


Name:													
Enrolment No:													
<b>UPES</b> <b>End Semester Examination, May 2024</b>													
<b>Course: Cloud Security and Management</b> <b>Program: B.Tech CS+CCVT (H/NH)</b> <b>Course Code: CSVT3008</b>		<b>Semester: VI</b> <b>Time : 03 hrs.</b> <b>Max. Marks: 100</b>											
<b>Instructions: Attempt all questions. Question number 9 &amp;10 has internal choices. Attempt any one.</b>													
<b>SECTION A</b> <b>(5Qx4M=20Marks)</b>													
S. No.		Marks	CO										
Q 1	Differentiate between attribute based and role based access controls?	4	CO1										
Q 2	Compare Diameter protocol with RADIUS protocol for AAA. Which one is better and why?	4	CO2										
Q 3	Briefly explain the ways to conduct DOS attack and Port Scanning.	4	CO3										
Q 4	Match the following: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Kerberos</td> <td>Provides authentication, integrity but no confidentiality,</td> </tr> <tr> <td>IPSec</td> <td>Key Distribution Center</td> </tr> <tr> <td>AH protocol</td> <td>AAA protocol</td> </tr> <tr> <td>Certificate Authority</td> <td>Network Layer Security</td> </tr> <tr> <td>TACACS+</td> <td>Public Key Infrastructure</td> </tr> </table>	Kerberos	Provides authentication, integrity but no confidentiality,	IPSec	Key Distribution Center	AH protocol	AAA protocol	Certificate Authority	Network Layer Security	TACACS+	Public Key Infrastructure	4	CO3
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Q 5	List the ways to ensure virtual server security for infrastructure in cloud environment.	4	CO4										
<b>SECTION B</b> <b>(4Qx10M= 40 Marks)</b>													
Q 6	Enlist and explain the critical considerations for securing different types of applications, and how security requirements vary depending on the application's purpose and context?	10	CO1										
Q 7	Explain key purposes and benefits of digital signatures in ensuring document authenticity, integrity, and non-repudiation.	10	CO2										
Q 8	For a multinational corporation migrating to the cloud, analyze data security challenges they might face. Explain in detail the mechanisms to be used for security of data-in-transit and data-at-rest.	10	CO2										
Q 9	Answer the following questions: a) Types of Identity Access Management and their comparison b) IAM Features in AWS <div style="text-align: center;"><b>OR</b></div> Answer the following questions:	(5+5)	CO3										

	a) IAM and IT trends b) IAM Features in Microsoft Azure		
<b>SECTION-C</b> <b>(2Qx20M=40 Marks)</b>			
Q 10	<p><b>a)</b> Imagine a scenario where a company decides to use PaaS for developing, testing and deploying an application to a cloud service provider. The company assumes that the cloud provider will handle all security aspects. However, they soon realize that there is a shared responsibility model in place. Develop a case study outlining the potential consequences of misunderstanding or neglecting this shared security responsibility model, and propose actionable steps the company could take to ensure comprehensive security coverage.</p> <p><b>b)</b> Describe the fundamental process of data transmission secured by SSL at the transport layer (TCP).</p> <p style="text-align: center;"><b>OR</b></p> <p><b>a)</b> In a scenario where a financial institution is preparing to launch a new mobile banking application, outline a use case for implementing Application Security Testing (AST) throughout the development and deployment lifecycle. Describe how AST tools and techniques can be utilized to identify and mitigate potential security vulnerabilities in the application, ensuring the protection of sensitive customer data.</p> <p><b>b)</b> Discuss the role of IPSec core components, like authentication headers and encapsulating security payloads, in strengthening network security.</p>	<b>(10+10)</b>	<b>CO3</b>
Q 11	<p>Explain the following:</p> <p>a) Characteristics of Cloud Service Management</p> <p>b) Role of Cloud Administrator</p> <p>c) Workflows in Cloud Computing</p> <p>d) Key Distribution Center</p>	<b>(5x4=20)</b>	<b>CO4</b>