Name: **Enrolment No:**	UPES

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2018

Course: Introduction to Virtualization and Cloud Computing -CSVT-2001 **Semester: 3rd**

Programme: B.Tech. CSE-Spz (Cloud Computing and Virtualization Technology)

Time: 03 hrs. **Max. Marks: 100**

Instructions: Attempt all questions. Question no. 8 and 11 have internal choices.

SECTION A

S. No.		Marks	CO
Que 1.	State QEMU definition and its role.	**4**	**CO2**
Que 2.	1) Illustrated the hardware – software ring layer with respect to the following a. Operating System b. Hypervisor	**2+2**	**CO1,CO2**
Que 3.	Explain the Role of Emulation and Isolation in virtualization briefly	**4**	**CO2**
Que 4.	Which type of cloud workloads are suitable for Public clouds	**4**	**CO4**
Que 5.	What is CAPEX and OPEX?	**4**	**CO4**

SECTION B

Que 6.	Create a case study with suitable diagrams, why an organization should migrate from traditional infrastructure to cloud infrastructure during festive session workloads.	**10**	**CO4**
Que 7.	What do you understand by instruction, kindly explain their types based on security rings and privileged mode.	**10**	**CO2**
Que 8.	Draw a neat diagram exhibiting the different types of virtualization. Explain each component of the diagram OR	**10**	**CO1,CO2**

	Define a) Distributed Computing System b) Cloud Computing System and state its differences among them		
Que 9.	What is the Utility Computing Model? How cloud has affected our lives as a utility computing model?	**10**	**CO2**
	SECTION-C		
Que 10.	Desktop virtualization creates a logical abstraction of the desktop and by placing it on a centralized physical server. Discuss this statement; also explain the benefits of the desktop virtualization.	**20**	**CO2**
Que 11.	Design a Cloud Computing Architectural model for Cloud Reference. OR Discuss a) Xen Architecture and Guest OS Management **b)** Hardware Virtualization Reference Model	**20**	**CO3,CO2**

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SECTION A

S. No.		Marks	CO
Que 1.	Discuss the driving factors, which should be considered by the client before moving towards cloud.	**4**	**CO1**
Que 2.	What is Xen? Discuss its elements for virtualization.	**4**	**CO2**
Que 3.	Discuss the server virtualization techniques. Which server virtualization technique have better/more control over the hardware; support your answer with reason.	**4**	**CO3**
Que 4.	How is the cloud development different from traditional computing?	**4**	**CO3**
Que 5.	Which workloads are suitable for Public cloud?	**4**	**CO4**
	SECTION B		
Que 6.	Discuss the role of Load Balancer and SLA Monitor in cloud computing. A cloud service provider (CSP) wants to provide resource availability of 99.95% to meet the SLA agreement. Perform a case study for monitoring activity.	**10**	**CO1**
Que 7.	What are the features of Storage Virtualization? Suggest appropriate storage architecture for storing high volume archival data.	**10**	**CO2**
Que 8.	What is the Utility Computing Model? Discuss the cloud deployment models in detail.	**10**	**CO3**
Que 9.	Analyze cloud delivery models in cloud computing? Write in brief. Draw architecture of delivery model and write there characteristics. **OR** What the features of Storage Virtualization? Suggest appropriate storage architecture for storing high volume archival data.	**10**	**CO1, CO2**
	SECTION-C		

Que 10.	What is Cloud Computing? Write decision factors for cloud implementation. What are different types of cloud available, explain.	**20**	**CO4**
Que 11.	Discuss the Virtualization execution environment on the basis of following virtualization features (a) Sharing (b) Aggregation (c) Emulation (d) Isolation **OR** Discuss classification or taxonomy of virtualization at different levels. What are the benefits of virtualization in the context of cloud computing?	**20**	**CO2**