


Name:	
Enrolment No:	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, Dec-2021**

<b>Course: Cloud Computing</b> <b>Program: BCA</b> <b>Course Code: CSBC3016P</b>	<b>Semester: V</b> <b>Time : 03 hrs.</b> <b>Max. Marks: 100</b>
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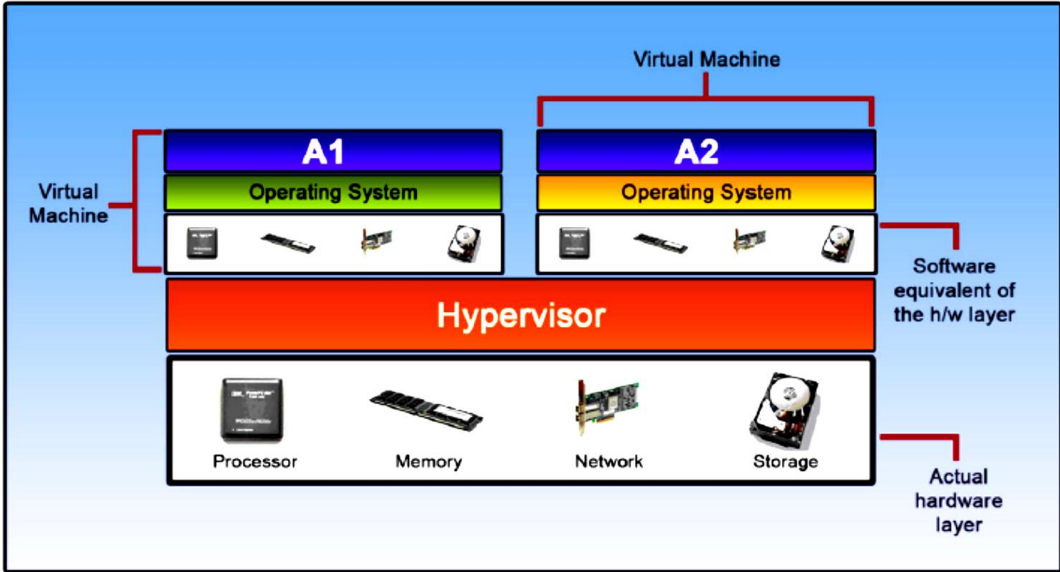
**Instructions: Attempt all questions. Assume any missing data, draw diagrams wherever applicable, provide appropriate examples**

**SECTION A**  
**(Scan and upload) (5Q X 4M =20 Marks)**

S. No.		Marks	COs
Q 1.	Illustrate four major components of a physical Server with examples.	4	CO1
Q 2.	Explain SAN.	4	CO1
Q 3.	Discuss the importance of VPN.	4	CO2
Q 4.	Contrast SaaS and PaaS.	4	CO2
Q 5.	What is the role of hypervisors in virtualization technology?	4	CO3

**SECTION B**  
**(Scan and upload) (4Q X 10M =40 Marks)**

Q 6.	Describe in detail “ <i>Benefits of Desktop Virtualization</i> ”. How can be it useful in organizations like UPES? [Hint: UPES Computer Laboratories].	10	CO1
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Q 7.	Analyze, review and explain the figure shown below: <div style="text-align: center; border: 1px solid black; padding: 10px; margin: 10px 0;">  <p>The diagram illustrates the architecture of desktop virtualization. At the base is the 'Actual hardware layer' containing a Processor, Memory, Network, and Storage. Above this is the 'Hypervisor' layer, which is the 'Software equivalent of the h/w layer'. Two 'Virtual Machine' instances are shown on top of the hypervisor. Each virtual machine consists of an 'Operating System' layer and a hardware layer with icons for Processor, Memory, Network, and Storage. The left virtual machine is labeled 'A1' and the right one 'A2'.</p> </div>	10	CO2
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Q 8.	Illustrate the different types of virtualization technology with it significance?	10	CO3
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<b>Q 9.</b>	Compare virtualization with cloud technology. Is hybrid cloud technology preferable for UPES (Yes/No)? Analyze and justify your views.	<b>10</b>	<b>CO4</b>
	<b>OR</b>		
	Discuss and elaborate on the cons of the cloud service model, if deployed for UPES IT services.		<b>CO4</b>
<b>SECTION C</b> <b>(Scan and upload)</b> <span style="float: right;"><b>(2Q X 20M =40 Marks)</b></span>			
<b>Q 10.</b>	You are an IBM representative and deputed as a System Analyst at UPES for reviewing UPES Data Centre and IT services. How will you plan to implement virtualization technology and migration from physical to VM? Which criteria will be the most important for you to decide what workload should be moved to the cloud?	<b>20</b>	<b>CO3</b>
<b>Q 11.</b>	A cloudburst took place on one night at Uttarakhand State Data Centre. The State Data Centre was severely damaged due to that disaster. You as a System Architect of Uttarakhand State Data Centre, discuss your action plan and strategies. How will you recover from such disasters, what are the precautions you have taken earlier, what are your disaster recovery strategies etc? Discuss and elaborate on an optimum solution with the implementation of virtualization and cloud technology.	<b>20</b>	<b>CO4</b>
	<b>OR</b>		
	How will you optimize a set of servers that serve critical functions in UPES and Servers that constantly runs at a higher utilization about 95% of all the time and using which appropriate technology? Suggest which virtualization technology will you prefer for UPES Data Centre and why? Review various types of virtualization and hypervisors. [Hint : Para, Full, Native]		<b>CO4</b>