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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: V - THEORY EXAMINATION (2023- 2024)

Subject: Introduction to cloud computing

Time: 3 Hours

Max. Marks: 100

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C**. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.
2. Maximum marks for each question are indicated on right -hand side of each question.
3. Illustrate your answers with neat sketches wherever necessary.
4. Assume suitable data if necessary.
5. Preferably, write the answers in sequential order.
6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A

20

1. Attempt all parts:-

- 1-a. Point out the wrong statement.(CO1) 1
- (a) Internet consumes roughly 1 percent of the world's total power
 - (b) The cost advantages of cloud computing have enabled new software vendors to create productivity applications
 - (c) A client can provision computer resources without the need for interaction with cloud service provider personnel
 - (d) None of the mentioned
- 1-b.is updated when attributes of a cloud service change.(CO1) 1
- (a) Incident history log file
 - (b) Problem resolution document
 - (c) Chargeback report
 - (d) Configuration management database
- 1-c. The technology used to distribute service requests to resources is referred to as _____.(CO2) 1
- (a) load performing
 - (b) load scheduling
 - (c) load balancing
 - (d) all of the mentioned
- 1-d. Point out the wrong statement.(CO2) 1

- (a) Load balancing virtualizes systems and resources by mapping a logical address to a physical address
 - (b) Multiple instances of various Google applications are running on different hosts
 - (c) Google uses hardware virtualization
 - (d) All of the mentioned
- 1-e. NIST specifies.....cloud model.(CO3) 1
- (a) IaaS
 - (b) PaaS
 - (c) SaaS
 - (d) All of these
- 1-f. About which the statement is true: A cloud service is an application development platform.(CO3) 1
- (a) IaaS
 - (b) PaaS
 - (c) SaaS
 - (d) All of these
- 1-g. In cloud computing cloud storage is purchased from a(CO4) 1
- (a) First party
 - (b) Second party
 - (c) Third party
 - (d) Fourth party
- 1-h.is not a disadvantage of block storage.(CO4) 1
- (a) Fast
 - (b) Reliable
 - (c) High cost
 - (d) Easy to modify
- 1-i. Choose one of the aforementioned services that must be discussed in service level agreements.(CO5) 1
- (a) Logging
 - (b) Auditing
 - (c) Regulatory compliance
 - (d) All of the mentioned
- 1-j. Choose one of the following cloud computing areas, each of which has its own challenges.(CO5) 1
- (a) Auditing
 - (b) Data integrity
 - (c) e-Discovery for legal compliance
 - (d) All of the mentioned

2. Attempt all parts:-
- 2.a. Name the services of cloud computing with a suitable example.(CO1) 2
- 2.b. List various resource provisioning methods. (CO2) 2
- 2.c. Point out the benefits of PaaS.(CO3) 2
- 2.d. Name any 5 database engines which RDS support.(CO4) 2
- 2.e. Define cloud security with suitable example.(CO5) 2

SECTION-B 30

3. Answer any five of the following:-

- 3-a. Explain the different data types used in cloud computing also discuss its advantages and disadvantages.(CO1) 6
- 3-b. List the various challenges of cloud provisioning with suitable case study.(CO1) 6
- 3-c. Explain virtual machine with real time example and discuss its advantages and disadvantages.(CO2) 6
- 3-d. Classify the types of load balancing techniques with suitable real time example.(CO2) 6
- 3.e. Differentiate the cloud software environment layer from the cloud software infrastructure layer and explain the advantages and disadvantages of both.(CO3) 6
- 3.f. Discuss when it is beneficial to use elastic block storage in a cloud environment. Explain it with a suitable example.(CO4) 6
- 3.g. Discuss about Cloud Storage Architecture and its need with suitable example.(CO5) 6

SECTION-C 50

4. Answer any one of the following:-

- 4-a. Define cloud computing with a suitable real time example and discuss its service model. (CO1) 10
- 4-b. Explain the basic components of cloud computing and define distributed computing with suitable examples.(CO1) 10

5. Answer any one of the following:-

- 5-a. Describe the idea of virtualization using an appropriate example with neat and clean diagram.(CO2) 10
- 5-b. Explain the types of hypervisors and their relevance in detail.(CO2) 10

6. Answer any one of the following:-

- 6-a. Discuss financial, performance and security specific challenges in cloud architecture.(CO3) 10
- 6-b. Define chargeback model and discuss how the consumers need to pay for the consumed services with suitable a example.(CO3) 10

7. Answer any one of the following:-

- 7-a. Discuss some key features and functionalities of Simple Storage Service (S3) in cloud computing, and how do they contribute to its widespread adoption.(CO4) 10

- 7-b. Explain the roles of cloud broker and cloud auditor with suitable example also draw neat and clean diagram.(CO4) 10
8. Answer any one of the following:-
- 8-a. Explain the steps to adopt SaaS security with pictorial representation.(CO5) 10
- 8-b. Discuss SaaS security and practices that an organisation adopts for SaaS security.(CO5) 10

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