msc/Sem I (08/01/2020)

(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** calculators is **allowed**.

1. **Attempt *any two* of the following:** **12**
a. Explain the cloud computing reference model with the help of a diagram.
b. What are the components of distributed system? Explain.
c. Explain the security rings and privilege modes.
d. What is server consolidation? Explain the process of live migration.

2. **Attempt *any two* of the following:** **12**
a. What is cloud computing? With the help of a diagram, explain the cloud computing architecture.
b. What are different cloud security threats? Explain each in brief.
c. Explain the Amazon elastic block store and Amazon elastic cache.
d. State and explain the different application services offered by GAE.

3. **Attempt *any two* of the following:** **12**
a. Explain load balancer and its use in cloud service.
b. What is failover mechanism? Explain the two basic configurations of failover systems.
c. Explain the resource management system.
d. What is hashing? How is it applied to maintain integrity of message in cloud computing?

4. **Explain *any two* of the following architectures:** **12**
a. Elastic Resource Capacity Architecture.
b. Redundant Storage Architecture.
c. Rapid Provisioning Architecture.
d. Storage Workload Management Architecture.

5. **Attempt *any two* of the following:** **12**
a. How are PaaS environments equipped from cloud service provider's perspective? Explain. Discuss the scalability and reliability in PaaS.
b. Discuss the different IT resource provisioning considerations in IaaS environments from cloud consumer's perspective.
c. "Cost management is often centered around the lifecycle phases of cloud services" Discuss.
d. Explain the service scalability metrics.