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Total Number of Pages: 02

B.Tech/IDD (B.Tech and M.Tech)  
RCS6D003

6<sup>th</sup> Semester Regular/Back Examination: 2024-25

SUBJECT: Cloud Computing

BRANCH(S): CSE, CSEAIML, CSEDS, CST

Time: 3 Hour

Max Marks: 100

Q.Code: S164

Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

Part-I

Q1 Answer the following questions: (2 x 10)

- What is utility computing, and how does it differ from grid computing?
- How does cloud computing transform IT into a service?
- What are workload patterns in cloud computing, and why are they important?
- What is the primary function of Amazon EC2 in cloud computing?
- How does Google App Engine support platform-as-a-service (PaaS)?
- What are the key components of the Windows Azure platform?
- What role does VMware vCloud play in cloud computing?
- How does identity and access management enhance cloud security?
- Why is audit and compliance crucial in cloud computing?
- How does Force.com serve as both SaaS and PaaS?

Part-II

Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)

- Write the short notes on Load balancing in cloud computing.
- Briefly describe Virtual Private Cloud (VPC) with block diagram.
- How does an unauthorized access can be detected by the help of virtualization techniques?
- Explain cloud computing reference model with diagram.
- Discuss the similarities and difference between Distributed computing, Grid computing, Cluster computing, Utility computing and Cloud Computing.
- Discuss the features of Identity and Access Management (IAM) in cloud computing.
- What is virtual desktop infrastructure? Explain with diagram.
- What is the difference between cloud computing and distributed computing?
- What are the differences if we use the infrastructure on-premises and in the cloud (off-premises)?
- Discuss the different type of virtualization with real-time example.
- Write short notes on Simple Storage Service (S3).
- Briefly describe service-level agreement in cloud computing.

### Part-III

#### Only Long Answer Type Questions (Answer Any Two out of Four)

Q3

- i. Explain the differences between grid computing, utility computing, and autonomic computing, and discuss how each contributes to the evolution of cloud computing. (8)
- ii. Discuss the concept of "Big Data" in the context of cloud computing. How does cloud infrastructure support data-intensive applications? (8)

Q4

- i. Describe the structure and functionalities of Microsoft Office Live as a SaaS model. How does it enhance cloud-based collaboration? (8)
- ii. Compare and contrast the cloud service models (IaaS, PaaS, and SaaS) using examples from Amazon Web Services, VMware vCloud, and Google AppEngine. (8)

Q5

- i. How does identity and access management (IAM) improve cloud security? Explain key IAM strategies used in cloud services. (8)
- ii. Discuss the various challenges related to cloud infrastructure security, focusing on threats to data protection and network security. (8)

Q6

- i. Explain cloud computing security architecture. (8)
- ii. Describe how cloud computing technologies can be applied to support remote ECG monitoring? (8)