

ROLL NO.

24019201200000

G.L. BAJAJ INSTITUTE OF TECHNOLOGY & MANAGEMENT**GREATER NOIDA****MCA (SEM)****SESSIONAL TEST (ODD SEM 2025-26)****Cloud Computing (BMC014)**

Faculty Name: Dr. LALAN KUMAR

Time: 2:00 Hrs

Note:

- (i) No student will be allowed to leave the examination Room before end of exam.
- (ii) Diagram should be neat and clean.
- (iii) Mention Question number/section correctly.
- (iv) Be precise in your answer.
- (v) Do not write anything on question paper except Roll number.

Max. Marks: 50

Course Outcomes:

Following are the course outcomes of the subject: -

CO Code	Course Outcome (CO)	Bloom's Level
BMC014.1	Understand the concepts of Cloud Computing, key technologies, strengths and limitations of cloud computing.	K ₁ , K ₂
BMC014.2	Develop the ability to understand and use the architecture to compute and storage cloud, service, and models.	K ₁ , K ₃
BMC014.3	Understand the application in cloud computing.	K ₄ , K ₅
BMC014.4	Learn the key and enabling technologies that help in the development of cloud.	K ₃ , K ₄
BMC014.5	Explain the core issues of cloud computing such as resource management and security.	K ₂ , K ₆

Section: A**1. Attempt all questions.**

(2*5= 10)

Q.No.	Questions	Marks	CO	BL
a)	State any two features of open source cloud Nebula.	2	BMC014.1	K1
b)	Enlist four important characteristics of cloud computing.	2	BMC014.1	K1
c)	State any two uses of the Cloud portal.	2	BMC014.2	K1
d)	Explain the concept of IaaS and name one popular IaaS provider.	2	BMC014.1	K2
e)	Differentiate among Private, Public and Hybrid cloud.	2	BMC014.1	K2

Section: B**2. Attempt any four of the following:**

(4*5= 20)

Q. No.	Questions	Marks	CO	BL
a)	Identify and list any two major cloud service providers (e.g., AWS, Azure, Google Cloud). Compare their cloud architecture and service models (IaaS, PaaS, SaaS) in brief, and explain how businesses use these models for scalability and cost-effectiveness.	5	BMC014.1	K1
b)	Explain in detail the Cloud Computing Reference Model. Illustrate its layers, functionalities, and interrelationships between service providers, consumers, and infrastructure.	5	BMC014.1	K2
c)	Select any two cloud service models (for example, SaaS and PaaS). Identify a real-world company that uses each model (e.g., Netflix for PaaS, Zoom for SaaS) and briefly explain how the service model benefits the company's operations in terms of scalability, flexibility, or cost efficiency.	5	BMC014.1	K2
d)	Discuss the different types of specialized cloud services, including Database as a Service (DBaaS), Monitoring as a Service (MaaS), and	5	BMC014.2	K2

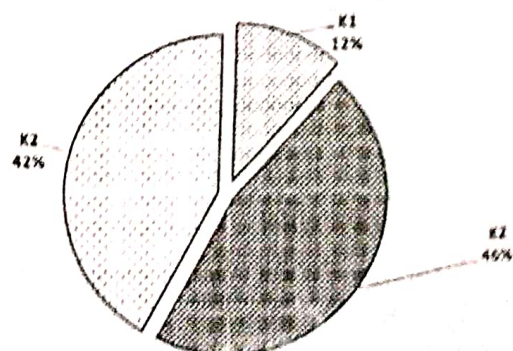
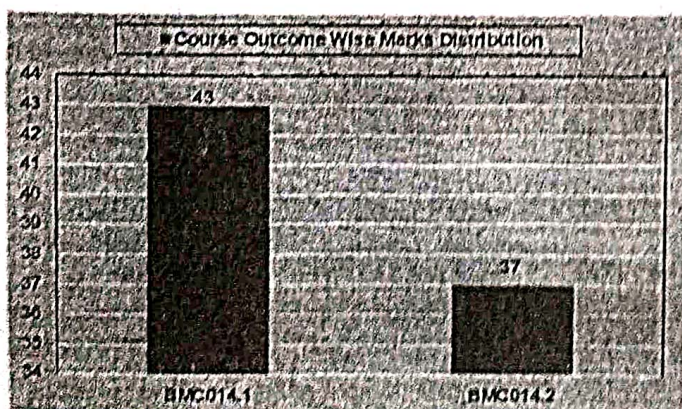
② State and explain the key features of cloud service model and highlight at least four important challenges with one word for each.

	Communication as a Service (CaaS). Provide real-world examples for each service type to support your explanation.			
1)	Describe how Microsoft Azure operates as a cloud service platform. Support your explanation with a neat, labeled diagram illustrating its architecture, core components, and workflow.	5	BMC014.2	K2

Section: C

3. Attempt any one question		(10 * 1 = 10)		
Q. No.	Questions	Marks	CO	BL
a)	A company plans to migrate its on-premise infrastructure to a hybrid cloud using Eucalyptus or OpenNebula for private cloud management. <ul style="list-style-type: none"> As a cloud engineer, explain how you would select the appropriate cloud type, design the architecture, and ensure scalability and cost-efficiency. Discuss one major issue in cloud deployment (e.g., security, interoperability, or latency) and propose a practical mitigation strategy. 	10	BMC014.1	K3
b)	Examine the business models associated with cloud services, such as pay-as-you-go and subscription-based models. Analyze the key challenges organizations encounter during cloud adoption, including on-demand scalability, resource pooling, data security, regulatory compliance, and cost management.	10	BMC014.2	K3

4. Attempt any one question		(10 * 1 = 10)		
Q. No.	Questions	Marks	CO	BL
a)	Evaluate the role of leading cloud service providers — Google Cloud, Amazon Web Services (AWS), Microsoft Azure, IBM Cloud, and Salesforce in shaping the global cloud computing landscape. Discuss how their innovations and service portfolios have influenced market evolution and identify the emerging challenges they face in the rapidly changing cloud ecosystem.	10	BMC014.2	K2
b)	Form a team of 5 students and analyze the cloud architecture and business model of one major cloud provider (AWS, Azure, or Google Cloud). Prepare a short report or presentation covering: <ul style="list-style-type: none"> Cloud service models used (IaaS, PaaS, SaaS) Deployment model (Public, Private, Hybrid) Business and pricing strategy Key distributed or parallel computing principles implemented 	10	BMC014.1	K2



Bloom's Level Distribution

Checked By
(Head of Department)