Question 1:

You are a Solutions Architect working with a company that uses Chef Configuration management in their datacenter. Which service is designed to let the customer leverage existing Chef recipes in AWS?

○ Amazon Simple Workflow Service

○ AWS Elastic Beanstalk

○ AWS CloudFormation

D ○ AWS OpsWorks

⭐ Question 2:

You work for a leading university as an AWS Infrastructure Engineer and also as a professor to aspiring AWS architects. As a way to familiarize your students with AWS, you gave them a project to host their applications to an EC2 instance. One of your students created an instance to host their online enrollment system project but is having a hard time connecting to their newly created EC2 instance. Your students have explored all of the troubleshooting guides by AWS and narrowed it down to login issues.

Which of the following can you use to log into an EC2 instance?

○ Custom EC2 password

○ EC2 Connection Strings

C ○ Key Pairs

○ Access Keys

Question 3:

A company is planning to launch an application which requires a data warehouse that will be used for their infrequently accessed data. You need to use an EBS Volume that can handle large, sequential I/O operations.

Which of the following is the most cost-effective storage type that you should use to meet the requirement?
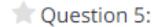
○ EBS General Purpose SSD (gp2)

○ Provisioned IOPS SSD (io1)

○ Throughput Optimized HDD (st1)

D

○ Cold HDD (sc1)

⭐ Question 4:

You are building a transcription service for a company in which a fleet of EC2 worker instances processes an uploaded audio file and generates a text file as an output. You must store both of these frequently accessed files in the same durable storage until the text file is retrieved by the uploader. Due to an expected surge in demand, you have to ensure that the storage is scalable and can be retrieved within minutes.

Which storage option in AWS can you use in this situation, which is both cost-efficient and scalable?

○ Multiple Amazon EBS volume with snapshots

○ Amazon S3 Glacier Deep Archive

C ○ A single Amazon S3 bucket

○ Multiple instance stores

Question 5:

As an AWS Cloud Consultant working for a record company, you are building an application that will store both key-value store and document models like band ID, album ID, song ID and composer ID.

Which AWS service will suit your needs for your application?

○ Amazon RDS

B

○ DynamoDB

○ Oracle RDS

○ Elastic Map Reduce

⭐ Question 6:

The operations team of your company asked you for a way to monitor the health of your production EC2 instances in AWS. You told them to use the CloudWatch service.

Which of the following metrics is not available by default in CloudWatch?

○ CPU Usage

B ○ Memory Usage

○ Disk Read operations

○ Network In and Out

A startup company has a serverless architecture that uses AWS Lambda, API Gateway, and DynamoDB. They received an urgent feature request from their client last month and now, it is ready to be pushed to production. The company is using AWS CodeDeploy as their deployment service.

Which of the following configuration types will allow you to specify the percentage of traffic shifted to your updated Lambda function version before the remaining traffic is shifted in the second increment?

A

- ○ Canary

- ○ Linear

- ○ All-at-once

- ○ Blue/Green deployment

A media company has two VPCs: VPC-1 and VPC-2 with peering connection between each other. VPC-1 only contains private subnets while VPC-2 only contains public subnets. The company uses a single AWS Direct Connect connection and a virtual interface to connect their on-premises network with VPC-1.

Which of the following options increase the fault tolerance of the connection to VPC-1? (Choose 2)

- [ ] Use the AWS VPN CloudHub to create a new AWS Direct Connect connection and private virtual interface in the same region as VPC-2.

B
- [ ] Establish a hardware VPN over the Internet between VPC-1 and the on-premises network.

- [ ] Establish a hardware VPN over the Internet between VPC-2 and the on-premises network.

- [ ] Establish a new AWS Direct Connect connection and private virtual interface in the same region as VPC-2.

- [ ] Establish another AWS Direct Connect connection and private virtual interface in the same AWS region as VPC-1.

⭐ Question 9:

An online events registration system is hosted in AWS and uses ECS to host its front-end tier and a Multi-AZ RDS for its database tier, which also has a standby replica. What are the events that will make Amazon RDS automatically perform a failover to the standby replica? (Choose 2)

A ☐ Loss of availability in primary Availability Zone

B ☐ Storage failure on primary

☐ Storage failure on secondary DB instance

☐ In the event of Read Replica failure

☐ Compute unit failure on secondary DB instance

Question 10:

One of your EC2 instances is reporting an unhealthy system status check. The operations team is looking for an easier way to monitor and repair these instances instead of fixing them manually.

How will you automate the monitoring and repair of the system status check failure in an AWS environment?

A

○ Create CloudWatch alarms that stop and start the instance based on status check alarms.

○ Write a python script that queries the EC2 API for each instance status check

○ Write a shell script that periodically shuts down and starts instances based on certain stats.

○ Buy and implement a third party monitoring tool.

Question 11:

As a Network Architect developing a food ordering application, you need to retrieve the instance ID, public keys, and public IP address of the EC2 server you made for tagging and grouping the attributes into your internal application running on-premises.

Which EC2 feature will help you achieve your requirements?

○ Instance user data

○ Resource tags

C ○ Instance metadata

○ Amazon Machine Image

Question 12:

You are working for a central bank as the Principal AWS Solutions Architect. Due to compliance requirements and security concerns, you are tasked to implement strict access to the central bank's AWS resources using the AWS Identity and Access Management service.

Which of the following can you manage in the IAM dashboard? (Choose 2)

A ☐ Groups

B ☐ Identity providers

☐ Cost Allocation Reports

☐ Security Groups

☐ Network Access Control List

Your fellow AWS Engineer has created a new Standard-class S3 bucket to store financial reports that are not frequently accessed but should be immediately available when an auditor requests for it. To save costs, you changed the storage class of the S3 bucket from Standard to Infrequent Access storage class.

In Amazon S3 Standard - Infrequent Access storage class, which of the following statements are true? (Choose 2)

A

☐ It is designed for data that is accessed less frequently.

☐ It is the best storage option to store noncritical and reproducible data

C

☐ It is designed for data that requires rapid access when needed.

☐ It provides high latency and low throughput performance
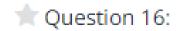
☐ Ideal to use for data archiving.

Question 14:

You are instructed by your manager to set up a bastion host in your Amazon VPC and it should only be accessed from the corporate data center via SSH. What is the best way for you to achieve this?

○ Create a large EC2 instance with a security group which only allows access on port 22 using your own pre-configured password.

○ Create a large EC2 instance with a security group which only allows access on port 22 via the IP address of the corporate data center. Use a private key (.pem) file to connect to the bastion host.

○ Create a small EC2 instance with a security group which only allows access on port 22 using your own pre-configured password.

D ○ Create a small EC2 instance with a security group which only allows access on port 22 via the IP address of the corporate data center. Use a private key (.pem) file to connect to the bastion host.

You are building a cloud infrastructure where you have EC2 instances that require access to various AWS services such as S3 and Redshift. You will also need to provision access to system administrators so they can deploy and test their changes.

Which configuration should be used to ensure that the access to your resources are secured and not compromised? (Choose 2)

A
☐ Enable Multi-Factor Authentication.

B
☐ Assign an IAM role to the Amazon EC2 instance.

☐ Store the AWS Access Keys in the EC2 instance.

☐ Assign an IAM user for each Amazon EC2 Instance.

☐ Store the AWS Access Keys in ACM.

Question 16:

You want to establish an SSH connection to a Linux instance hosted in your VPC via the Internet. Which of the following is not required in order for this to work?

A

- ○ Secondary Private IP Address

- ○ Public IP Address or Elastic IP

- ○ Internet Gateway

- ○ Network access control and security group rules which allow the relevant traffic to flow to and from your EC2 instance.

Question 17:

You are working as a Cloud Consultant for a government agency with a mandate of improving traffic planning, maintenance of roadways and preventing accidents. There is a need to manage traffic infrastructure in real time, alert traffic engineers and emergency response teams when problems are detected, and automatically change traffic signals to get emergency personnel to accident scenes faster by using sensors and smart devices.

Which AWS service will allow the developers of the agency to connect the said devices to your cloud-based applications?

○ CloudFormation

○ Elastic Beanstalk

C ○ AWS IoT Core

○ Container service

You are developing a meal planning application that provides meal recommendations for the week as well as the food consumption of your users. Your application resides on an EC2 instance which requires access to various AWS services for its day-to-day operations.

Which of the following is the best way to allow your EC2 instance to access your S3 bucket and other AWS services?

A

○ Create a role in IAM and assign it to the EC2 instance.

○ Store the API credentials in the EC2 instance.

○ Add the API Credentials in the Security Group and assign it to the EC2 instance.

○ Store the API credentials in a bastion host.

Your company just recently adopted a hybrid architecture that integrates their on-premises data center to their AWS cloud. You are assigned to configure the VPC as well as to implement the required IAM users, IAM roles, IAM groups and IAM policies.

In this scenario, what is a best practice when creating IAM policies?

A ○ Use the principle of least privilege which means granting only the permissions required to perform a task.

○ Grant all permissions to any EC2 user.

○ Use the principle of least privilege which means granting only the least number of people with full root access.

○ Determine what users need to do and then craft policies for them that let the users perform those tasks including additional administrative operations.

You are working as a Solutions Architect for a start-up company that has a not-for-profit crowdfunding platform hosted in AWS. Their platform allows people around the globe to raise money for social enterprise projects including challenging circumstances like accidents and illnesses. Since the system handles financial transactions, you have to ensure that your cloud architecture is secure.

Which of the following AWS services encrypts data at rest by default? (Choose 2)

A ☐ AWS Storage Gateway

☐ Amazon RDS

☐ Amazon ECS

☐ Amazon Glacier

☐ AWS Lambda

You run a website which accepts high-quality photos and turns them into a downloadable video montage. The website offers a free account and a premium account that guarantees faster processing. All requests by both free and premium members go through a single SQS queue and then processed by a group of EC2 instances which generate the videos. You need to ensure that the premium users who paid for the service have higher priority than your free members.

How do you re-design your architecture to address this requirement?

- For the requests made by premium members, set a higher priority in the SQS queue so it will be processed first compared to the requests made by free members.

B
- Create an SQS queue for free members and another one for premium members. Configure your EC2 instances to consume messages from the premium queue first and if it is empty, poll from the free members' SQS queue.

- Use Amazon Kinesis to process the photos and generate the video montage in real time.

- Use Amazon S3 to store and process the photos and then generate the video montage afterwards.

In Elastic Load Balancing, there are various security features that you can use such as Server Order Preference, Predefined Security Policy, Perfect Forward Secrecy and many others. Perfect Forward Secrecy is a feature that provides additional safeguards against the eavesdropping of encrypted data through the use of a unique random session key. This prevents the decoding of captured data, even if the secret long-term key is compromised.

Perfect Forward Secrecy is used to offer SSL/TLS cipher suites for which two AWS services?

○ EC2 and S3

○ CloudTrail and CloudWatch

C ○ CloudFront and Elastic Load Balancing

○ Trusted Advisor and GovCloud

One member of your DevOps team consulted you about a problem in connecting to one of the EC2 instances of your VPC over the Internet. Your environment is set up with four EC2 instances that all belong to a public non-default subnet. The EC2 instances also belong to the same security group. Everything works well as expected except for one of the EC2 instances which is not able to send nor receive traffic over the Internet.

What could be the possible reason for this issue?

○ The route table is not properly configured to allow traffic to and from the Internet through the Internet gateway.

○ The EC2 instance is running in an Availability Zone that is not connected to an Internet gateway.

○ The EC2 instance does not have a private IP address associated with it.

D ○ The EC2 instance does not have a public IP address associated with it.

You have a data analytics application that updates a real-time, foreign exchange dashboard and another separate application that archives data to Amazon Redshift. Both applications are configured to consume data from the same stream concurrently and independently by using Amazon Kinesis Data Streams. However, you noticed that there are a lot of occurrences where a shard iterator expires unexpectedly. Upon checking, you found out that the DynamoDB table used by Kinesis does not have enough capacity to store the lease data.

Which of the following is the most suitable solution to rectify this issue?

A ○ Increase the write capacity assigned to the shard table.

○ Upgrade the storage capacity of the DynamoDB table.

○ Enable In-Memory Acceleration with DynamoDB Accelerator (DAX).

○ Use Amazon Kinesis Data Analytics to properly support the data analytics application instead of Kinesis Data Stream.

You have two On-Demand EC2 instances inside your Virtual Private Cloud in the same Availability Zone but are deployed to different subnets. One EC2 instance is running a database and the other EC2 instance a web application that connects with the database. You want to ensure that these two instances can communicate with each other for your system to work properly.

What are the things you have to check so that these EC2 instances can communicate inside the VPC? (Choose 2)

A ☐ Check the Network ACL if it allows communication between the two subnets.

☐ Check if both instances are the same instance class.

☐ Check if the default route is set to a NAT instance or Internet Gateway (IGW) for them to communicate.

D ☐ Check if all security groups are set to allow the application host to communicate to the database on the right port and protocol.

You developed a web application and deployed it on a fleet of EC2 instances, which is using Amazon SQS. The requests are saved as messages in the SQS queue which is configured with the maximum message retention period. However, after thirteen days of operation, the web application suddenly crashed and there are 10,000 unprocessed messages that are still waiting in the queue. Since you developed the application, you can easily resolve the issue but you need to send a communication to the users on the issue.

What information will you provide and what will happen to the unprocessed messages?

○ Tell the users that unfortunately, they have to resubmit all the requests again.

○ Tell the users that the application will be operational shortly however, requests sent over three days ago will need to be resubmitted.

C ○ Tell the users that the application will be operational shortly and all received requests will be processed after the web application is restarted.

○ Tell the users that unfortunately, they have to resubmit all of the requests since the queue would not be able to process the 10,000 messages together.

You have started your new role as a Solutions Architect for a media company. They host large volumes of data for their operations which are about 250 TB in size on their internal servers. They have decided to store this data on S3 because of its durability and redundancy. The company currently has a 100 Mbps dedicated line connecting their head office to the Internet.

What is the fastest way to import all this data to Amazon S3?

○ Upload it directly to S3

○ Use AWS Direct connect and transfer the data over to S3.

○ Upload the files using AWS Data pipeline.

D ○ Use AWS Snowball to upload the files.

You are working as a Solutions Architect for a leading commercial bank which has recently adopted a hybrid cloud architecture. You have to ensure that the required data security is in place on all of their AWS resources to meet the strict financial regulatory requirements.

In the AWS Shared Responsibility Model, which security aspects are the responsibilities of the customer? (Choose 2)

☐ Managing the underlying network infrastructure

☐ Physical security of hardware

C ☐ OS Patching of an EC2 instance

D ☐ IAM Policies and Credentials Management

☐ Virtualization infrastructure

A corporate and investment bank has recently decided to adopt a hybrid cloud architecture for their Trade Finance web application which uses an Oracle database with Oracle Real Application Clusters (RAC) configuration. Since Oracle RAC is not supported in RDS, they decided to launch their database in a large On-Demand EC2 instance instead, with multiple EBS Volumes attached. As a Solutions Architect, you are responsible to ensure the security, availability, scalability, and disaster recovery of the whole architecture.

In this scenario, which of the following will enable you to take backups of your EBS volumes that are being used by the Oracle database?

○ EBS-backed EC2 instances.

○ Use Disk Mirroring, which is also known as RAID 1, that replicates data to two or more disks/EBS Volumes.

○ Launch the EBS Volumes to a Placement Group which will automatically back up your data.

D ○ Create snapshots of the EBS Volumes.

Your company has a top priority requirement to monitor a few database metrics and then afterwards, send email notifications to the Operations team in case there is an issue. Which AWS services can accomplish this requirement? (Choose 2)

- [ ] Amazon Simple Email Service

B - [ ] Amazon CloudWatch

- [ ] Amazon Simple Queue Service (SQS)

- [ ] Amazon Route 53

- [ ] Amazon Simple Notification Service (SNS)

You are a Solutions Architect of a multi-national gaming company which develops video games for PS4, Xbox One and Nintendo Switch consoles, plus a number of mobile games for Android and iOS. Due to the wide range of their products and services, you proposed that they use API Gateway.

What are the key features of API Gateway that you can tell your client? (Choose 2)

☐ It automatically provides a query language for your APIs similar to GraphQL.

☐ You can run your APIs with quantum computer servers.

C ☐ You can run your APIs without any servers.

☐ Provides durable data storage

☐ You pay only for the API calls you receive and the amount of data transferred out.

You are an AWS Network Engineer working for a utilities provider where you are managing a monolithic application with EC2 instance using a Windows AMI. You want to implement a cost-effective and highly available architecture for your application where you have an exact replica of the Windows server that is in a running state. If the primary instance terminates, you can attach the ENI to the standby secondary instance which allows the traffic flow to resume within a few seconds.

When it comes to the ENI attachment to an EC2 instance, what does 'warm attach' refer to?

A
○ Attaching an ENI to an instance when it is stopped.

○ Attaching an ENI to an instance during the launch process.

○ Attaching an ENI to an instance when it is running.

○ Attaching an ENI to an instance when it is idle.

You have a new, dynamic web app written in MEAN stack that is going to be launched in the next month. There is a probability that the traffic will be quite high in the first couple of weeks. In the event of a load failure, how can you set up DNS failover to a static website?

○ Duplicate the exact application architecture in another region and configure DNS weight-based routing.

○ Enable failover to an application hosted in an on-premises data center.

C ○ Use Route 53 with the failover option to a static S3 website bucket or CloudFront distribution.

○ Add more servers in case the application fails.

You are working for a large telecommunications company. They have a requirement to move 83 TB data warehouse to the cloud. It would take 2 months to transfer the data given their current bandwidth allocation.

Which is the most cost-effective service that would allow you to quickly upload their data into AWS?

○ Amazon Snowball

B ○ Amazon Snowball Edge

○ Amazon Direct Connect

○ Amazon S3 MultiPart Upload

As part of the Business Continuity Plan of your company, your IT Director instructed you to set up an automated backup of all of the EBS Volumes for your EC2 instances as soon as possible.

What is the fastest and most cost-effective solution to automatically back up all of your EBS Volumes?

○ For an automated solution, create a scheduled job that calls the "create-snapshot" command via the AWS CLI to take a snapshot of production EBS volumes periodically.

○ Set your Amazon Storage Gateway with EBS volumes as the data source and store the backups in your on-premises servers through the storage gateway.

○ Use an EBS-cycle policy in Amazon S3 to automatically back up the EBS volumes.

D ○ Use Amazon Data Lifecycle Manager (Amazon DLM) to automate the creation of EBS snapshots.

Answer Keys -

1. D
2. C
3. D
4. C
5. B
6. B
7. A
8. B
9. A,B
10. A
11. C
12. A, B
13. A, C
14. D
15. A, B
16. A

17. C
18. A
19. A
20. A
21. B
22. C
23. D
24. A
25. A, D
26. C
27. D
28. C, D
29. D
30. B
31. C
32. A

33. C
34. B
35. D