**SDP Day-7 Assignment**

***Please thoroughly review the AWS documentation to address questions covering all services. Responses should be paraphrased and reflect your understanding rather than copied from AI-generated, Google, or external sources. Failure to comply will ensure your assignment is valid.***

1. What is the difference between Amazon S3 and Amazon EBS?

Ans: amazon S3 is a standalone storage service which has high scalability and durability where as amazon EBS is a stoarge attaching to EC2 insances and is flexiblie and has replications

2. What are the key components of AWS Elastic Beanstalk?

Ans: key compnents:

* Application
* Environment
* Configurations
* platforms

3. How does Amazon Cloud Front improve website performance?

Ans: it improves website performance by delivering website content with low latency and high transfer speed

4. Explain the difference between Amazon RDS and Amazon DynamoDB.

Ans: RDS is used for already structured data and guves features like automated backups and redundancy while DynamoDB is a noSQL database which is fast scalable and flexible

5. How does AWS Lambda work?

Ans: Lambda basically lets you run your code without provison or managing servers it can run any type of pplication and it only charges you for your compute time each request

6. What is the purpose of Amazon VPC?

Ans: it is used to launch far gate containers inside your network and control in connectivity of your application

7. Explain the concept of high availability in AWS.

Ans: it is the concept of gminimizing downtimes and disruptions for your application so that they can be accessible and operational

8. What is AWS Cloud Formation?

Ans it is an infrastructure as code service thst allows you to define your infrastructure in a declerative template format giving consistent and repeatable deployments

9. How does AWS Auto Scaling work?

It is used to automatically adjust number of EC2 instances by using scaling policies to add or remove them depending on the demand

10. What are the benefits of using AWS CloudFront over a traditional web server?

Ans it makes the website perform better with low latency and high transfer speeds

11. What is the purpose of AWS Identity and Access Management (IAM)?

Ans AWS identity is used to basically secure control access to AWS services it helps in managing users and giving permissions IAM is used to centralize access management etc

12. What is the difference between Amazon SNS and Amazon SQS?

Ans: SNS is used for sending message notifications to subscribers using different protocols where as SQS is used for reliable and scalable message

13. How does Amazon CloudWatch help in monitoring and troubleshooting AWS resources?

Ans: Amazon CloudWatch monitors AWS resources, collects and tracks metrics, and sets alarms to troubleshoot issues and optimize performance

14. What is the purpose of Amazon Route 53?

Ans: its purpose is to route users to AWS infrastructure giving domain registrations and health checking capabilities

15. What are the different storage classes available in Amazon S3?

Ans: it provides standard, infrequent access and glacier

16. How does AWS CloudTrail assist in auditing and compliance?

Ans: AWS CloudTrail records API activity and delivers log files for auditing and compliance, providing detailed visibility into user actions, resource changes, and API calls

17. What is the purpose of AWS Direct Connect?

Ans: it is used to make a private network between o premise data centres and AWS to gie secure and consistent network performance

18. What is the concept of serverless computing in AWS?

Ans: it allows developers to build and run application without managing servers it also automatically scales to handle varying workload and have to pay for its actual usage

19. Explain the difference between horizontal and vertical scaling.

Ans: horizontal scaling is adding more instances where as vertical scaling is increasing resources of existing instances

20. What are the key benefits of using AWS Lambda?

Ans: serverless computes, dynamic scaling, managing server resources

21. What is the purpose of Amazon CloudWatch Logs?

Ans: Amazon CloudWatch Logs collects and monitors logs from AWS services and applications, allowing for real-time analysis, troubleshooting, and insight into system and application behavior

22. How does AWS Elastic Load Balancing (ELB) enhance application availability?

Ans: it does it by distributing application traffic across multiple EC2 making it high avalibility fault tolerance and efficient in resource utilization

23. What is AWS CloudWatch Events, and how does it work?

Ans: it monitors changes in AWS resources and depending on pre defined rules gives automated actions

24. What is AWS Elastic Beanstalk and how does it simplify application deployment?

Ans: AWS Elastic Beanstalk is used for application deployment it provides a PaaS environment which helps in provisioning scaling monitoring etc

25. What are the benefits of using AWS CloudFormation templates?

Ans: it facilitates automatic provisioning updating and management of infrastructure

26. What is the purpose of AWS Step Functions?

Ans: it executes multiple AW services making it easy for devs to build scalable and ressilient app with complex workflow

27. What is the difference between Amazon EC2 and Amazon ECS?

Ans EC2 offers storage attaching where as ECS manages container apps

28. How does AWS KMS (Key Management Service) enhance data security?

Ans: it does it by helping create manage and control encrypted keys by the user

29. What is the AWS Well-Architected Framework?

Ans: it is a framework that provides best practices and guidelines for designing bilding and operating on AWS it makes sure to align with AWS best practices and industry standard

30. What is AWS Glue, and how does it simplify data preparation and ETL (Extract, Transform, Load)?

Ans: it’s a service that simplifies data prep and movement for analytics cataloguing and transforming data