Department of Computer Science and Engineering
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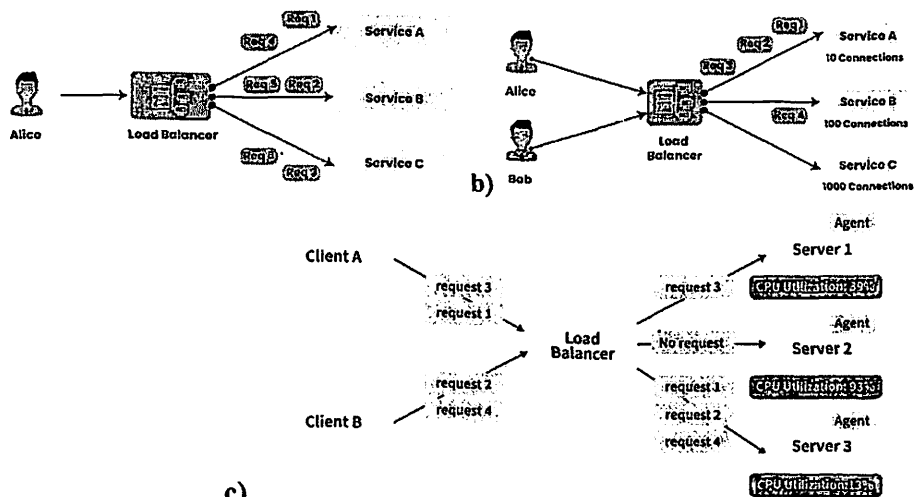
M.Tech(CSE) with Specialization in Data Science Semester III Examination, 2024
MTDS PE 351
(Cloud Computing)

Time: 2 ½ Hours **Maximum Marks: 60**

SECTION–A

	Note: Attempt ALL Questions from this Section 5 X 4 = 20	CO	BL
Q1.	Explain the points to be considered while choosing the best cloud service provider.	2	1
Q2.	What is virtualization? Explain why it is important.	1	2
Q3.	Give any 5 Limitations/Challenges of Cloud computing	1	1
Q4.	In what scenarios cloud computing is preferred over traditional computing?	3	2
Q5.	You have a video transcoding application. A queue processes these videos. When video processing gets interrupted in one instance, it resumes in another. Currently, there is a massive backlog of videos to be processed. More instances are required for this, but only until your backlog reduces. Which type of cloud scenario can be the most efficient for this situation and why?	5	5
	SECTION B		
	Attempt any FOUR (04) questions. 4 X 10 = 40		
Q1	Your company has developed a new mobile app that has become very popular in a short amount of time. The app is hosted on a cloud platform that is experiencing intermittent connectivity issues. As a result, some users are unable to access the app or experience slow performance. The issue is impacting the company's reputation and revenue. As the CTO, you are tasked with addressing the issue and ensuring that the app is highly available and performs well. 1. Identify the root cause of the connectivity issues, and describe the steps you would take to resolve the issue. 2. Explain how you would ensure high availability and performance of the app, including the use of load balancing, auto-scaling, and other technologies	3	4
Q2.	With different Large Language Models (LLMs) requiring a lot of energy/power for processing a huge amount of data and water for cooling these massive compute intensive systems. Suggest any two measures of reducing the energy consumptions and water usage.	5	4
Q3.	The given figures signify which type of load balancing approach. Explain advantage of each.  	4	3
Q4.	Explain different types of cloud security standards.	2	2
Q5.	Explain the key differences between: 1. Cloud and Edge computing 2. Cluster and Grid computing	1	3
Q6.		4	5

Process	Arrival Time	Burst Time
P1	0	12
P2	0	11
P3	0	06
P4	0	07
P5	0	08

You have 3 servers (S1, S2 and S3), having the weights as 3, 2, 1 respectively. With the help of a Gantt Chart explain how the load of the above processes is distributed among these servers using the weighted round robin approach when the Time quantum is 5.