

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026*****Sixth Semester******Artificial Intelligence and Data Science*****CCS335 – CLOUD COMPUTING*****Regulations - 2021******Duration : 3 Hrs******Maximum : 100 Marks******PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)***

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	How the client-server model can be applied in a cloud computing environment to enhance resource scalability?	L2	1	2
2.	Mention the characteristics of PaaS.	L1	1	2
3.	Give the features of execution environment in virtualization	L2	2	2
4.	List the role of a hypervisor in hardware virtualization.	L2	2	2
5.	Interpret the primary purpose of network virtualization.	L2	3	2
6.	How can resource management techniques be applied to optimize performance in a virtual cluster environment?	L3	3	2
7.	Outline the steps to deploy a web application on an Amazon S3 bucket.	L2	4	2
8.	In what way can OpenStack's Nova service be used to manage virtual machines within a private cloud?	L2	4	2
9.	How can encryption be applied to enhance data security in cloud storage?	L2	5	2
10.	List the key challenges associated with implementing IAM in cloud environments	L1	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a i Explain the key components of the NIST Cloud Computing Reference Architecture and their roles in delivering cloud services L2 1 8 ii A startup is developing a mobile app that collects user data and requires quick scaling during marketing campaigns. Deploy a suitable cloud model to meet these needs and justify your answer. L3 1 8			
	Or			
	b i A company wants to migrate its on-premises CRM system to the cloud to reduce maintenance costs and improve scalability. Identify the service model would you choose for this migration and justify your answer. L3 1 8 ii Outline the design challenges in cloud computing. L2 1 8			
12.	a i Discuss the advantages and disadvantages of virtualization. L2 2 8 ii Draw and explain the architecture of Hyper-V L2 2 8			
	Or			
	b Outline the different types of Virtualization. L2 2 16			
13.	a i A company has multiple remote employees who need secure access to their work desktops from different locations. The IT team is considering implementing desktop virtualization to address security concerns and improve resource management. How should the IT team apply desktop virtualization to meet the company's requirements? Discuss the key benefits and potential challenges they might face. L2 3 8			

	ii	Explain the key differences between Containers and Virtual Machines.	L2	3	8	
		Or				
	b	i	Explain the key components of Docker and their roles in containerization.	L2	3	8
		ii	Describe the steps for deploying a web application using Docker. Create a Docker image for the application, push it to a Docker repository and deploy it on a Docker container. Include the key commands also that would be used in each step.	L2	3	8
14.	a	i	Explain the architecture of Google App Engine with a neat diagram.	L2	4	8
		ii	Briefly discuss about Amazon Storage as a Service.	L2	4	8
		Or				
	b	i	Discuss the different types of Azure storage services and their use cases.	L2	4	8
		ii	Explain the security features provided by Eucalyptus for cloud environments.	L2	4	8
15.	a	A company has recently migrated its infrastructure to a virtualized environment to improve scalability and resource efficiency. However, the IT security team is concerned about potential virtualization-specific attacks. Elaborate on the security measures to protect against guest hopping, VM migration attacks and hyperjacking.		L3		16
					5	
		Or				
	b	A multinational company is implementing a new cloud-based infrastructure to support its global operations. The IT department is tasked with ensuring secure access to sensitive data across different regions. Design an effective IAM architecture by applying IAM principles to address IAM challenges.		L3	5	16
