**PART – A**

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|  | Analyze the three important key features that distinguish AWS from other service providers. |
|  | Compare AWS Image Template with AMI. |
|  | Analyze the necessity of AWS Snapshot and its role in EC2. |
|  | List out the components of S3 Bucket. |
|  | Differentiate AWS IAM User and IAM Role. |
|  | Define the working process of S3 versioning. |
|  | Enumerate the NACL provided by VPC for protecting network traffic? |
|  | Infer the purpose of Elastic Load Balancing in EC2 Instance. |
|  | Mention the ways to enhance network security in AWS using Firewall. |
|  | Point down the NAT gateway usage and drawback. |
| 11. | Differentiate the three different cloud models that are available in AWS. |
| 12. | Define Availability Zone and its usage in AWS. |
| 13. | Interpret how local zone and wavelength zone are being used. |
| 14. | Figure out exactly how to add policies in IAM User and IAM group. |
| 15. | NACL and security groups usage in VPC Architecture. |
| 16. | Demonstrate how Security groups are used in EC2 Instances. |
| 17. | Compare and contrast how Glacier based S3 bucket is much cheaper than other storage classes. |
| 18. | Infer and list the disadvantage of using Private cloud model. |
| 19. | Analyze how IAM group and IAM user policies are added. |
| 20. | Mention the limits of using S3 bucket. |

**PART – B**

1. Create a simple EC2 instance using Amazon Linux Image and configure it to run a dynamic web server.
2. You are tasked with designing an IAM strategy for a product-based company that operates in multiple geographic regions and has diverse business units with varying access requirements. Your IAM solution should address the company's security, compliance, and operational needs while maximizing efficiency and scalability.
3. Discuss the need of snapshot creation and AMI creation also describe which service model is suited for EC2.
4. A product-based company accidentally granted an S3 user full access to all buckets due to a mishandled IAM policy. What logical steps would you take to identify the affected resources, mitigate the damage, and prevent similar incidents in the future.
5. Evaluate the suitability of S3 for storing sensitive data, versioning and life cycle management.
6. As per the company’s need you are supposed to create a 5 TiB storage set up using S3 bucket and configure it for static website hosting. Explain about the process flow used to achieve the same.
7. Create a simple EC2 instance using Amazon windows Image and configure it to run an Apache server.

8.Illustrate the purpose of using AMI, Snapshot, Policies, Network rules, MyAMI, EIP and Protections in EC2 Instance?

9. Discuss Amazon VPC architecture and its components, including subnets, route tables, internet gateways, NAT gateways, and security groups. Evaluate their roles in creating isolated AWS environments resembling traditional networks. Analyze best practices for designing VPCs, considering subnet design and IP addressing.

10. Evaluate the role of Amazon S3 buckets in cloud storage architectures, discussing their significance in data storage, distribution, scalability and the classes used. Analyze the benefits and challenges of using S3 buckets for storing several types of data, including unstructured data, multimedia files, and application backups.

11. Describe the process of creating VPC components along with peer-to-peer network connection.

12. Construct key process involved in versioning of S3 bucket and also how you will manage life cycle management for one year data, based on cost.

13. Discuss the core components of AWS IAM, including users, groups, roles, policies, and permissions. Analyze how these components work together to control access to AWS services and resources.

14. Discuss how VPC enables users to create a logically isolated section of the AWS Cloud for deploying their resources. Draw the Architecture of VPC for the same.

15. Encapsulate the need of using IAM role for any EC2 Instance creation also explain how the policies are applied along with IAM Role as a trust component and added for IAM user.

16. Compare and contrast public and private subnets within a VPC. Discuss their respective purposes, accessibility, and security considerations.

17. Compare and contrast the diverse types of load balancers offered by AWS, including Classic Load Balancer, Application Load Balancer (ALB), Network Load Balancer (NLB), and Gateway Load Balancer (GWLB). Analyze the unique features, capabilities, and use cases of each load balancer type.

**18.** Evaluate the benefits of ELBs in improving application scalability, fault tolerance, and performance optimization. Discuss the evolution of Elastic Load Balancers (ELBs) and their significance in modern cloud computing architectures.

19. Design an Application Load Balancer (ALB) configuration to efficiently distribute incoming traffic across the EC2 instances while ensuring optimal performance and reliability for a Product based company.

20. Evaluate the role of Application Load Balancer over Gateway Load Balancer, mention their major use cases for effective Load Balancing in Monolithic based Applications.