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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B,Tech.

SEM: III - 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 | Which is/are true regarding cloud computing? (CO1) | 1 |
| | <ul style="list-style-type: none"> (a) It does not provide ubiquitous access (b) It provides on-demand network access (c) Resources can not be used with no management effort (d) None of these | |
| 1 | Which are essential characteristics of cloud computing? (CO1) | 1 |
| | <ul style="list-style-type: none"> (a) On-demand self service (b) Resource pooling (c) Rapid elasticity (d) All of the above | |
| 1 | Which of the following provide system resource access to virtual machines? (CO2) | 1 |
| | <ul style="list-style-type: none"> (a) VMM (b) VMC (c) VNM | |

- (d) All of the mentioned
- 1 Which of the following is a type of virtualization? (CO2) 1
- (a) Storage
 - (b) Desktop
 - (c) CPU
 - (d) All of the mentioned
- 1-e. Hybrid cloud is a combination of _____. (CO3) 1
- (a) Private cloud
 - (b) Public cloud
 - (c) Community cloud
 - (d) Both a and b
- 1-f. _____ describes a cloud service that can only be accessed by a limited amount of people. (CO3) 1
- (a) Data Center
 - (b) Public Cloud
 - (c) Private Cloud
 - (d) Virtualization
- 1-g. Which is Cloud Platform by Amazon? (CO4) 1
- (a) Azure
 - (b) AWS
 - (c) Cloudera
 - (d) All of the above
- 1-h. The Foc.com and windows Azure are examples of which of the following? (CO4) 1
- (a) IaaS
 - (b) PaaS
 - (c) SaaS
 - (d) Both (a) & (b)
- 1-i. Which one of the following provides the resources or services such as the virtual infrastructure, virtual machines, virtual storage, and several other hardware assets? (CO5) 1
- (a) IaaS
 - (b) SaaS
 - (c) PaaS

	(d) All of the above	
1-j.	Why is serverless computing associated with the NoOps concept? (CO5)	1
	(a) Serverless computing eliminates servers of all types	
	(b) Serverless computing requires operations teams to be involved as much as developers	
	(c) Serverless computing removes server management obligations	
	(d) Serverless computing is not associated with NoOps	
2.	Attempt all parts:-	
2.a.	What do you understand by “on demand provisioning” of resources in cloud computing environment? (CO1)	2
2.b.	Define virtualization. (CO2)	2
2.c.	Define hybrid cloud. (CO3)	2
2.d.	Give the names of some popular software-as-a-service solutions? (CO4)	2
2.e.	Define the term “federation”. (CO5)	2
SECTION B		30
3.	Answer any <u>five</u> of the following:-	
3-a.	What do you understand by “memory optimized EC2 instance” and “storage optimized EC2 instance”? (CO1)	6
3-b.	Explain distributed computing in detail with the help of a diagram. (CO1)	6
3-c.	Give the brief introduction of REST. How it is useful in cloud computing process? (CO2)	6
3-d.	What is Type 1 Hypervisor how is it different from Type 2 Hypervisor? (CO2)	6
3.e.	Discuss and differentiate S3 and EBS. (CO3)	6
3.f.	Differentiate Google app engine environments on performance based parameters. (CO4)	6
3.g.	Discuss need of cloud federation and put your review on “resource sharing is the only fulfilment cloud federation have”. (CO5)	6
SECTION C		50
4.	Answer any <u>one</u> of the following:-	
4-a.	(i) Mention the features of cloud computing (ii)Identify and write the challenges faced while implementing cloud computing. (CO1)	10
4-b.	Draw the architecture of Eucalyptus. Explain how Eucalyptus offers a robust IaaS. (CO1)	10
5.	Answer any <u>one</u> of the following:-	
5-a.	Explain the framework of SOA with the help of a diagram along with its principles. (CO2)	10

- 5-b. "Virtualization is the center of cloud resource utilization", explain how and justify your answer. (CO2) 10
6. Answer any one of the following:-
- 6-a. What do you understand by cloud storage? Write its features, advantages and types in detail. (CO3) 10
- 6-b. What are the various design challenges in IaaS, PaaS, and SaaS models? Compare IaaS, PaaS, and SaaS with examples. (CO3) 10
7. Answer any one of the following:-
- 7-a. "Cloud security helps to know organisation's risks and their business impact", clarify the statement in detail. (CO4) 10
- 7-b. What are the Components of Amazon VPC? What are the Steps to build a Custom VPC? (CO4) 10
8. Answer any one of the following:-
- 8-a. Explain the three components that make modular architecture of OpenStack? (CO5) 10
- 8-b. Analyse the features and limitations of Open Stack in terms of its availability on global cloud resource management platform. (CO5) 10