NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: IV - THEORY EXAMINATION (2022-2023)

Subject: Cloud Computing Architecture

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.   ……………… computing resources are provided by the cloud computing model.   1
(CO1)

(a) Servers

(b) Storage

(c) Applications

(d) All of the above

1-b.   The technology used to distribute service requests to resources is referred to   1
as _____ (CO1)

(a) load performing

(b) load balancing

(c) load scheduling

(d) all of the mentioned

1-c.   ……………………………, services communicate with each other in SOA.(CO2)   1

(a) Using common data and communication model

(b) Using XML messages

(c) Using he ESB (Enterprise Service Bus) layer

(d) Integration of business logic between services

1-d.   …………… request URI component of REST API gives domain name or IP address   1
of the server where REST service endpoint is hosted. (CO2)

(a) URI scheme

(b) URI host

(c) Resource Path

(d) Query String

1-e.   Select the statement which is true about Regions. (CO3)   1

(a) Physical location with single availability zone

(b) All regions are located in one geographical location

(c) Physical location of your computers

(d) Each region is located separate geographical area

1-f.   Challenges in designing cloud architecture includes: (CO3)   1

(a) Open Architecture

(b) Interoperability

(c) Security

(d) All of the mentioned

1-g.   The task of moving the packet from the input queue to the output queue in the   1
router is done by…………..(CO4)

(a) input and output ports

(b) routing processor

(c) switching fabrics

(d) None of the given

1-h.   Function of a router: (CO4)   1

(a) converting the data from one format to another

(b) Forward the packet to the up links

(c) error detection in data

(d) None of the given

1-i.   Select your answer for the statement "Can interconnected colocation augment   1
your data center strategy?".(CO5)

(a) Not really, because data centers are all the same

(b) Yes, because it relies on fiber-connected facilities located in urban centers

(c) Depends on its dietary fiber

(d) None of these

1-j.   .... is not available in Fiber Channel (FC). (CO5)   1

(a) N-port

(b) T-port

(c) E-port

(d) F-port

2. Attempt all parts:-

2.a.	Discuss VMM with and its types. (CO1)	2
2.b.	State about platform independency. (CO2)	2
2.c.	Name the service that works as Man- in – middle. (CO3)	2
2.d.	Discuss the uses of AWS S3. (CO4)	2
2.e.	Write about the benefits of using liquid cooling in place of air cooling in data centers. (CO5)	2

SECTION B   **30**

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

3-a.	Explain network virtualization also discuss its two types.(CO1)	6
3-b.	Explain in detail about virtualization tools (at least 5) and their advantages. (CO1)	6
3-c.	State principle logics of SOA and its advantages over traditional computing architecture. (CO2)	6
3-d.	Explain SOA and SOAP with suitable example. (CO2)	6
3.e.	Define 'Vendor lock-in' and its effects on Community cloud. (CO3)	6
3.f.	Explain about EBS encryption. (CO4)	6
3.g.	Brief about server clustering with its advantages and needs in scaling. (CO5)	6

SECTION C   **50**

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

4-a.	Discuss distributed computing and illustrate it with the help of a diagram. Also, differentiate it from parallel computing. (CO1)	10
4-b.	Differentiate between:(i) Distributed and Parallel computing (ii) Cloud computing and Traditional Computing (CO1)	10

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

5-a.	Discuss the advantages and disadvantages of REST services. (CO2)	10
5-b.	Discuss About API and how REST is useful in the services of API. (CO2)	10

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

6-a.	Discuss interoperability and its relationship with deployment models. (CO3)	10
6-b.	In terms of cost effectiveness, discuss about each service that cloud computing offers. (CO3)	10

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

7-a.	Discuss various features of Elastic File Storage with suitable example. (CO4)	10
7-b.	Explain S3 versioning with a suitable example and also describe its advantages and disadvantages. (CO4)	10

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

8-a.	Explain about the network access switch placement and its role in the architecture of ToR. (CO5)	10
8-b.	Differentiate the 'Scale up' architecture with 'Scale out' architecture of data centers. (CO5)	10