

<b>Name:</b>	 <b>UPES</b> UNIVERSITY WITH A PURPOSE
<b>Enrolment No:</b>	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination, December 2020**

**Course: Introduction to virtualization and cloud computing**

**Semester: VII**

**Program: B.Tech CSE**

**Time 03 hrs.**

**Course Code: CSVT2001**

**Max. Marks: 100**

**Instructions:**

**SECTION A**

S. No.		Marks	CO
Q 1	Distinguish between Para Virtualization and Full Virtualization.	<b>05</b>	<b>CO1</b>
Q 2	When did virtual machines become popular?	<b>05</b>	<b>CO1</b>
Q 3	‘CLR and JVM are good examples of Application Virtualization’. Justify how the issue of application portability handled?	<b>05</b>	<b>CO2</b>
Q 4	Discuss any five benefits of VLAN.	<b>05</b>	<b>CO2</b>
Q 5	Describe ‘Anatomy of Cloud, explaining functions of all components.	<b>05</b>	<b>CO3</b>
Q 6	‘Virtualization is enabler for Cloud’. Interpret and explain the statement in your own words.	<b>05</b>	<b>CO3</b>

**SECTION B**

Q 1	Describe, when would you recommend a Desktop Virtualization for any given organization? Develop problem statement and discuss the features of solution suggested?	<b>10</b>	<b>CO1</b>
Q 2	Analyze and describe the working of Type 1 and Type 2 Hypervisors. Draw neat illustrative diagrams to support your answer.	<b>10</b>	<b>CO2</b>
Q 3	Discuss the decision factors for choosing between different cloud deployment models. Use suitable examples, wherever applicable.	<b>10</b>	<b>CO3</b>
Q 4	News agency ‘Populo.com’ has been widely acclaimed all across the northern region for its prompt, accurate and quality news services. Several decades of operating has resulted in their adhoc growth of servers, like mail servers, database servers, etc., scattered all through the region, taking up floor at several ill-managed data centers. Some machines need refresh and maintenance cycle. News development at peak times, resulted in adhoc purchase with a good number of servers lying with low	<b>10</b>	<b>CO4</b>

	<p>utilization today, and has resulted in board approving no capex for fresh buy-ins. The management sees ‘Virtualization’ as a solution to issues faced.</p> <p>With reference to the above problem statement, guide the organization through step-by-step procedure to adopt ‘Virtualization’ as solution. Discuss solution with highlighting the benefits sought towards better cost control, manageability and optimization.</p>		
Q 5	What is the minimal requirement to implement an IAAS Cloud? How the IAAS Cloud is different from primitive Client-Server Architecture?	10	CO4

**SECTION-C**

Q 1	<p>CASE STUDY: Farm house is a privately owned farm that produces a wide selection of top quality vegetables and fruits. They have 20 farmland and 200 shops across five countries. Their product are handpicked and harvested in the farmland by farmers, then transported to their warehouse where it is packaged and made ready for distribution. The packed products are the distributed to their shops and to other supermarket in wholesale. The manager of Farm-house has approached you, requesting advice on how cloud-based solutions can be used to manage their business. Considering companies do not need to invest in their own IT data center, they can use cloud-based infrastructures and applications to manage their businesses.</p> <ol style="list-style-type: none"> <li>1. List and Explain in details the most needed infrastructures and applications that can help to manage their business.</li> <li>2. For each listed infrastructure/application <ol style="list-style-type: none"> <li>a) Explain in detail, it's role in managing the business</li> <li>b) Under what type of service does it fall (IAAS, PAAS, SAAS). Explain why?</li> <li>c) Choose a cloud service provider that can provide such service. Give reasons why you prefer the chosen cloud service provider instead of others (explain their product and services relating to this)</li> </ol> </li> </ol> <p style="text-align: center;">OR</p> <p>Discuss various types of cloud workloads. How do you decide suitability of workloads for cloud?</p>	20	CO5
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