



MANIPAL UNIVERSITY JAIPUR

Faculty of Engineering

School of Computer Science and Engineering

Department of CSE/AIML

VI SEM. B.Tech. CSE/AIML/IT

Even Semester End Term Examination 2022-23

CS3241 CLOUD INFRASTRUCTURE AND SERVICES

Closed Book

Time: 2 Hours

MAX.MARKS: 40

Instructions to Candidates

- Attempt any full five questions.
- Missing or wrong data, if any, may be assumed suitably after duly mentioning at proper place.
- Calculator is not allowed.

Q. No.	Question Script	Marks	CO Mapping
1	Identify and elaborate on when we should use traditional computing or cloud infrastructure. Compare in terms of the total cost of ownership parameters.	4	CO1
	Identify the type of AWS services used and elaborate its configuration and functioning for the given use case scenario.	4	
	a) The root user account should not be used.		
	b) Role-based user accounts created.		
	c) Role-based credentials are allocated.		
	b. d) Billing alerts and budget management should be done.		CO2,
	e) Three tier architecture is used, and database server is installed on an EC2 machine.		CO3, CO4
	f) Database server can only be accessed by application layer only.		
	g) VPC and public IP are configured.		
	h) Fixed public IP is assign to access web page.		
2	a. Explain the global infrastructure components of AWS. How is it used for disaster management?	4	CO2
	b. Elaborate on how auto-scaling helps users to manage traffic or load bursts during peak time.	4	CO2
3	Identify suitable AWS service type for the following cases:	4	
	i) Big data analytics		
	ii) Subnet based network configuration		
	iii) NoSQL Database		CO3,CO4
	iv) Static web pages		
	a. On what basis we can identify whether we should use Amazon RDS or Amazon Aurora for databases?	4	CO3
	b.		

4 a.	An organization requires a range of IP addresses to assign one to each of its EC2 instances. The organization has created a VPC with network id 10.1.0.0/16. The organization wants to create subnets as per their uses.		CO1, CO2
	Answer the following questions:		
i.	How many numbers of possible subnets with 1000 usable IP addresses in AWS?	2	
ii.	How many IP addresses get wasted in every subnet if only 1000 IP addresses are used?	2	
4 b.			
i.	How many numbers of possible usable IP addresses for 10.1.0.0/26 subnet?	2	
ii.	Elaborate use of elastic public IP in AWS services with an example.	2	
5	Give the brief description for following Components of Amazon VPC:	8	
	a) Virtual Private Cloud (VPC)		
	b) Subnet		
	c) Internet Gateway		
	d) NAT Gateway		CO1,CO2,
	e) Hardware VPN Connection		CO3,CO4
	f) Virtual Private Gateway		
	g) Peering Connection		
	h) VPC Endpoint		
6	Elaborate on the functioning of Amazon Route 53 with a proper diagram. State how the availability of your applications can be improved that run on AWS.	8	CO2