18/12/18

Q. P. Code: 11244

(Time: $2\frac{1}{2}$ hours) **[Marks: 60]**

Please check whether you have got the right question paper.

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. Explain High Throughput Computing (HTC) and High Performance Computing (HPC).
b. Explain the architecture of Computer Clusters.
c. What are Internet clouds? State and explain the different types of deployment models in cloud computing.
d. Explain the Parallel and Distributed programming models.

2. Attempt *any two* of the following: **12**

a. Explain the three classes of computer clusters based on application demand.
b. What is Operating System Virtualization? State the advantage of OS Extensions.
c. Explain the six design objectives for cloud computing.
d. Explain the Platform as service (PaaS) with an example.

3. Attempt *any two* of the following: **12**

a. With the help of diagram, explain the Amazon web service architecture.
b. Explain in detail the provisioning of storage resource in cloud computing systems.
c. What is Virtual Machine Template? What does it contain?
d. Explain the data and software techniques in cloud environments.

4. Attempt *any two* of the following: **12**

a. With the help of diagram, explain the Google File System.
b. Explain the structure of Google Chubby distributed lock service.
c. Explain the Amazon EC2 execution environment and instance type available on Amazon EC2.
d. Write a short note on Nimbus Cloud.

5. Attempt *any two* of the following: **12**

a. Write a short note on online social networking services.
b. Explain the graph representation of social network.
c. What is Twitter? Explain the architecture of Twitter.
d. What is Facebook? Explain the architecture of Facebook.
