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REVA UNIVERSITY
Bengaluru, India

6th Semester B.Tech (CSIT) Semester End Examination May 2024

Course Title: Cloud Computing

Course Code: B20EJ0602 - 24221602

Time: 3 Hours **Max. Marks: 100**

Note:

*1. Answer **ONE FULL** question from each unit.*
2. Verify and ensure that question paper is completely printed before answering the question paper.
3. Any queries/discrepancies regarding the question paper, must be brought to the notice of the invigilator
4. Students must check the course title and course code before answering the question paper

			UNIT – I	**Marks**
1.	a)		List the different layers in cloud computing? Explain working of them.	10
	b)		Define cloud computing? Briefly explain the evolution of origins and influences of cloud computing.	10
	c)		The different logical layers of operating system-based virtualization, in which the VM is first installed into a full host operating system and subsequently used to generate virtual machines. How the Operating system-based virtualization working in cloud environment.	5
			OR	
2.	a)		Discuss the usage demand fluctuations cloud computing with reference to scalability.	10
	b)		Cloud computing is trending technology, every company switched their services on the cloud to rise the company growth. What are challenges and advantages of cloud computing?	5
	c)		Illustrate the different models for deployment in cloud computing? Show how these models will work.	10
			UNIT – II	
3.	a)		Illustrate the hardware virtualization techniques in cloud computing	10
	b)		You're managing the migration of a company's software suite, which includes customer relationship management (CRM), project management, and accounting software, to a cloud platform. Apply the resource pooling and multitenancy methods to achieve the above and explin.	10
	c)		Summarize the service agents and Representational State Transfer services technology cloud infrastructure.	5
			OR	
4.	a)		Explain a generic view of the internet reference model and protocol stack with a neat diagram.	10
	b)		A team has tasked with deploying a new cloud infrastructure for a growing technology company. Your goal is to implement virtualization technology to improve resource utilization, scalability, and flexibility while reducing hardware costs. Illustrate the virtualization technology in cloud computing using relatable example.	10
	c)		Contrast the network hardware in cloud enabling technology.	5

UNIT – III

5. a) Explain the different tasks that are typically automated and implemented through the resource management system — 10

   b) Illustrate the concepts of SLA Management System and Billing Management Systems with neat sketches. — 10

   c) Discuss the remote administration system mechanism. It provides tools and user-interfaces for external cloud resource administrators to configure and administer cloud-based IT resources. — 5

OR

6. a) Explain the automated scaling listeners can provide different types of responses to workload fluctuation conditions. — 10

   b) Discuss a remote administration system can establish a portal for access to administration and management features of various underlying systems in cloud mechanism. — 10

   c) Explain a multi-device broker contains the mapping logic necessary to transform data exchanges between a cloud service and different types of cloud service consumer devices. — 5

UNIT – IV

7. a) A traditional computer runs with a host operating system specially tailored for its hardware architecture. Draw neat diagram and explain the architecture of a computer system virtualization in Levels of Virtualization Implementation. — 10

   b) Write a diagram of device emulation for I/O virtualization implemented inside the middle layer that maps real I/O devices into the virtual devices for the guest device driver to use. Explain the I/O virtualization. — 10

   c) Memory can be virtualized so that requirements of storage for huge number of consumers can be fulfilled. Describe how memory can be virtualized using two level memory mapping. — 5

OR

8. a) A VM is a duplicate of an existing computer system in which a majority of the VM instructions are executed on the host processor in native mode. Discuss the CPU Virtualization. — 10

   b) Illustrate the neat diagram of Xen architecture's special domain 0 for control and I/O and several guest domains for user applications and explain it. — 10

   c) How to distinguish the para-virtualization replaces non-virtualizable instructions with hypercalls that communicate directly with the hypervisor. — 5

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Bengaluru, India

6th Semester B.Tech CSIT Semester End Examination May 2024

Course Title: Cloud Computing

Course Code: B20EJ0602 - 85492

Time: 3 Hours **Max. Marks: 100**

Note:

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UNIT – I **Marks**

1. a) Illustrate how the Cloud is deployed with a neat architecture wherever it is necessary 10
   b) Relate the characteristics of cloud with the points noted on its relevant terminals. 5
   c) Explain Cloning of files and data with the simple example. Give its steps. 10

OR

2. a) Design the NIST architecture for the benefit of consumer with the various Network technology for the seamless transition. 8
   b) Infer how risky cloud computing is? While comparing to the normal PC and what are all the Challenges it faced off in Cloud computing? 7
   c) Summarize the Benefits of Cloud computing with an example, prove cloud are the advantages of Modern Computing World. 10

UNIT – II

3. a) Evaluate a scenario for building up of Cloud Laboratory with five virtualized systems in which 40 is the capacity of Lab. Using the terms of hypervisor and virtualized servers by Virtualization technology. Prove the above concept can be done or not. 10
   b) Enhance the virtualization environment with the cloud enabling technologies and hence prove that all the technologies result the same in achieving an successful environment. 10
   c) Articulate how Multitenant technology is used to access the relevant data. Discuss with the neat diagram 5

OR

4. a) Illustrate the Cloud Usage Monitor and represent the agents who is responsible for DTGOV needs to define a model that allows virtual servers of varying performance levels to be leased and billed hourly. Usage data needs to be at an extremely granular level to achieve the necessary degree of accuracy 10
   b) Relate the view on the "AWS" as a Platform as A Service and its advantages. 8
   c) Enhance the isolation of a network environment from the rest of a communications network, discuss how the logical network perimeter establishes a virtual network boundary that can encompass and isolate a group. 7

UNIT – III

5. a) Interpret the importance of specialized cloud mechanisms in detail with neat sketch. 13

	b)	Build an Infrastructure for Billing Management System in AWS console in which the complete transacting process happens. Prove that Cloud management mechanism is essential to manage the loads.	12

OR

6.	a)	Analyze Failover system and Resource Cluster is needed to manage the cloud environment.	10
	b)	Decide the infrastructure which accepts only three instances based on the request by customer services. Reveal the specialized environment techniques that lies in between firewall and the Automated scaling listener.	10
	c)	Infer Audit Monitor in the Cloud Environment with necessary details.	5

UNIT – IV

7	a)	Define Xen hypervisor? Discuss its elements for virtualization	12
	b)	Illustrate VMware workstation reference architecture with neat diagram	13

OR

8.	a)	Choose the basic security challenges of cloud computing	7
	b)	Define virtualization and describe its benefits	8
	c)	Categorize the levels of Virtualization in detail.	10

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