6th 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)
a) What is utility computing, and how does it differ from grid computing?
b) How does cloud computing transform IT into a service?
c) What are workload patterns in cloud computing, and why are they important?
d) What is the primary function of Amazon EC2 in cloud computing?
e) How does Google App Engine support platform-as-a-service (PaaS)?
f) What are the key components of the Windows Azure platform?
g) What role does VMware vCloud play in cloud computing?
h) How does identity and access management enhance cloud security?
i) Why is audit and compliance crucial in cloud computing?
j) 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 × 8)
a) Write the short notes on Load balancing in cloud computing.
b) Briefly describe Virtual Private Cloud (VPC) with block diagram.
c) How does an unauthorized access can be detected by the help of virtualization techniques?
d) Explain cloud computing reference model with diagram.
e) Discuss the similarities and difference between Distributed computing, Grid computing, Cluster computing, Utility computing and Cloud Computing.
f) Discuss the features of Identity and Access Management (IAM) in cloud computing.
g) What is virtual desktop infrastructure? Explain with diagram.
h) What is the difference between cloud computing and distributed computing?
i) What are the differences if we use the infrastructure on-premises and in the cloud (off-premises)?
j) Discuss the different type of virtualization with real-time example.
k) Write short notes on Simple Storage Service (S3).
l) 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)**