LNCT UNIVERSITY, BHOPAL

Programme:-BCA (AI&DA) **Semester – VIII** **wef: July 2025**

Name of Paper & Category	Paper Code	Theory					
		Credit			Marks		
		L	T	J	EST	CAT	Total
Cloud Computing (Major)	BAI-801	4	2	0	70	30	100

Course Objective	The objective of this course is to provide students with the fundamentals and essentials of Cloud Computing. Also 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.

Units	Contents (Theory)	Hours /week
I	**Cloud Computing Overview:** Origins of Cloud computing, Cloud components, Essential characteristics, On-demand service, Broad network access, Location independent resource pooling, Rapid elasticity, measured service.	8
II	**Cloud scenarios, Benefits:** scalability, simplicity, vendor security, Limitations, Sensitive information, Application development, Security concerns, privacy concern with a third party, security level of third party, security benefits, Regularity issues and Government policies.	8
III	**Cloud architecture:** traditional IT Model Software as a Service (SaaS) :Saas service providers, Google App Engine, Salesforce.com and Google platform, Operational benefits, Economic benefits, Evaluating SaaS Platform as a Service (PaaS),PaaS service providers, Right Scale, Salesforce.com, RackspaceForce.com, Services and Benefits.	8
IV	**Infrastructure as a Service (laaS):** IaaS service providers - Amazon EC2, GoGrid Microsoft, implementation and support, Amazon EC service, level agreement, Recent developments Benefits, Cloud deployment model: Public clouds, Private clouds, Community clouds, Hybrid clouds, Advantages of Cloud computing.	8
V	**Virtualization:** Virtualization and cloud computing, Need of virtualization, cost & administration, Types of hardware virtualization, Full virtualization, partial virtualization, Para-virtualization, Desktop virtualization, Software virtualization, Memory virtualization, Storage virtualization, Data virtualization, Network virtualization, Microsoft Hypervisor, VMware features and infrastructure, Virtual Box.	8

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Text Books/ Reference Books:-

Name of Authors	Titles of the Book	Edition	Name of the Publisher
Anthony T.Velte, Toby J.	Cloud computing a practical approach	2010	TATA McGraw- Hill, New Delhi
Michael Miller	Cloud Computing: Web-Based Applications That Change the Way You Work and Collaborate	2008	Que Publishing
Buyya, Selvi	” Mastering Cloud Computing “	-	TMH Pub
Kumar Saurabh	“Cloud Computing”	-	Wiley Pub

COURSE OUTCOMES: Students will be able to

CO 1	Explain the core concepts of the cloud computing paradigm.
CO2	Analyze various cloud programming models and apply them to solve problems on the cloud.
CO3	Identify resource management fundamentals, i.e. resource abstraction, sharing and sandboxing and outline their role in managing infrastructure in cloud computing
CO4	Establishes and maintains all other components of the technology stack.
CO5	Expedite updates, improve software security, and maintain an efficient pipeline between development, testing, and deployment.

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Name of Paper & Category	Paper Code	Theory					
		Credit			Marks		
		L	T	J	EST	CAT	Total
Management Information System (Minor)	BAI-802	3	1	0	70	30	100

Course Objective	Develop a comprehensive understanding of Management Information Systems (MIS) to effectively leverage technology for organizational decision-making and information management.

Units	Contents (*Theory*)	Hours /week
I	**An Overview Of Management Information Systems (MIS):** Definition and Scope of MIS, Historical Evolution of Information Systems, MIS Vs. Data Processing - MIS & Decision Support Systems - MIS & Information Resources Management - End User Computing MIS Structure - Managerial View of IS Functions of Management - Management Role - Levels of Management.	**8**
II	**Foundation Of Information Systems:** Overview of Information Systems and their role in business.- Fundamentals of Information Systems - Solving Business Problems with Information Systems - Types of Information Systems, Effectiveness and Efficiency Criteria in Information System - Frame Work For IS - Sequence of Development of IS.	**8**
III	**Concept Of Planning & Control:** Concept of Organizational Planning - Planning Process Relationship between planning and organizational success- Computational Support for Planning - Characteristics of Control Process - Nature of Control in an Organization. IS Planning Determination of Information Requirements - Business Systems Planning - End Means Analysis - Organizing the Plan.	**8**
IV	**Business Applications Of Information Technology:** Overview of the Internet and its impact on business, Electronic Commerce (E-commerce) fundamentals and its applications in the business environment. - Extranet & Enterprise Solutions - Information System for Business Operations - Information System for Managerial Decision Support - Information System for Strategic Advantage.	**8**
V	**Advanced Concepts In Information Systems:** Overview of Enterprise Resource Planning systems, Integration of business processes through ERP and its benefits. - Supply Chain Management - Customer Relationship Management and Procurement Management - Systems Analysis and Design System Development Life Cycle Prototyping Sad - Project Management - Cost Benefit Analysis - Detailed Design - Implementation.	**8**

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Text Books/Reference Books:-

Name of Authors	Titles of the Book	Edition	Name of the Publisher
O Brian	Management Information System	10th Edition	Tata McGraw-Hill
Gordon B.Davis & Margrethe H.Olson	Management Information System	2nd Edition	Tata McGraw-Hill
Murdick	Information System for Modern Management	3rd Edition	Prentice Hall (PHI)
Jawadekar	Management Information System	4th Edition	Tata McGraw-Hill

COURSE OUTCOMES: Students will be able to

CO1	Apply Management Information Systems (MIS) principles.
CO2	Apply foundational knowledge to understand, analyze, and develop effective Information Systems,
CO3	Implement, and organize Information Systems to support organizational planning and control processes.
CO4	Understand Information Technology for diverse business applications.
CO5	Apply advanced concepts in Information Systems, demonstrating proficiency in their strategic use and implementation.

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Name of Paper & Category	Paper Code	Practical				
		Credit		Marks		
		P	J	ESP	CAP	Total
Programming Lab in Cloud Computing (Major)	BAI-803	4	-	70	30	100

Contents (Practical) :-

1. Installation and configuration of Hadoop/Euceliptus etc.
2. Service deployment & Usage over cloud.
3. Management of cloud resources.
4. Using existing cloud characteristics & Service models.
5. Cloud Security Management.
6. Performance evaluation of services over cloud.
7. Write a program for web feed.
8. Study and implementation of Single-Sign-On.
9. User management in cloud.
10. Case study on Amazon EC2/ Microsoft Azure/ Google Cloud Platform**.**

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Name of Paper & Category	Paper Code	Practical				
		Credit		Marks		
		P	J	ESP	CAP	Total
Research Project (Field)	BAI-804	-	10	200	100	300

Evaluation parameters are:

- Define your research question or objective
- Review existing literature
- Develop a research plan
- Collect and analyze data
- Interpret and present findings
- Discuss implications and limitations
- Write the research report
- Seek feedback and revise
- Present and disseminate your research
- Reflect and learn from the process