Faculty of Science

Bachelor of Computer Application (B.C.A.)

Semester: V

Paper: DSE-II

Subject: Cloud Computing

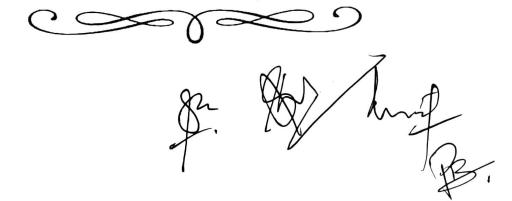
CO. No.	Course Outcomes	Cognitive
		Level
CO 1	Analyze the trade-offs between deploying applications in the cloud and over the local infrastructure.	U, R
CO 2	Compare the advantages and disadvantages of various cloud computing plateforms.	U, R, Ap
CO 3	Program data-intensive parallel applications in the cloud.	U, Ap, C
CO 4	Analyze the underlying cloud technologies and software's performance, scalability and availability.	An, Ap, C
CO 5	Solve a real-world problem using cloud computing through group collaboration.	U, Ap, C

Credit and Marking Scheme

	Credits	Marks		Total Manda
		Internal	External	Total Marks
Theory	4	40	60	100
Practical	2	40	60	100
Total	6	200		

Evaluation Scheme

	Marks		
11.11.15	Internal	External	
Theory	3 Internal Exams of 20 Marks	1 External Exams	
•	(During the Semester)	(At the End of the Semester)	
	(Best 2 will be taken)		
Practical	3 Internal Exams	1 External Exams	
7	(During the Semester)	(At the End of the Semester)	
	(Best 2 will be taken)		



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Content of the Course Theory

No. of Lectures (in hours per week): 2 Hrs. per week

Total No. of Lectures: 60 Hrs.

Maximum Marks: 60

Units	Topics	No. of Lecture
Unit-I	Cloud Computing Fundamental:	10
	Cloud Computing definition, Private, Public and Hybrid cloud types, IaaS, PaaS, SaaS, Benefits and challenges of cloud computing, public vs private clouds.	
Unit-II	Basics of Service Management in Cloud Computing, Data Management in Cloud Computing.	10
	Cloud Computing Architecture: Cloud Reference Model, Layer and Types of clouds, Architectural design of compute and storage clouds.	
Unit-III	Overview of cloud Management and Virtualization:	10
	Fundamental concept of compute, storage, networking, desktop and application virtualization, role of virtualization in enabling the cloud virtualization benefits, server virtualization, block and file level storage virtualization.	
Unit-IV	Cloud Security:	15
	Cloud Information security fundamentals, Cloud security services, Design principles, Secure Cloud Software requirements, Policy Implementation, Cloud Computing Security Challenges, Virtualization security management, Cloud Computing security architecture.	
Unit-V	Market based management of Clouds, Federated Cloud/ Inter cloud: Characteristics and Definition, Cloud Federation Stack, Third Party cloud services.	15

References

Text Books:

- A. Srinivasan, J. Suresh, Cloud Computing
- Gautam Shroff, Enterprise Cloud Computing Technology Architecture Application
- Kumar Saurabh- Cloud Computing

Reference Books:

- Dimitris N. Chorafas Cloud Computing Strategies
- Buyya, Selvi Mastering Cloud Computing
- Krutz, Vnes Cloud Security

List of Practical

- 1. Download and Install Virtual Machine (Virtual Box, VMware, and KVM)
- 2. Installing Virtual Machine
- 3. Controlling Virtual Machine (Start, restart, power off)
- 4. Editing Virtual Machine Hardware
- 5. Creating and Using Image Snapshots
- 6. Importing and Exporting Virtual Machine Images
- 7. Accessing Linux Command Line
- 8. Managing Files from the Command Line
- 9. Creating, Viewing, and Editing Text Files
- 10. Installing and Updating Software Packages



In Janet