UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: B. Tech. CSE with IT Infrastructure   Semester: VII
Subject: Introduction to Virtualization and Cloud   Time: 03 hrs.
Subject Code: CSIB 274   Max. Marks: 100
Instructions: The marks for each question are given before.

SECTION A			
S. No.		Marks	CO
Q 1	Explain virtual machine. How VM can be offered through a standard service catalogue?	5	CO1
Q 2	How server virtualization handles sever sprawling?	5	CO2
Q 3	Explain and differentiate between Simulation and Emulation.	5	CO1, CO3
Q 4	Explain various characteristics of Cloud Computing.	5	CO3
SECTION B			
Q 5	In the virtualized environments differentiate between the Guest OS and Host OS.	10	CO1
Q 6	Explain Server virtualization with suitable example and diagram.	10	CO1, CO3
Q 7	Explain the full functioning of Hypervisor. Discuss any two types of hypervisor of your choice.	10	CO2
Q 8	Analyze the role of Storage controller in storage virtualization.	10	CO1, CO2
OR			
	Illustrated the hardware – software ring layer with respect to the following – a) Kernel b) Operating System c) Shell d) Hypervisor e) Applications	10	CO1, CO2
SECTION-C			

Q 9	An organization wishes to virtualize its IT setup. A new IT terminology is to be prepared by you. Based on that explain the following terms with proper example and diagram if necessary. i. VM ii. Host OS layer iii. Resource Pooling iv. Live Migration v. Multi Tenancy	20	**CO2, CO3, CO4**
Q 10	Explain different deployment models of Cloud.	20	**CO4**
	OR		
	Explain different service delivery models of Cloud.	20	**CO4**

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	SECTION A		
S. No.		**Marks**	**CO**
Q 1	Explain virtual machine monitor and its functions.	5	**CO2**
Q 2	Explain various characteristics of Cloud Computing.	5	**CO3**
Q 3	Explain and differentiate between Simulation and Emulation.	5	**CO1, CO3**
Q 4	Why is High Availability an important feature in cloud based systems?	5	**CO3**
	SECTION B		
Q 5	In the virtualized environments differentiate between the Guest OS and Host OS.	10	**CO3**
Q 6	Discuss the functions of various components of Classic Data center.	10	**CO4**
Q 7	Explain the full functioning of Hypervisor. Discuss various types of hypervisors	10	**CO2**
Q 8	Explain different service delivery models of Cloud.	10	**CO4**
	OR		
	Explain Cloud Deployment models with suitable diagram and example.	10	**CO4**
	SECTION-C		
Q 9	Explain different types of virtualization techniques.	20	**CO1**
Q 10	Illustrate the full workflow of how a VM is created and finally provisioned for the cloud consumer?	20	**CO2, CO3, CO4**
	OR		
	An organization wishes to virtualize its IT setup. A new IT terminology is to be prepared by you. Based on that explain the following terms with proper example and diagram if necessary.	20	**CO2, CO3, CO4**

	i. VM		
	ii. Host OS layer		
	iii. Resource Pooling		
	iv. Live Migration		
	v. Multi Tenancy		