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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 (2022 - 2023)

Subject: Cloud Virtualization

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.

<div align="center">SECTION A   20</div>

1. Attempt all parts:-

1-a.   In computing, _____ improves the distribution of workloads across multiple computing   1 resources, such as computers, a computer cluster, network links, central processing units, or disk drives. (CO1)

                (a) Virtual machine

                (b) Virtual computing

                (c) Virtual cloud

                (d) load balancer

1-b.   Identify the correct option: The main benefits of it are user mobility, portability, and easy   1 management of software installation, updates, and patches. (CO1)

                (a) Application virtualization

                (b) Network virtualization

                (c) Desktop virtualization

                (d) Storage virtualization

1-c.   Choose the features of cloud computing. (CO2)   1

(a) Security

(b) Availability

(c) Large Network Access

(d) All of the mentioned

1-d.   Choose the application of cloud computing. (CO2)   1

(a) Adobe

(b) Paypal

(c) Google G Suite

(d) All of the above

1-e.   SDK is known as (CO3)   1

(a) Software Development Kit

(b) Secure Development Kit

(c) Software Describing Kit

(d) None of the above

1-f.   VPC stands for: (CO3)   1

(a) Virtual Public Cloud

(b) Virtual Private Cloud

(c) Virtual Private Computation

(d) Virtual Public Computation

1-g.   Amazon _____ cloud-based storage system allows you to store data objects ranging in size   1
from 1 byte up to 5GB. (CO4)

(a) S1

(b) S2

(c) S3

(d) S4

1-h.   The following are benefits of using Amazon DynamoDB. (CO4)   1

(a) It is scalable

(b) It provides the users high throughput at very low latency

(c) It is durable and highly available

(d) All of the above

1-i.   ELB Stands for: (CO5)   1

(a) Elastic load balancing

(b) Elastic level balancing

(c) Early load balancing

(d) Early level balancing

1-j.   FIFO Stands for: (CO5)   1

(a) First In Follow Out

(b) First In First Out

(c) First Index Follow Out

(d) First Index First Out

2. Attempt all parts:-

2.a.   Explain role of hypervisors. (CO1)   2

2.b.   Define Software-as-a-Service. (CO2)   2

2.c.   Explain Virtual Private Network. (CO3)   2

2.d.   Define Unstructured data with example. (CO4)   2

2.e.   Explain Simple Queue Service (SQS). (CO5)   2

SECTION B   30

3. Answer any <u>five</u> of the following:-

3-a.   Differentiate between native Virtualization and Emulation. (CO1)   6

3-b.   Discuss Dynamic Deployment of Virtual Clusters. (CO1)   6

3-c.   Define Fault tolerance and Graceful Degradation in Data Center Interconnection   6
Networks. (CO2)

3-d.   Explain About Six layers of Cloud Services. (CO2)   6

3.e.   Define Automation and the DevOps Movement. (CO3)   6

3.f.   Explain the storage classes available in Amazon S3 in detail. (CO4)   6

3.g.   Define Amazon Autoscaling automate fleet management of Amazon EC2. (CO5)   6

SECTION C   50

4. Answer any <u>one</u> of the following:-

4-a.   Explain virtualization of I/O Devices. (CO1)   10

4-b.   Explain full virtualization and para virtualization. (CO1)   10

5. Answer any <u>one</u> of the following:-

5-a.   Discuss the issues related to Cloud Computing with suitable example. (CO2)   10

5-b. Discuss about various features of AWS(Amazon Web Services). (CO2) 10

6. Answer any one of the following:-

6-a. Explain how a virtual server can be started/implemented in another server. (CO3) 10

6-b. Discuss process of optimizing costs for virtual servers. (CO3) 10

7. Answer any one of the following:-

7-a. Explain about Amazon S3 with their key features in detail. (CO4) 10

7-b. Define various challenges in Amazon S3 cross region replication. (CO4) 10

8. Answer any one of the following:-

8-a. Describe function of launch configuration in Amazon EC2 Auto Scaling. (CO5) 10

8-b. Explain asynchronous decoupling with load balancers. (CO5) 10