27/5/24

DOON UNIVERSITY, DEHRADUN
End Semester Examination, 2024
Academic Year 2023-2024 (Even Semester)
School of Physical Sciences
Computer Science
BSc. (CS)
CSE 406, Introduction to Cloud Computing
109

Time Allowed 3.00 Hours   *Maximum Marks: 30*

SECTION: A

Q1. Write the correct answer along with option number for each MCQ. Each question is of one mark.

(1 X 6=06 marks)

A. Cloud computing is a model for enabling convenient, ……………... to a shared pool of configurable computing resources:
   a. Computing-based network access
   b. Slow network access
   c. On-demand network access
   d. None of the above

B. ………………Transforms from …………….. to multiple virtual machines on each physical machine:
   a. Virtualization, Many server-one application
   b. Virtualization, One server-one application
   c. Cloud Computing, Multiple Applications
   d. Cloud Computing, Multiple Applications

C. …………. is a software that creates and runs VMs. It can access any of the VM spawned by it:
   a. Operating System
   b. Hypervisor
   c. VMM
   d. Both b and d

D. ………...hypervisor is also called as hosted hypervisor:
   a. Type I
   b. Type II
   c. Type III
   d. Type IV

E. Services are designed as self-contained components, maintain relationships that minimize dependencies on other services. This concept is called as:
   a. High Coupling
   b. Loose Coupling
   c. High Cohesion
   d. Low Cohesion

F. ....provides capability to the consumer to develop, run, and manage applications without the complexity of building and maintaining the infrastructure.
   a. SaaS
   b. PaaS
   c. IaaS
   d. None of these

SECTION: B

Q2. Attempt **any four questions** out of five. Each question is of three marks.   (3X 4 = 12 Marks)
   a) Explain the advantages and disadvantages of cloud computing.
   b) Draw and explain paravirtualization architecture with ring privileges.
   c) Compare IaaS and PaaS with examples of services.
   d) Compare system-level and process level virtualization and categorize them with diagram.
   e) Write short note on the need of cloud security and describe any four cloud security attacks.

SECTION: C

Each question contains two parts a & b. Attempt any one part of your choice from each question.

Q3.   (6X 1 = 06 Marks)
   a. A start-up company wants to create 30 virtual servers using 10 physical servers. Is this feasible? Please explain the technology along with its advantages and disadvantages.
                              OR
   b. Define TCO. Explain the qualitative and quantitative parameters of TCO.

Q4.   (6X 1 = 06 Marks)
   a. Explain cloud computing reference architecture with suitable diagram. Also, explain the terms pure SaaS, SaaS, pure PaaS, PaaS, IaaS (M) and IaaS layer of cloud computing architecture.
                              OR
   b. Explain the difference between PaaS I, PaaS II and PaaS III along with suitable vendor names providing the respective type of services. Draw and explain PaaS architecture in detail.