USN | | | | | | | | | | **18AI734**

Seventh Semester B.E. Degree Examination, Dec.2023/Jan.2024
Cloud Computing and Virtualization

Time: 3 hrs.   Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1   a. With a neat block diagram, explain the cloud computing reference model and services provided by cloud. **(10 Marks)**
    b. Write a note on Cloud vulnerabilities. **(05 Marks)**
    c. List the activities that are necessary to support the three delivery models of cloud computing. **(05 Marks)**

OR

2   a. With a diagram, explain the applications of cloud computing at Amazon. **(08 Marks)**
    b. With a neat sketch, explain Microsoft windows Azure and its online services. **(08 Marks)**
    c. What are the limits of responsibility to be agreed between a cloud user and service provider? **(04 Marks)**

Module-2

3   a. Discuss the challenges of cloud computing environment. **(06 Marks)**
    b. Explain the basic work flow patterns in cloud computing. **(06 Marks)**
    c. Briefly explain MapReduce programming model. **(08 Marks)**

OR

4   a. Explain the case study of the Grep-the web application. **(10 Marks)**
    b. Explain in detail how to implement High-Performance computing on a cloud as well as social computing with digital content. **(10 Marks)**

Module-3

5   a. What is the need of layering and virtualization in cloud? Explain in detail with architecture. **(08 Marks)**
    b. Explain Full Virtualization and Paravirtualization. **(08 Marks)**
    c. List out the features of Layering and Virtualization. **(04 Marks)**

OR

6   a. Briefly explain how optimization of network virtualization of Xen 2.0 is achieved. **(10 Marks)**
    b. In context to quality-of-service discuss how performance and security isolation (QoS) guarantees in shared computing environment. **(10 Marks)**

Module-4

7   a. List and explain the different policies and mechanisms adopted for cloud computing management. **(10 Marks)**
    b. Briefly explain the applications of control theory to task scheduling on a cloud environment. **(10 Marks)**

OR

8 a. Discuss the methods to implement scheduling algorithms for computing clouds. **(10 Marks)**

b. Explain Feedback control based on dynamic threshold strategy in resource management.

(10 Marks)

Module-5

9 a. Define Trust. Explain how virtual machine security is implemented. **(10 Marks)**

b. Explain security risks with respect to cloud. **(10 Marks)**

OR

10 a. Explain the techniques required to launch an EC2 Linux instance and connect to it.

(10 Marks)

b. Explain how to use simple storage service (S3) bucket in Java. **(10 Marks)**

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