UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, May 2021

Programme Name: BTech-CS (ERA) **Semester** : VIII
Course Name : Cloud Architecture and Deployment Models **Time** : 03 hrs
Course Code : CSVT 4004 **Max. Marks : 100**
Nos. of page(s) : 2
Instructions: All questions are compulsory.
Section A - 30 marks (Attempt All 6 Questions in this Section. Each question carries 5 marks.
Section B - 50 marks (Attempt All 5 questions. Each question carries 10 marks)
Section C - 20 marks

SECTION A

S. No.		Marks	CO
Q 1	Which of the following characteristics should you consider when deciding whether to deploy an application or service to a virtual machine? (a) Hardware requirements (b) Software support and compatibility (c) Licensing (d) Performance and resource requirements (e) All of the above	5	CO1
Q 2	Which of the following type of virtualization is also characteristic of cloud computing? (a) Storage (b) Application (c) CPU (d) All of the mentioned	5	CO1
Q 3	These are common shortcomings of physical infrastructures : Asset Management, Tracking Utilization, Security and Compliance, Provisioning, Staff for Administration, Sizing, and Optimization. (a) True (b) False (c) Partial True and Partial False. (d) None	5	CO4
Q 4	Point out the correct statement. (a) Service Level Agreements (SLAs) is small aspect of cloud computing (b) Cloud computing does not have impact on software licensing (c) Cloud computing presents new opportunities to users and developers (d) All of the mentioned	5	CO4
Q 5	_____feature allows you to optimize your system and capture all possible transactions. (a) scalability (b) reliability (c) elasticity (d) none of the mentioned	5	CO5

Q 6	Point out the correct statement.
	   (a) The cloud service model you choose does not determine the variety of security features, compliance auditing, and other requirements
	   (b) To determine the particular security mechanisms you need, you must perform a mapping of the particular cloud service model to the particular application you are deploying
	   (c) A security control model includes the security that you normally use for your applications only
	   (d) All of the mentioned
		5	**CO5**

	SECTION B		

Q 7	Explain the following IaaS characteristics: (2.5 Marks each)
	   (a) Virtualization
	   (b) Cloud-bursting
	   (c) Multi-tenancy
	   (d) Resource pooling
		10	**CO1**

Q 8	Explain the workload distribution architecture in cloud, problem and core mechanism of workload distribution?	**10**	**CO2**

Q 9	Draw the NIST diagram for workload distribution in cloud, briefly explain each components?
	
	--OR--
	
	Explain the following:
	   (a) Broad network access
	   (b) On-demand self service
	   (c) Rapid elasticity
	   (d) Measured service
		10	**CO2**

Q 10	List at least five activity performed by cloud service provider? Explain each in brief?	**10**	**CO4**
Q 11	What is CCRA? Discuss the role of CCRA?	**10**	**CO5**
	SECTION-C		

Q 12	Draw the reference architecture of hypervisor clustering? (8 Marks). Discuss the following about hypervisor clustering: (4 Marks each)
	   (a) Hypervisor clustering problem
	   (b) Hypervisor clustering solution
	   (c) Hypervisor clustering application
	               ---OR---
	
	Draw the architecture of load balanced virtual server architecture? (5 Marks)
	Explain the following mechanism of load balancer: (3 marks each)
	   (a) Automated scaling listener
	   (b) Cloud storage listener
	   (c) Cloud usage monitor
	   (d) Live VM migration
	   (e) Virtual infrastructure manager
		20	**CO3**