtualization Basics, Hypervisors and Virtual Machine, Cloud Storage and Data Management, Network and Security Considerations in Cloud.

(10 Hrs)

Unit 3: Cloud Service Models: Defining Infrastructure as a Service (IaaS) - IaaS workloads - Pods, aggregation - Defining Platform as a Service (PaaS) - Defining Software as a Service (SaaS) - SaaS characteristics - Open SaaS and SOA - Salesforce.com and CRM SaaS - Defining Identity as a Service (IDaaS) - Identity - Authorization markup languages

(10 Hrs)**Section-B**

Unit 4: Security: Overview of Security Issues, Infrastructure Security: Network level security, Host level security, Application level security, Data security and Storage, Challenges and Risks of Cloud Computing Platforms and Cloud Services.

(10 Hrs)

Unit 5: Cloud Computing Applications: Cloud-Based Productivity Tools (e.g., Google Workspace, Microsoft Office 365). Cloud-Based Development and Deployment Tools, Big Data and Cloud Computing, Cloud Computing in Business and Education.

(10 Hrs)**Textbooks**

S. No.	Name of the Books	Author	Publisher	Edition (Pub. Yr.)
1	Cloud Computing: Concepts, Technology & Architecture	Thomas Erl, Zaigham Mahmood, and Ricardo Puttini	Pearson	1st (2013)

Reference Books

S. No.	Name of the Books	Author	Publisher	Edition (Pub. Yr.)
1	Mastering Cloud Computing Foundations and Applications Programming	Rajkumar Buyya, Christian Vecchiola, S. Thamarai Selvi	Morgan Kaufmann Publishers	(2013)