1.Monitoring, Logging, and Remediation-

1.1 Implement metrics, alarms, and filters by using AWS monitoring and logging services-
-Identify, collect, analyze, and export logs (for example, Amazon CloudWatch Logs, CloudWatch Logs Insights, AWS CloudTrail logs)
-Collect metrics and logs using the CloudWatch agent
-Create CloudWatch alarms
-Create metric filters
-Create CloudWatch dashboards
-Configure notifications (for example, Amazon Simple Notification Service [Amazon SNS],
-Service Quotas, CloudWatch alarms, AWS Health events)
1.2 Remediate issues based on monitoring and availability metrics-
-Troubleshoot or take corrective actions based on notifications and alarms
-Configure Amazon Event Bridge rules to trigger actions
-Use AWS Systems Manager Automation documents to take action based on AWS Config. Rules

2. Reliability and Business Continuity-

2.1 Implement scalability and elasticity-
-Create and maintain AWS Auto Scaling plans
-Implement caching
-Implement Amazon RDS replicas and Amazon Aurora Replicas
-Implement loosely coupled architectures
-Differentiate between horizontal scaling and vertical scaling
2.2 Implement high availability and resilient environments-
-Configure Elastic Load Balancer and Amazon Route 53 health checks
-Differentiate between the use of a single Availability Zone and Multi-AZ deployments (for example, Amazon EC2 Auto Scaling groups, Elastic Load Balancing, Amazon FSx, Amazon RDS)
-Implement fault-tolerant workloads (for example, Amazon Elastic File System [Amazon EFS], Elastic IP addresses)
-Implement Route 53 routing policies (for example, failover, weighted, latency based)
2.3 Implement backup and restore strategies-
-Automate snapshots and backups based on use cases (for example, RDS snapshots, AWS Backup, RTO and RPO, Amazon Data Lifecycle Manager, retention policy)
-Restore databases (for example, point-in-time restore, promote read replica)
-Implement versioning and lifecycle rules

-Configure Amazon S3 Cross-Region Replication
-Execute disaster recovery procedures

3. Deployment, Provisioning, and Automation-

3.1 Provision and maintain cloud resources-
-Create and manage AMIs (for example, EC2 Image Builder)
-Create, manage, and troubleshoot AWS Cloud Formation
-Provision resources across multiple AWS Regions and accounts (for example, AWS Resource Access Manager, Cloud Formation Stack Sets, IAM cross-account roles)
-Select deployment scenarios and services (for example, blue/green, rolling, canary)
-Identify and remediate deployment issues (for example, service quotas, subnet sizing, Cloud Formation and AWS OpsWorks errors, and permissions)
3.2 Automate manual or repeatable processes-
-Use AWS services (for example, OpsWorks, Systems Manager, CloudFormation) to automate deployment processes
-Implement automated patch management
-Schedule automated tasks by using AWS services (for example, EventBridge, AWS Config)

4. Security and Compliance-

4.1 Implement and manage security and compliance policies-
-Implement IAM features (for example, password policies, MFA, roles, SAML, federated identity, resource policies, and policy conditions)
-Troubleshoot and audit access issues by using AWS services (for example, Cloud Trail, IAM Access Analyzer, IAM policy simulator)
-Validate service control policies and permissions boundaries
-Review AWS Trusted Advisor security checks
-Validate AWS Region and service selections based on compliance requirements
-Implement secure multi-account strategies (for example, AWS Control Tower, AWS Organizations)
4.2 Implement data and infrastructure protection strategies-
-Enforce a data classification scheme
-Create, manage, and protect encryption keys
-Implement encryption at rest (for example, AWS Key Management Service [AWS KMS])
-Implement encryption in transit (for example, AWS Certificate Manager, VPN)
-Securely store secrets by using AWS services (for example, AWS Secrets Manager, Systems Manager Parameter Store)
-Review reports or findings (for example, AWS Security Hub, Amazon Guard Duty, AWS Config, Amazon Inspector)

5. Networking and Content Delivery-

5.1 Implement networking features and connectivity-

-Configure a VPC (for example, subnets, route tables, network ACLs, security groups, NAT gateway, and internet gateway)
-Configure private connectivity (for example, Systems Manager Session Manager, VPC endpoints, VPC peering, VPN)
-Configure AWS network protection services (for example, AWS WAF, AWS Shield)
5.2 Configure domains, DNS services, and content delivery-
-Configure Route 53 hosted zones and records
-Implement Route 53 routing policies (for example, geo-location, and geo-proximity)
-Configure DNS (for example, Route 53 Resolver)
-Configure Amazon CloudFront and S3 origin access identity (OAI)
5.3 Troubleshoot network connectivity issues-
-Interpret VPC configurations (for example, subnets, route tables, network ACLs, security groups)
-Collect and interpret logs (for example, VPC Flow Logs, Elastic Load Balancer access logs, AWS WAF web ACL logs, Cloud Front logs)
-Identify and remediate Cloud Front caching issues
-Troubleshoot hybrid and private connectivity issues

6. Cost and Performance Optimization-

6.1 Implement cost optimization strategies-
-Implement cost allocation tags
-Identify and remediate underutilized or unused resources by using AWS services and tools (for example, Trusted Advisor, AWS Compute Optimizer, Cost Explorer)
-Configure AWS Budgets and billing alarms
-Assess resource usage patterns to qualify workloads for EC2 Spot Instances
-Identify opportunities to use managed services (for example, Amazon RDS, AWS Fargate, EFS)
6.2 Implement performance optimization strategies-
-Recommend compute resources based on performance metrics
-Monitor Amazon EBS metrics and modify configuration to increase performance efficiency
-Implement S3 performance features (for example, S3 Transfer Acceleration, multipart uploads)
-Monitor RDS metrics and modify the configuration to increase performance efficiency (for example, Performance Insights, RDS Proxy)
-Enable enhanced EC2 capabilities (for example, enhanced network adapter, instance store, placement groups)