NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

M.Tech (Integrated)

SEM: V - THEORY EXAMINATION (2022 - 2023)

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.   _____ is a pay-as-you-go model matches resources to need on an ongoing basis. (CO1)   1

        (a) Utility

        (b) Elasticity

        (c) Low barrier to entry

        (d) All of the mentioned

1-b.   Which cloud computing characteristic enables consumers to get computing resources without any human intervention? (CO1)   1

        (a) Broad network access

        (b) Measured service

        (c) Rapid elasticity

        (d) On-demand self service

1-c.   Select right type of hypervisor 'bare metal'. (CO2)   1

        (a) Type 1

        (b) Type 2

(c) Type 3

(d) All of the mentioned

1-d.   Point out the correct statement. (CO2)   1

(a) Service Oriented Architecture (SOA) describes a standard method for requesting services from distributed components and managing the results

(b) SOA provides the translation and management layer in an architecture that removes the barrier for a client obtaining desired services

(c) With SOA, clients and components can be written in different languages and can use multiple messaging protocols

(d) All of the mentioned

1-e.   Which of the following backup create a cloned copy of your current data or drive (CO3)   1

(a) Continuous Data Protection

(b) Open file backup

(c) Reverse Delta backup

(d) None of the mentioned

1-f.   Which of the following is a SaaS characteristic? (CO3)   1

(a) The typical license is subscription-based or usage-based and is billed on a recurring basis

(b) The software is available over the Internet globally through a browser on demand

(c) The software and the service are monitored and maintained by the vendor

(d) All of the mentioned

1-g.   IAM is (CO5)   1

(a) Role based access control

(b) traditional communication systems

(c) connection protocol

(d) Interface

1-h.   Which of the option is the basic components of security (CO4)   1

(a) Confidentiality

(b) Utility

(c) Reliability

(d) Efficiency

1-i.   Point out the wrong statement. (CO5)   1

(a) An Amazon Machine Image can be provisioned with an operating system, an enterprise application, or application stack

(b) AWS is a deployment enabler

(c) Google Apps lets you create a scalable cloud-based application

(d) None of the mentioned

1-j.	OpenStack is a (CO4)	1

(a) Infrastructure

(b) Platform

(c) Software

(d) None of the mentioned

2. Attempt all parts:-

2.a.	List the name of five major companies that provides cloud computing services. (CO1)	2
2.b.	Define virtual machine monitor. (CO2)	2
2.c.	Name the actors in NIST reference architecture. (CO3)	2
2.d.	State Cloud Pairing. (CO4)	2
2.e.	Write a short note on VPC Endpoint. (CO5)	2

SECTION B	30

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

3-a.	Differentiate between the elasticity and scalability. (CO1)	6
3-b.	Differentiate between Cloud Computing and Grid Computing. (CO1)	6
3-c.	Define SOA. (CO2)	6
3-d.	Discuss virtualization and its needs. (CO2)	6
3-e.	Differentiate between public and private cloud. (CO3)	6
3-f.	Explain how CCRA evolved. (CO4)	6
3-g.	Discuss the term 'VPC' in detail. (CO5)	6

SECTION C	50

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

4-a.	List out essential characteristics of cloud computing. (CO1)	10
4-b.	Explain scalability in cloud. What do you mean by vertical and horizontal scaling? (CO1)	10

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

5-a.	Describe the layers of virtualization in detail. (CO2)	10

5-b.   Explain how a cloud enterprise effectively manages the workload of various resources.   10
         Describe the various techniques involved in it. (CO2)

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

6-a.   Write differences between PaaS and SaaS. (CO3)   10

6-b.   Specify the meaning of Vendor Lock-in. Discuss the methods to avoid Vendor Lock-   10
         in. (CO3)

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

7-a.   Discuss the security threats do any organization need to prepare for while migrating to the   10
         Cloud. (CO4)

7-b.   Write Short notes on (CO4)   10
         (i) RDS
         (ii) DynamoDB

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

8-a.   Write short note on (CO5)   10
         (i) Global exchange of cloud resources
         (ii) DNS

8-b.   Review a case study on switching from standard environment to flexible environment of   10
         GAE. (CO5)