

Total No. of Questions : 16 ]

[ Total No. of Printed Pages : 3

# **PSJA-4055**

**M.Sc. Computer Science (IVth Semester)**

**Examination, June-2025**

**(A) CLOUD COMPUTING**

**Paper - FS-COMP-MSC-CS-CE-403 (a)**

*Time : 3 Hours ]*

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*[ Maximum Marks : 40*

The question paper contains three Sections.

## **Section-A**

**(Marks : 1 × 10 = 10)**

**Note :-** Answer all *ten* questions (Answer limit **50** words). Each question carries  
1 mark.

## **Section-B**

**(Marks : 3 × 5 = 15)**

**Note :-** Answer all *five* questions by selecting at least *one* question from each Unit  
(Answer limit **200** words). Each question carries **3** marks.

## **Section-C**

**(Marks : 5 × 3 = 15)**

**Note :-** Answer any *three* questions selecting *one* question from each Unit (Answer  
limit **500** words). Each question carries **5** marks.

## **Section-A**

1. (i) Mention two essential characteristics of cloud computing.
- (ii) Define SaaS and give one example.
- (iii) Mention two limitations of traditional client-server computing.
- (iv) Define hybrid cloud with one practical example.
- (v) How does Eucalyptus differ from Amazon EC2 ?
- (vi) Write a short note on NIST cloud architecture.
- (vii) Mention two practical uses of Microsoft Azure in deployment.
- (viii) What is the significance of billing and metering in cloud services ?
- (ix) What is host-level security in the cloud ?
- (x) Define a Service Level Agreement (SLA).

## **Section-B**

### **Unit-I**

2. Compare traditional computing and cloud computing architectures.
3. Explain the differences among IaaS, PaaS, and SaaS with one use-case each.
4. Describe the layered structure of cloud computing services and how it supports abstraction.

### **Unit-II**

5. Explain public, private, hybrid, and community clouds with real-world applications.
6. Discuss the features of Microsoft Azure as a cloud service provider.
7. Describe how virtual machines are created and deployed on cloud platforms.

### **Unit-III**

8. What are the key elements of a cloud SLA ? Give an example of a service metric.
9. Compare traditional hardware scaling with cloud-based scaling in terms of cost and efficiency.
10. Explain authentication techniques used in cloud environments.

### **Section-C**

#### **Unit-I**

11. Discuss in detail the benefits and limitations of cloud computing in business environments.
12. Explain the concept of virtualization in cloud computing. How does it support different service models.

#### **Unit-II**

13. Compare Amazon EC2 and Google App Engine in terms of scalability, flexibility, and pricing.
14. Explain the NIST Cloud Computing Reference Architecture and its importance.

#### **Unit-III**

15. Describe the major security challenges in cloud computing. How can encryption and identity management help ?
16. Analyse the economic benefits of elasticity and pay-as-you-go pricing in cloud infrastructure.