Roll No……

GL BAJAJ Institute of Management & Research, PGDM Institute, Greater Noida
FIND YOUR SPARK

Plot No. 2, Knowledge Park-III, Greater Noida (U.P.) –201306

POST GRADUATE DIPLOMA IN MANAGEMENT (2023-25)
END TERM EXAMINATION (TERM-IV)

Subject Name: **Cloud Computing for Business** Time: **02.00 hrs**
Sub. Code: **PGIT44** Max Marks: **40**

Note:
All questions are compulsory. Section A carries 5 marks: 5 questions of 1 marks each, Section B carries 21 marks having 3 questions (with internal choice question in each) of 7 marks each and Section C carries 14 marks one Case Study having 2 questions of 7 marks each.

SECTION - A

Attempt all questions. All questions are compulsory. **1×5 = 5 Marks**

Questions	CO	Bloom's Level
Q. 1: (A). What are the three primary cloud deployment models? **Q. 1: (B).** Explain terms IaaS, PaaS, and SaaS in cloud computing. **Q. 1: (C).** List any two desired features of cloud computing. **Q. 1: (D).** What are two common challenges or risks associated with cloud services? **Q. 1: (E).** Mention one major benefit and one disadvantage of using cloud services.	CO1	L3

SECTION – B

All questions are compulsory (Each question has an internal choice. Attempt anyone (either A or B) from the internal choice) **7 x 3 = 21 Marks**

Questions	CO	Bloom's Level
Q. 2: (A). Explain term load balancing within cloud environments. How do these features contribute to the efficiency and reliability of cloud-based systems?	CO2	L4
Or		
Q. 2: (B). Explain term scalability within cloud environments. How do these features contribute to the efficiency and reliability of cloud-based systems?		
Q. 3: (A). Explain the pay-as-you-go pricing model of AWS. How does this model benefit organizations in managing their cloud expenses compared to traditional IT infrastructure?		
Or	CO3	L4
Q. 3: (B). What is Amazon EC2, and what are the benefits of using Amazon EC2 Auto Scaling?		
Q. 4: (A). What are the key business benefits of cloud computing for organizations? How does cloud computing help companies enhance their operational efficiency and reduce costs?		
Or	CO4	L4
Q. 4: (B). Why is monitoring important in cloud computing environments? How does effective monitoring contribute to system performance and security?		

SECTION - C

Read the case and answer the questions **7×02 = 14 Marks**

Questions	CO	Bloom's Level
Q. 5: **Case Study: Scaling problem in an E-Commerce Platform** **Background:** An e-commerce company, **ShopEase**, experiences significant traffic fluctuations on its website, particularly during promotional events, holidays, and sales campaigns. During normal periods, the website handles moderate traffic; however, during peak times, the demand can increase by up to ten times the normal load. This sudden surge in demand causes the company's servers to become overloaded, leading to slower page loads, poor user experience, and in some cases, website crashes. The company's infrastructure is hosted on Amazon Web Services (AWS), and they decide to implement **Auto Scaling** on their Amazon EC2 instances to address these challenges. Auto Scaling allows them to automatically adjust the number of EC2 instances based on the traffic demands, ensuring that the website has sufficient resources during high-traffic periods while reducing costs during low-traffic times. **Auto Scaling Configuration:** ShopEase configures an Auto Scaling group that adjusts the number of EC2 instances based on CPU utilization: • **Target CPU Utilization:** 60% • **Minimum EC2 Instances:** 2 (to handle basic operations) • **Maximum EC2 Instances:** 20 (to handle peak demand) • **Scaling Policy:** Increase the number of instances by 5 when CPU utilization exceeds 60% for more than 5 minutes, and decrease by 5 when CPU utilization falls below 40% for more than 10 minutes. With this setup, the company sees the following results: • During normal traffic periods, only 2-3 EC2 instances are active, keeping costs low. • During a major sale event, Auto Scaling increases the number of instances to 15 within minutes, ensuring the site runs smoothly even with 10 times the usual traffic. • Once the sale event is over, the Auto Scaling group gradually reduces the number of instances back to the minimum required, optimizing costs. **Outcome:** After implementing Auto Scaling, ShopEase experienced significant improvements in performance and cost-efficiency: • No website downtime or crashes during peak traffic. • Optimal user experience during high-traffic sales events. • A reduction in overall infrastructure costs, as unused resources were automatically terminated when demand was low. Questions: **Q. 5: (A). What problem was ShopEase facing during high-traffic periods, and how did it impact their business operations?** **Q. 5: (B). Explain how Auto Scaling helps ShopEase manage fluctuating traffic demands. What advantages does Auto Scaling provide in terms of cost optimization and performance?**	CO4	L4

Kindly fill the total marks allocated to each CO's in the table below:

COs	Marks Allocated
CO1	5 Marks
CO2	7 Marks

CO3	7 Marks
CO4	14 Marks

(Please ensure the conformity of the CO wise marks allocation as per your TLEP.)

Blooms Taxonomy Levels given below for your ready reference:

L1= Remembering
L2= Understanding
L3= Apply
L4= Analyze
L5= Evaluate
L6= Create