Fr. Conceicao Rodrigues college of Engineering
Department of Computer Engineering

Experiment 1

Title:	**Introduction to Cloud Computing.**	**LO2**	
Student Name	Mark Xavier Lopes	**Roll no.**	9913
Sign here to indicate that you have read all relevant material provided/ available on Moodle/ Classroom while performing and writing this experiment			

Rubrics:

Criteria	Excellent	Good	Satisfactory	Poor	Total Marks
Depth and Accuracy of Analysis	In-depth analysis with accurate, detailed insights (6)	Adequate analysis with mostly accurate insights (5)	Basic analysis with some accurate insights(4)	Minimal or inaccurate analysis(3)	6 05
Clarity and Structure of the Report	Exceptionally well-structured and clear (4)	Well-structured and clear(3)	Adequately structured with some clarity (2)	Poorly structured and unclear (2)	4 04
Quality of Research	Comprehensive and relevant research (4)	Good research with relevant information (3)	Basic research with some relevant information (2)	Minimal or irrelevant research (2)	4 03
Practicality and Creativity of Solutions	Highly practical and creative solutions (4)	Practical solutions with some creativity (3)	Adequately practical solutions with little creativity (2)	Impractical or unoriginal solutions (2)	4 03
Timeliness of Submission (deducted if late)	On time (2)	1-week late (1)	2-weeks late (0)	More than 2 weeks late (Deduct up to 5 marks)	2 02
Total Marks					17

Date of Performance	Date of Submission	Signature of the Teacher
3|02|25	7|02|25	

TE Comps A Batch-C
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NIST cloud computing Reference Architecture.

The National Institute of standard and Technology cloud computing Reference Architecture is a framework that provides a structured approach to understanding cloud computing. It defines key components, actors, and their interactions, guiding organizations in implementing and managing cloud services efficiently.

Major components of NIST cloud computing reference Architecture:-

The architecture consists of 5 essential components:-

1. cloud Consumer: The individual or organization using cloud services.

2. cloud provider: The entity offering cloud service (IaaS, PaaS, SaaS).

3. cloud Auditor: An independant party that evaluates cloud service performance, security, and compliance.

4. cloud Broker: An intermediary that enhances service delivery by managing multiple cloud providers.

5. cloud Carrier: The infrastructure or network that enables cloud service delivery to consumers.

2] Actor and their Roles.

Actor	Role
Cloud Consumer	Requests and uses cloud services based on needs.
Cloud Provider	Manages and delivers cloud services, ensuring security and scalability.
Cloud Auditor	Assesses compliance, security, and performance of cloud services.
Cloud Broker	optimizes selection, integration and cost efficiency.
Cloud Carrier	Provides the communication and networking infrastructure for cloud access.

3] Impact on cloud Implementation and Management.

1. Security and Compliance: Cloud Auditors ensure organizations comply with security standards like GDPR and ISO 27001.

2. Service optimization: Cloud Brokers help organizations select the best service providers, reducing costs and improving efficiency.

3. Scalability and performance: Cloud Providers ensure on-demand resource allocation, helping organizations scale effectively.

4. Reliability and Connectivity: Cloud Carriers provide high-speed networks for seamless service delivery.

Fig. ?

4] Application in organizational contexts.

1. Startups and SMEs: Use cloud services to reduce IT infrastructure costs.

2. & Enterprises: Optimizes multi-cloud strategies using cloud Brokers.

3. Government and Healthcare: Ensure data security and regulatory compliance through cloud Auditors.

4. Educational Institutions: Use cloud-based LMS (learning management systems) for e-learning.

Conclusion:-

The NIST cloud computing Reference Architecture provides a standardized framework for understanding cloud services, ensuring secure, scalable and efficient cloud computing adoption across different industries.