Q1)

You have enabled a CloudWatch metric on your MemCached ElastiCache cluster. Your alarm is triggered due to an increased amount of evictions.

How might you go about solving the increased eviction errors from the ElastiCache cluster? (Choose Two) Choose the 2 correct answers:

- ⚪ Increase the provisioned IOPS on the ElastiCache Node
- ⚪ Reboot your MemCache cluster
- ✅ Add a node to the cluster

Explanation:-Increase the node size, Add a node to the cluster

- ✅ Increase the node size

Explanation:-Increase the node size, Add a node to the cluster

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Q2) How might you assign permissions to an EC2 instance so that the EC2 custom CloudWatch metric scripts can send the required data to Amazon CloudWatch? Choose the correct answer:

- ⚪ None of these
- ⚪ Assign an IAM role to the EC2 instance at the boot time with permissions to write to CloudWatch
- ✅ Assign an IAM role to the EC2 instance at creation time with permissions to write to CloudWatch

Explanation:-Assign an IAM role to the EC2 instance at creation time with permissions to write to CloudWatch

- ⚪ You do not need to assign special permissions, just install the scripts

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Q3)

Your RDS database is experiencing high levels of read requests during the business day and performance is slowing down.

You have already verified that the source of the congestion is not backups taking place during the business day, as automatic backups are not enabled.

Which of the following is the first step you can take toward resolving the issue? Choose the correct answer:

- ⚪ Create a read replica of the database and offload some of the read requests to the read replica.
- ⚪ Create a snapshot of the database and offload some of the read requests to the snapshot.
- ⚪ Pre-warm the database before gradual increases in read requests occur.
- ✅ Enable automated backups of the database.

Explanation:-Enable automated backups of the database. A read replica of the database cannot be created until automated backups are enabled. Your first step should be to enable automated backups. Once automated backups are enabled, you can proceed with creating a read replica of the database and offloading some client read requests to .

Q4) Which features can be used to restrict access to data in S3? Choose the 3 correct answers:

- ✅ Set an S3 ACL on the bucket or the object

Explanation:-Create a CloudFront distribution for the bucket, Set an S3 bucket policy, Set an S3 ACL on the bucket or the object

- ✅ Create a CloudFront distribution for the bucket

Explanation:-Create a CloudFront distribution for the bucket, Set an S3 bucket policy, Set an S3 ACL on the bucket or the object

- ✅ Set an S3 bucket policy

Explanation:-Create a CloudFront distribution for the bucket, Set an S3 bucket policy, Set an S3 ACL on the bucket or the object

- ⚪ Enable IAM Identity Federation

Q5) What happens during a failover process in a Multi-AZ with AWS RDS instance? Choose the correct answer:

- ✅ The DNS record of the DB instance changes from the primary to the standby DB instance

Explanation:-The DNS record of the DB instance changes from the primary to the standby DB instanceM
The Multi-AZ failover process does not require any action from the SysOps admin. The DNS on the backend of AWS will change from primary to the secondary instance. This occurs during time periods such as DB failure and DB updates by AWS.

- ⚪ RDS automatically creates new RDS instances for you in a failover
- ⚪ RDS data gets backed up offsite
- ⚪ You lose data on the primary RDS instance

Q6)

If you configure a VPC with an Internet gateway that has a private and a public subnet, is each in its own Availability Zone and is using a dual-tunnel VPN between the Virtual Private Gateway and the router in the private data center.

You want to make sure that you do not have a potential single point of failure in this design.

Which option would you get rid of to make sure we achieve this above environment? Choose the correct answer:

- ✅ There is not a single point of failure with this architecture

Explanation:-There is not a single point of failure with this architecture

- ⚪ You create another Internet Gateway to provide redundant Internet connectivity.
- ⚪ You set up a secondary router in your private data center to establish another dual-tunnel VPN concoction with a Virtual Private Gateway.
- ⚪ You create and then attach a second Virtual Private Gateway, providing redundant VPN connectivity .

Q7)

You have been asked to maintain a small AWS environment consisting of five on-demand EC2 web server instances. Traffic from the Internet is distributed to these servers via an Elastic Load Balancer.

Your supervisor is not pleased with a recent AWS bill.

Assuming a consistent, moderately high load on the web servers, what option should you recommend to reduce the cost for this environment without negatively affecting availability? Choose the correct answer:

○ Use spot instances rather than on-demand instances.
○ Remove the Elastic Load Balancer since the instances already have public IP addresses
○ Create an Auto Scaling group to ensure that you are not paying for instances that are not needed.
✅ Use reserved EC2 instances rather than on-demand instances.

Explanation:-Use reserved EC2 instances rather than on-demand instances. Auto Scaling can often save money in environments with variable load, but would likely not help reduce costs in an environment with a consistent high load spread across all servers. Reserved instances are recommended for instances with a consistently high load. Removing the ELB or using spot instances would save money, but could decrease availability.

Q8)

You are running an EC2 instance serving a website with an SSL certificate. Your CPU utilization is constantly high.

How might you resolve this issue? Choose the correct answer:

○ Switch from Apache web server to Nginx for better SSL performance
✅ Offload the SSL cert form the EC2 instance and configure on the Elastic Load Balancer

Explanation:-Offload the SSL cert form the EC2 instance and configure on the Elastic Load Balancer

○ Offload the SSL cert to AWS ElastiCache
○ Increase the instance size

Q9)

We need to run a business intelligence application against our production database. This application requires near real time data from the database.

How might we configure our RDS setup so that our application does not increase I/O load against our production database? Choose the correct answer:

○ Point the application to the Multi-AZ failover instance
✅ Create a read replica from the production instance and point the application to the read replica

Explanation:-Create a read replica from the production instance and point the application to the read replica

○ In order to receive real time information the application must query the primary database
○ Copy the production instance and create a cron that dumps the RDS data into the secondary instance

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Q10)

When managing our VPC in an AWS region, we want to give other teams access to create their own instances and modify the security groups inside subnets dedicated to their teams.

We have to make sure the development team can NOT do anything in their subnets that could allow their instances to impact production instances in the production subnets.

What can we do to separate out our VPC so that instances that the dev team can access can never interfere or interact with the ones within our production? Choose the correct answer:

○ We can make sure that the dev team's subnet are in one AZ and the production is in another
○ We can create two subnets in CIDR blocks that are not close together
✅ We can create NACLs that restrict which subnets that can talk to each other

Explanation:-We can create NACLs that restrict which subnets that can talk to each other

○ We can make sure that the subnets are only allowing routing via our IGW and not the local router

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Q11)

Your EC2 instance has a system static check error with an error message of loss of network connectivity.

What is the best way to attempt to resolve the EC2 instance status check error? Choose the 2 correct answers:

○ Increase the size of your instance
✅ Terminate the instance and build a new one

Explanation:-Attempt to change the physical host that the instance is on by stopping and starting the instance , Terminate the instance and build a new one

✅ Attempt to change the physical host that the instance is on by stopping and starting the instance

Explanation:-Attempt to change the physical host that the instance is on by stopping and starting the instance , Terminate the instance and build a new one

○ Restart the instance

Q12) A deny overrides an allow in which circumstances? Choose the correct answer:

✅ An explicit allow is set in an IAM policy governing S3 access and an explicit deny is set on an S3 bucket via an S3 bucket policy.

Explanation:-An explicit allow is set in an IAM policy governing S3 access and an explicit deny is set on an S3 bucket via an S3 bucket policy

- S3 bucket access is implicitly denied for all users and an explicit allow is set on an S3 bucket via an S3 bucket policy.
- A NACL associated with subnet B defines two rules. Rule #105 explicitly denies TCP traffic on port 21 from 0.0.0.0/0 and rule #100 explicitly allows TCP traffic on port 21 from 0.0.0.0/0.
- A NACL associated with subnet A defines two rules. Rule #100 explicitly denies TCP traffic on port 21 from 0.0.0.0/0 and rule #105 explicitly allows TCP traffic on port 21 from 0.0.0.0/0.

Q13) What is the most likely reason you are being charged for an instance you launched from a free-tier eligible AMI? Choose the correct answer:

- Your instance has a public IP address assigned to it
- You launched the instance from a cloud formation template
- You used an EBS-backed root volume
- ✅ Your account has passed the one-year trial period

Q14)

Your website is hosted on 10 EC2 instances in five regions around the globe, with two instances per region.

How could you configure your site to maintain availability with minimum downtime if one of the five regions was to lose network connectivity for an extended period? Choose the correct answer:

- ✅ Create a Route 53 Latency Based Routing Record Set that resolves to an Elastic Load Balancer in each region and has the Evaluate Target Health flag set to true.
Explanation:-Create a Route 53 Latency Based Routing Record Set that resolves to an Elastic Load Balancer in each region and has the Evaluate Target Health flag set to true.
- Create a Elastic Load Balancer to place in front of the EC2 instances. Set an appropriate health check on each ELB.
- Create a Route 53 Latency Based Routing Record Set that resolves to an Elastic Load Balancer in each region. Set an appropriate health check on each ELB.
- Establish VPN connections between the instances in each region. Rely on BGP to failover in the case of region-wide connectivity failure for an extended period.

Q15) When working with Amazon RDS, by default, AWS is responsible for implementing which two management-related activities? Choose the 2 correct answers:

- Creating and maintaining automated database backups in compliance with regulatory long-term retention requirements
- ✅ Installing and periodically patching the database software
Explanation:-Installing and periodically patching the database software, If automated backups are enabled, creating and maintaining automated database backups with a point-in-time recovery of up to five minutes
- Importing data and optimizing queries
- ✅ If automated backups are enabled, creating and maintaining automated database backups with a point-in-time recovery of up to five minutes
Explanation:-Installing and periodically patching the database software, If automated backups are enabled, creating and maintaining automated database backups with a point-in-time recovery of up to five minutes

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Q16) What would be a reason you would upgrade to Direct Connect instead of a traditional VPN connection? Choose the correct answer:

- Direct Connect gives you a greater connection speed
- ✅ You gain higher bandwidth and consistent network connectivity
Explanation:-You gain higher bandwidth and consistent network connectivity
- Using Direct Connect is easier than setting up a VPN connection
- Direct Connect is free

Q17)

Your supervisor sends you a list of several processes in your AWS environment that she would like you to automate via scripts.

Which of the following list items should you set as the highest priority? Choose the correct answer:

- ✅ Implement CloudWatch alerts for EC2 instances' memory usage
Explanation:-Implement CloudWatch alerts for EC2 instances' memory usage
- Identify and replace unhealthy EC2 instances
- Identify and failover unhealthy RDS databases to a secondary copy in a different Availability Zone
- Implement CloudWatch alerts for RDS instances' free storage space

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Q18)

Your company is setting up an application that is used to share files. Because these files are important for the sales team, the application must be highly available.

Which AWS-specific storage option would you set up for low cost, reliability, and scaling? Choose the correct answer:

- ✅ Use AWS (S3) that can be access via end users with signed URLs.
Explanation:-Use AWS (S3) that can be access via end users with signed URLs
- Create a DropBox account to share your files.
- Attach an EBS volume to each of the EC2 servers where the files could be uploaded.
- Spin up EC2 on ephemeral type storage to keep the cost down.

Q19)

Your company has decided to deploy a "Pilot Light" AWS environment to keep minimal resources in AWS with the intention of rapidly expanding the environment in the event of a disaster in your on-premises Datacenter.

Which of the following services will you likely not make use of? Choose the correct answer:

○ A Gateway-Cached implementation of Storage Gateway for storing snapshot copies of on-premises data
✅ CloudFormation for automating the large-scale deployment of AWS resources in the event of an on-premises disaster
Explanation:-CloudFormation for automating the large-scale deployment of AWS resources in the event of an on-premises disaster A Gateway-Cached implementation of Storage Gateway stores all of your data in AWS and caches your frequently-accessed data on premises. Keeping all data in AWS is not a minimal AWS implementation. A Gateway-Stored implementation of Storage Gateway would be preferred for a "Pilot Light" AWS environment, as it would allow you retain your data on-premises but take snapshot copies of the data to AWS, so it could be accessed in the event of an on-premises disaster. With that being said, here is why CloudFormation is the correct answer to this question: "pilot light" requires the replication of data in order to easily "scale out." For RDS this means you already have a running instance that is receiving replicated data. If you use CloudFormation to "increase the instance size" it will actually terminate the instance and launch a new one. In the event of a disaster, it's better to just increase the size of the instance which you can't do with a CloudFormation template.
○ EC2 for storing updated AMI copies of on-premises VMs
○ RDS for replicating mission-critical databases to AWS

Q20) Which of the following could be a procedure to disaster recovery as it relates to RDS? Choose the correct answer:

✅ Configure a read replica to a different region. In the event of a failover, promote the read replica as the primary and change the DNS for your application to point to the new primary and then enable Multi AZ.
Explanation:-Configure a read replica to a different region. In the event of a failover, promote the read replica as the primary and change the DNS for your application to point to the new primary and then enable Multi AZ.
○ Configure the read replica to a different region. In the event of failover, promote the read replica as the primary.
○ Configure the read replica to a different region in the event of a fail-over, promote the read replica as the primary and change the DNS for your application to point to the new primary.
○ Enable multi regions for Multi Availability Zones

Q21)

You manage a social media website on EC2 instances in an Auto Scaling group. You have configured your Auto Scaling group to deploy one new EC2 instance when CPU utilization is greater than 90% for 3 consecutive periods of 10 minutes.

You notice that between 6:00 pm and 10:00 pm every night, you see a gradual increase in traffic to your website.

Although Auto Scaling launches several new instances every night, some users complain they are seeing timeouts when trying to load the index page during those hours.

What is the least cost-effective way to resolve this problem? Choose the correct answer:

○ Decrease the collection period to five minutes
○ Decrease the consecutive number of collection periods that must elapse before a new instance is deployed
○ Decrease the threshold CPU utilization percentage at which to deploy a new instance
✅ Increase the minimum number of instances in the AutoScaling group
Explanation:-Increase the minimum number of instances in the AutoScaling group
Increasing the minimum number of instances in the AutoScaling group will keep more instances running around the clock, thus making it a very inefficient way to manage cost. The other options all increase the AutoScaling group's sensitivity to an increase in load and enable it to respond quicker to increased load by spinning up instances as soon as they become necessary.

Q22) We have a web application that is using Auto Scaling and an ELB. We would like to monitor the application to make sure that it maintains a good quality of service for our customers, defined by the application's page load time.
What metic within CloudWatch can we use for this? Choose the correct answer

○ Networking for the web tier
✅ The latency that is reported by the ELB
○ CPU utilization for our web application tier
○ The ELB RequestCount

Q23)

You manage a technology blog website on EC2 instances in an Auto Scaling group behind an Elastic Load Balancer. Traffic volume to the site is consistently low, except during several weeks of the year when major technology conferences are occurring, when traffic increases 300 percent.

What is the least advisable way to manage this environment? Choose the correct answer:

○ Use on-demand instances to handle the increased load during the technology conference weeks.
○ Increase the desired number of instances in the Auto-Scaling group during technology conference weeks.
✅ Upgrade the reserved instances that handle the typical load for the website to larger reserved instances during technology conference weeks.
Explanation:-Upgrade the reserved instances that handle the typical load for the website to larger reserved instances during technology conference weeks.
Upgrading the size of reserved instances means you incur a cost to reserve resources for the entire period of the reservation, which at a minimum of one year, is much more commitment than is needed for a few week-long conferences. It's better to keep the reserved instances sized properly to handle the typical load and use on-demand instances to handle the spikes.
○ Pre-warm the Elastic Load Balancer prior to technology conference weeks

Q24) Which of the following would you be likely to schedule during a maintenance window (rather than during business hours)

when working in a Multi-AZ RDS environment? Choose the correct answer:

- ○ RDS database upgrade
- ○ Read replica promotion to the primary database
- ○ RDS instance type upgrade
- ✅ All of these

Explanation:-While patches and upgrades can be performed with minimal downtime in a Multi-AZ environment, any work that requires a failover of the database or functional changes to the database or underlying OS can still impact connectivity and should be performed during a maintenance window.

Q25) Assuming you have kept the default settings and have taken manual snapshots, which of the following manual snapshots will be retained? Choose the 2 correct answers:

- ○ A snapshot of instance store root volume when the EC2 instance is stopped
- ✅ A snapshot of an RDS database when the RDS instance is terminated

Explanation:-A snapshot of an EBS root volume when the EC2 instance is terminated, A snapshot of an RDS database when the RDS instance is terminated

Manual snapshots of RDS databases and EBS volumes persist after instance termination. You cannot snapshot an EC2 instance store volume.

- ✅ A snapshot of an EBS root volume when the EC2 instance is terminated

Explanation:-A snapshot of an EBS root volume when the EC2 instance is terminated, A snapshot of an RDS database when the RDS instance is terminated

Manual snapshots of RDS databases and EBS volumes persist after instance termination. You cannot snapshot an EC2 instance store volume.

- ○ A snapshot of an instance store root volume when the EC2 instance is terminated

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Q26) Which of the following will cause a noticeable performance impact on an RDS Multi-AZ deployment? Choose the correct answer:

- ✅ None of these
- ○ Read replica creation
- ○ Automated backups
- ○ Snapshot creation

Q27)

In your infrastructure, you are running a corporate application using a T2.Small instance.

You are also using a NAT instance so that your private instances can reach out to the internet without being publicly available.

What is one thing that we should do to speed up bandwidth and performance? Choose the correct answer:

- ○ Load balance your NAT instance with dual tunnels
- ○ Move your infrastructure to a different region
- ✅ Increase your T2.Small instance to a M3.Small or M3.Medium

Explanation:-Increase your T2.Small instance to a M3.Small or M3.Medium

Instance size has a direct influence on the amount of data your instance can send and receive. If your AWS environment has many instances using NAT availability, a network bottleneck could occur. Increasing the instance size will increase the available network throughput.

- ○ Loadbalance your instance with an ELB

Q28)

You support a website with a large user base concentrated on the east coast, but very few users outside of that region. Traffic load is much heavier on the site during business hours so you are planning to implement Auto Scaling to optimize the number of running EC2 instances to meet the traffic load throughout the day.

You are also looking for a solution to distribute traffic evenly among those instances.

Which of the following solutions will distribute traffic most evenly among the EC2 instances hosting this website in the US-East-1 region? Choose the correct answer:

- ○ Place the instances behind an Elastic Load Balancer and enable Application Generated Cookie Stickiness.
- ✅ Place the instances behind an Elastic Load Balancer with stickiness disabled.

Explanation:-Place the instances behind an Elastic Load Balancer with stickiness disabled. Elastic Load Balancers with sticky sessions configured may not distribute traffic equally between EC2 instances. Latency-based routing won't evenly distribute the load among all instances, since the users are not evenly distributed and all the instances are in the same region.

- ○ Place the instances behind an Elastic Load Balancer and enable Load Balancer Generated Cookie Stickiness.
- ○ Set up latency-based routing in Route 53 to distribute the traffic between the EC2 instances.

Q29) Which one of the below setups would need a custom CloudWatch metric in which to monitor? Choose the correct answer:

- ○ Our disk usage activity of an ELB volume attached to our EC2 instance
- ○ The disk full percentage of our ELB volume
- ○ Our CPU utilization of an EC2 instance
- ✅ Disk full percentage of an Elastic Block Store volume

Q30) What sort of host might you set up in your AWS environment that can be used as a way to "hop" into your environment to gain access to secure servers within a private subnet? Choose the correct answer:

- ○ Sneaker-net
- ○ This is not possible

✅ Bastion
⚪ VPN

Q31)

We are preparing for our regular scheduled security assessment.

What two configuration management practices should our organization have implemented? Choose the 2 correct answers:

⚪ We will make sure that unnecessary users and services have been identified on all published AMIs
✅ Determine our remote administrative access is performed securely
Explanation:-Determine our remote administrative access is performed securely, Make sure that S3 bucket policies and ACLs correctly implement our security policies
⚪ Be sure that our AWS Trusted Advisor has identified and disabled unnecessary users and services on your EC2 instances
✅ Make sure that S3 bucket policies and ACLs correctly implement our security policies
Explanation:-Determine our remote administrative access is performed securely, Make sure that S3 bucket policies and ACLs correctly implement our security policies

Q32)

A colleague noticed that CloudWatch was reporting that there had not been any connections to one of your MySQL databases for several months. You decided to terminate the database.

Two months after the database was terminated, you get a phone call from a very upset user who needs information from that database to run end-of-year reports.

You are hopeful that you can restore the database to full functionality from snapshot, but your database administrator is not quite as confident. Why? Choose the correct answer:

⚪ he snapshot was taken while the database was running.
✅ The MySQL database was not using a transactional database engine such as InnoDB and may not restore properly.
Explanation:-The MySQL database was not using a transactional database engine such as InnoDB and may not restore properly
⚪ MySQL databases do not support snapshots.
⚪ The 35-day maximum retention period for snapshots has expired.

Q33) Select all that apply: Per the AWS Acceptable Use Policy, penetration testing of EC2 instances: Choose the correct answer:

⚪ are expressly prohibited under all circumstances
✅ may be performed by the customer against their own instances with prior authorization from AWS
Explanation:-may be performed by the customer against their own instances with prior authorization from AWS
⚪ can be freely performed without authorization
⚪ may be performed by AWS, and is periodically performed by AWS

Q34)

Your company's compliance department mandates that within your multi-national organization, all data for customers in the UK must never leave UK servers and networks. Similarly, US data must never leave US servers and networks without explicit authorization first.

What do we have to do to comply with this requirement in our web-based applications running on AWS in EC2?

The user has already set up a user profile that states their geographic location. Choose the correct answer:

⚪ We can run EC2 instances in multiple regions and leverage Route 53's latency-based routing capabilities to route traffic to the appropriate region based on a user's profile.
⚪ We can run our EC2 instances within multiple AWS Availability Zones in a single region, and use Elastic Load Balancers with session stickiness to route our traffic to the appropriate zone based on the user's profile.
⚪ We can run EC2 instances in multiple regions, leveraging Elastic Load Balancers with session stickiness to route traffic to the appropriate region based on a user's profile.
✅ We can run EC2 instances in multiple regions, and leverage a third-party data provider to determine whether a user should be redirected to the appropriate region based on that user's profiles.
Explanation:-We can run EC2 instances in multiple regions, and leverage a third-party data provider to determine whether a user should be redirected to the appropriate region based on that user's profiles.

Q35) What would we need to attach to a Bastion host or NAT host to a primary host for high availability in the event that the primary host went down and that traffic coming in would establish to a backup Bastion host? Choose the correct answer:

⚪ Secondary route table
⚪ Direct Connect connection
⚪ Secondary Network Interface
✅ Elastic IP Address

Q36) Which of the following services have automated backups? Choose the 3 correct answers:

✅ ElastiCache
⚪ EC2
✅ RDS
✅ Redshift

Q37)

You have been tasked by your manager to build a tiered storage setup for database backups and their logs. These backups must be archived to a durable solution. After 10 days, the backups can then be archived to a lower priced storage tier.

The data, however, must be retained for compliance policies.

Which tiered storage solution would help you save cost, and still meet this compliance policy? Choose the correct answer:

✅ Set up an independent EBS volume where we can store daily backups and then copy these files over to S3, where we configure a bucket that has a lifecycle policy to archive files older than 10 days to AWS Glacier
Explanation:-Set up an independent EBS volume where we can store daily backups and then copy these files over to S3, where we configure a bucket that has a lifecycle policy to archive files older than 10 days to AWS Glacier
⚪ Using AWS is already elastic and highly available. Therefore, the need to setup lifecycle policies is already low cost and plenty of room for growth for your organization.
⚪ Create EC2 instances with attached EBS volumes that replicate files daily to multiple EBS volumes on other instances, then clean up files older than 10 days on the primary EBS volume.
⚪ Backup your data every day, off-site from AWS, to your on-premise data center's storage solution and manage the data backups with your existing backup solution.

Q38)

You want to run a web application in which application servers on an instance of EC2 are in an Auto Scaling group spread across two Availability Zones.

Monitoring over the last six months, we notice that only one of our web servers is needed to handle our minimum load.

During our core utilization hours (8-8 M-F), mostly five to six web servers are needed to handle the minimum load.

Four to five days a year, the number of web servers required can go up to 18 servers.

What choice would mostly reduce our costs providing full availability? Choose the correct answer:

⚪ Five Reserved Instances (heavy utilization), the rest covered by Spot instances
⚪ Three Reserved Instances (heavy utilization), four Reserved instances (medium utilization), the most covered by on-demand instances
⚪ Three Reserved Instances (heavy utilization), five on-demand instances, the rest covered by Spot Instances
✅ Five Reserved Instances (heavy utilization), the rest covered by on-demand instances

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Q39)

You have an Amazon VPC that has a private subnet and a public subnet, in which you have a NAT instance server.

You have created a group of EC2 instances that configure themselves at startup via downloading a bootstrapping script from S3 that deploys an application via GIT.

Which one of the following setups would give us the highest level of security? Choose the correct answer:

✅ EC2 instances in our private subnet, no EIPs, route outgoing traffic via the NAT
⚪ EC2 instances in our public subnet, no EIPs, route outgoing traffic via the IGW
⚪ EC2 instance in our private subnet, assigned EIPs, and route our outgoing traffic via our IGW
⚪ EC2 instances in our public subnet, assigned EIPs, and route outgoing traffic via the NAT

Q40)

You patch the operating system on an EC2 instance and issue a reboot command from inside the instance's OS.

After disconnecting from the instance and waiting several minutes, you notice that you still cannot successfully ping the instance's public IP address.

What is the most likely reason for this? Choose the correct answer:

✅ Changes made during OS patching caused a problem with the instance's NIC driver.
⚪ You were using an EC2 instance with an instance store root volume so the instance was terminated upon reboot.
⚪ There were pending security group rule changes that deny ICMP that could only take effect after the instance was rebooted.
⚪ You were using EC2 Classic. The Instance's EIP address was released at reboot.

Q41)

You are running an application on an EC2 instance that needs access to stored images on Amazon S3.

What would be the best practice for allowing API access from the EC2 instance to Amazon S3? Choose the correct answer:

⚪ IAM groups that restrict access to AWS API that is assigned at launch
⚪ Pass the AWS credentials using User Data fields when the instances is launched
✅ Launch the EC2 instances using AWS identity and IAM roles that restrict API access for the instance
Explanation:-Launch the EC2 instances using AWS identity and IAM roles that restrict API access for the instance
When available, it is best practice to use IAM roles for communicating with the AWS API. You should never store API credentials on an AMI. If roles are unavailable, your next best option would be to pass the API credentials to the instance at runtime.
⚪ IAM users that restrict access to AWS API that is assigned at launch

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Q42) Which of the following statements is true? Choose the 2 correct answers:

- ◉ You can customize your AWS deployments using the Ruby programming language in OpsWorks.
- ✅ You can customize your AWS deployments using JSON templates in CloudFormation.

Explanation:-You can customize your AWS deployments using JSON templates in CloudFormation., You can customize your AWS deployments using JSON templates in OpsWorks.

- ◉ You can customize your AWS deployments using the Ruby programming language in CloudFormation.
- ✅ You can customize your AWS deployments using JSON templates in OpsWorks.

Explanation:-You can customize your AWS deployments using JSON templates in CloudFormation., You can customize your AWS deployments using JSON templates in OpsWorks.

Q43)

Your company's website is hosted on several EC2 instances behind an Elastic Load Balancer. Every time the development team deploys a new upgrade to the web application, the support desk begins receiving calls of customers being disconnected from their sessions.

Customers' session data is very important, as it contains their shopping cart information, and this information is lost when the customers' sessions are disconnected.

Which of the following steps can be taken to prevent customers' shopping cart data from being lost without affecting website availability? (Choose Two) Choose the 2 correct answers:

- ◉ Post a notification on your site's homepage that the some features will be unavailable during the upgrade.
- ✅ Use ElastiCache to store session state.

Explanation:-Use ElastiCache to store session state., Enable connection draining and remove instances from the Elastic Load Balancer prior to upgrading the application on those instances.

Storing session state in ElastiCache will allow an instance to become unavailable without losing session data. Removing instances from the Elastic Load Balancer prior to upgrading them will prevent users from establishing new sessions on instances that are about to receive the application upgrade.

- ◉ Increase the amount of time required for the Elastic Load Balancer to recognize an EC2 instance as unhealthy.
- ✅ Enable connection draining and remove instances from the Elastic Load Balancer prior to upgrading the application on those instances.

Explanation:-Use ElastiCache to store session state., Enable connection draining and remove instances from the Elastic Load Balancer prior to upgrading the application on those instances.

Storing session state in ElastiCache will allow an instance to become unavailable without losing session data. Removing instances from the Elastic Load Balancer prior to upgrading them will prevent users from establishing new sessions on instances that are about to receive the application upgrade.

Q44)

You manage a popular blog website on EC2 instances in an Auto Scaling group. You notice that between 8:00 am and 8:00 pm, you see a 50% increase in traffic to your website.

In addition, there are occasional random 1- to 2-hour spikes in traffic and some users are seeing timeouts when trying to load the index page during those spikes.

What is the least cost-effective way to manage this Auto Scaling group? Choose the correct answer:

- ◉ Use reserved instances for the instances needed to handle the typical load during the night hours
- ◉ Use reserved instances for the instances needed to handle the load during the daytime hours
- ◉ Increase the maximum number of instances in the AutoScaling group
- ✅ Use reserved instances for the instances needed to handle the load during traffic spikes

Explanation:-Use reserved instances for the instances needed to handle the load during traffic spikes

Reserved instances become cost-effective when they are in use for greater than 30% of the time. Using reserved instances to handle the brief spikes in traffic would not be cost effective.

Q45)

You have set up an EC2 instance to run a Webserver and you're interested in tracking how much memory is being used.

Which metrics can you use with CloudWatch to track memory usage?

- ◉ CPUSurplusCreditBalance
- ✅ None of these

Explanation:-Memory metrics are not posted to CloudWatch natively, and require extra steps such as the CloudWatch Agent to be installed. (See module 2, lesson 4.4: CloudWatch Custom Metrics)

- ◉ CPUUtilization
- ◉ NetworkPacketsIn
- ◉ DiskReadBytes

Q46)

Your Redshift database is showing a status of "Incompatible-parameters".

How does this affect database availability?

- ✅ Database is unreachable and will not recover without intervention

Explanation:-A Redshift database status of Incompatible-parameters means that the database is improperly configured and will be unreachable until the parameter set is repaired. (See module 2, lesson 4.6: Resource Status Checks)

- ◉ Database is unreachable, but will be available in a few minutes
- ◉ Database is reachable but very slow
- ◉ Database is reachable and fully functional

Q47)

Your application is running slow and you look in CloudWatch at your Elastic Load Balancer metrics to troubleshoot the problem.

Which metric from your Classic load balancer could indicate that the back-end instances provided aren't capable of keeping up with the traffic? (Pick two)

✅ SurgeQueueLength
Explanation:-The SpilloverCount and SurgeQueueLength metrics can indicate how many incoming requests are being denied due to the load balancing service being unable to handle the change in traffic, as well as the back-end capacity to handle requests. (See module 2, lesson 4.3: Service Metric Highlights)
⚫ BackendConnectionErrors
⚫ HealthyHostCount
⚫ UnHealthyHostCount
✅ SpilloverCount
Explanation:-The SpilloverCount and SurgeQueueLength metrics can indicate how many incoming requests are being denied due to the load balancing service being unable to handle the change in traffic, as well as the back-end capacity to handle requests. (See module 2, lesson 4.3: Service Metric Highlights)

Q48)

Your RDS database instance is showing a status of "Backing-up".

How does this affect database availability?

⚫ Database is unreachable and will not recover without intervention
✅ Database is reachable and fully functional
Explanation:-Backups of your RDS database instance, whether automated or on-demand, do not impact the availability of the database instance.
⚫ Database is unreachable, but will be available in a few minutes
⚫ Database is reachable but very slow

Q49)

You are looking at the CloudWatch custom metrics for one of your EC2 instances and notice that there are missing data points.

Which of these could be a reason behind the missing data points?

✅ All the above
Explanation:-Sometimes some data points for a metric with an alarm do not get reported to CloudWatch. For example, this can happen when a connection is lost, a server goes down, or when a metric reports data only intermittently by design.
⚫ You have designed your custom metrics to only report intermittently
⚫ The instance OS has crashed
⚫ Connection to the instance has been lost

Q50)

You check one of the PIOPS EBS volumes attached to your EC2 instances and the volume status reads "warning".

What does this indicate?

✅ Volume performance is either degraded or seriously degraded
Explanation:-EBS volumes whose status indicates ' warning" are underperforming or drastically underperforming, and this information can be used to validate whether your volume is meeting the performance SLA.
⚫ The EBS volume has been detached from its EC2 instance
⚫ The physical volume storing the EBS data is failing
⚫ You have an unpaid balance due and your EBS volume is at risk of being erased

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Q51)

Your EC2 System Status check shows as "failed" in the AWS Console.

How does this affect the instance availability?

⚫ Instance is reachable but slow
⚫ Instance is unreachable and rebooting
✅ Instance is unreachable and may require a stop/start
Explanation:-A failed System Status check means that the host OS is experiencing an event that also renders your instance unreachable. (See module 2, lesson 4.6: Resource Status Checks)
⚫ Instance is reachable and fully functional

Q52)

You have hired a new junior systems administrator who will need access to all aspects of the CloudWatch service from a read-only perspective while the new joinee gets fully onboarded.

Which AWS-managed policies would be appropriate for this user? (pick three)

⚫ CloudWatchEventsFullAccess
✅ CloudWatchReadOnlyAccess
Explanation:-Granting full administrative access to a junior employee could introduce risk; they might not understand the ramifications of making

changes. The read-only policies ensure that the employee is not able to modify or delete any resources.

- CloudWatchFullAccess
- CloudWatchLogsFullAccess
- ✅ CloudWatchEventsReadOnlyAccess

Explanation:-Granting full administrative access to a junior employee could introduce risk; they might not understand the ramifications of making changes. The read-only policies ensure that the employee is not able to modify or delete any resources.

- ✅ CloudWatchLogsReadOnlyAccess

Explanation:-Granting full administrative access to a junior employee could introduce risk; they might not understand the ramifications of making changes. The read-only policies ensure that the employee is not able to modify or delete any resources.

Q53)

Your company has a legacy application that ships logs to S3 only, and you need to perform a search on those logs for a specific IP address.

Which AWS service would be the most appropriate for this action?

- Amazon RDS
- Amazon Macie
- Amazon Lex
- ✅ Amazon Athena

Explanation:-Amazon Athena is an interactive query service that makes it easy to analyze data directly in Amazon Simple Storage Service (Amazon S3) using standard SQL queries.

Q54)

You suspect that your site, hosted behind an Elastic Load Balancer, has been subject to a DDOS, resulting in temporary downtime for one of your company's sites.

What destination choice do you have for enabling access logs and which perm ssions would you need to allow the Elastic Load Balancer to write the logs?

- CloudWatch Logs and have an role
- S3 and be permitted by the bucket ACL
- ✅ S3 and be permitted by bucket policy

Explanation:-ELB access logs are stored within S3, and the permissions are resource-based, using an S3 bucket policy.

- CloudWatch Logs and be permitted by the ACL

Q55)

You have an Elastic Load Balancer with an Auto Scaling group for your application. You also have 4 running instances with Auto Scaling. All of these instances are running in the same Availability Zone.

Some instances within the zone are not highly available.

What could be the cause? (Choose Two) Choose the 2 correct answers:

- ✅ The ELB isn't configured for that Availability Zone

Explanation:-The ELB isn't configured for that Availability Zone, The auto scaling group is not configured for more that one Availability Zone

- ✅ The auto scaling group is not configured for more that one Availability Zone

Explanation:-The ELB isn't configured for that Availability Zone, The auto scaling group is not configured for more that one Availability Zone

- The VPC is not configured for auto scaling in to multiple subnets
- The auto scaling scaling policy is not configured for multiple Availability Zones

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Q56)

Your RDS instance is consistently maxed out on its resource utilization.

What are multiple ways to solve this issue? Choose the 3 correct answers:

- ✅ Offload read-only activity if it exist in your environment to a read replica.

Explanation:-Fire up an ElastiCache cluster in front of your RDS instance., Increase RDS instance size., Offload read-only activity if it exist in your environment to a read replica.

- Provision more RDS instance IOPS.
- ✅ Increase RDS instance size.

Explanation:-Fire up an ElastiCache cluster in front of your RDS instance., Increase RDS instance size., Offload read-only activity if it exist in your environment to a read replica.

- ✅ Fire up an ElastiCache cluster in front of your RDS instance.

Explanation:-Fire up an ElastiCache cluster in front of your RDS instance., Increase RDS instance size., Offload read-only activity if it exist in your environment to a read replica.

Q57)

Instance A and instance B are running in two different subnets, A and B, of a VPC. Instance A is not able to ping instance B.

What are two possible reasons for this? Choose the 2 correct answers:

- The routing table of subnet A has no target route to subnet B
- ✅ The NACL on subnet B does not allow outbound ICMP traffic

Explanation:-The security group attached to instance B does not allow inbound ICMP traffic, The NACL on subnet B does not allow outbound ICMP traffic

● The policy linked to the IAM role instance A is not configured correctly
✅ The security group attached to instance B does not allow inbound ICMP traffic
Explanation:-The security group attached to instance B does not allow inbound ICMP traffic, The NACL on subnet B does not allow outbound ICMP traffic

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Q58)

You have created an application that utilizes Auto Scaling behind an Elastic Load Balancer. You notice that users are not evenly distributing sessions on the newly spun up instances.

What could be a reason that your users' web sessions are stuck on one instance and not using others? Choose the correct answer:

● You have not enabled the correct security rules to allow new instances
● DNS isn't updating to the new instances
✅ Your ELB is sending all the sessions to the old instance and not evenly sending sessions to all new instances that are spun up during Auto Scaling
Explanation:-Your ELB is sending all the sessions to the old instance and not evenly sending sessions to all new instances that are spun up during Auto Scaling
If stuck sessions are enabled on the Elastic Load Balancer then the load balancer will "remember" what instance that request was sent to and will continue to send that request to the same instance.
● Users are using a firewall that is keeping them form initiating connections to the new instance

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Q59)

You notice that several of your AWS environment's CloudWatch metrics consistently have a value of zero.

Which of these are you most likely to be concerned about and take action on? Choose the correct answer:

● ElastiCache SwapUsage
✅ RDS DatabaseConnections
Explanation:-Zero connections to a database for a long period of time may mean you are paying for database is not in use. If you cannot find anyone with a legitimate use case for the database, you may want to consider taking a snapshot of it and terminating it. Zero is an ideal value for the other metrics listed.
● ElastiCache Evictions
● Elastic Load Balancer SpilloverCount

Q60) For which of the following reasons would you not contact AWS? Choose the correct answer:

✅ Request consolidated billing for multiple AWS accounts owned by your company
● Inform them you would like to port scan instances in your VPC
● Ask them to provide compliance documentation for AWS's physical network to the firm conducting a security audit of your environment
● Ask for an increase to the maximum number of DynamoDB tables for your account