

(Time: 2 $\frac{1}{2}$ hours)

[Total Marks: 60]

- N. B.: (1) **All** questions are **compulsory**.
(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
(3) Answers to the **same question** must be **written together**.
(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculator is **allowed**.

1. Attempt **any two** of the following: 12
a. Define cloud computing. State the characteristics of cloud computing.
b. Summarize the Cloud Computing Reference Model.
c. What is the difference between parallel and distributed computing?
d. Discuss the machine reference model of execution virtualization.
2. Attempt **any two** of the following: 12
a. What is public cloud? Give an example of the public cloud.
b. List some of the challenges in cloud computing.
c. Explain the different types of threats in cloud based environments.
d. Describe Amazon EC2 and its basic features.
3. Attempt **any two** of the following: 12
a. Explain the Automated Scaling Listener with the help of diagram.
b. Write a short note on load balancer in specialized cloud mechanism.
c. Explain the Remote Administration System. What are the two portals create by remote administration system?
d. Write a Short notes on
i) Identity and access management (IAM).
ii) Single Sign-On (SSO).
4. Attempt **any two** of the following: 12
a. Write a short note on Workload Distribution Architecture.
b. Explain using suitable diagram, Elastic Disk Provisioning Architecture.
c. Write a short note on Hypervisor Clustering Architecture.
d. Explain using suitable diagram, Bare-Metal Provisioning Architecture.
5. Attempt **any two** of the following: 12
a. How SaaS Environments can be optimized? Explain with example.
b. Explain the Server usage and Cloud Storage device Usage cost metrics for calculating costs associated with cloud-based IT resources.
c. Write a short note on SLA Guidelines.
d. Write a short note on
i) Service Availability Metrics.
ii) Service Reliability Metrics.