1. A startup wants to deploy its web app on the cloud but pay only for the compute time it uses.
A) IaaS B) PaaS C) SaaS D) FaaS
Answer: D) FaaS — Function-as-a-Service charges only when code runs.

2. A company uses AWS EC2 instances. They want auto-scaling during high traffic.
A) CloudTrail B) CloudWatch C) Auto Scaling Group D) CloudFormation
Answer: C) Auto Scaling Group — automatically adjusts EC2 instance count.

3. Your organization wants to migrate databases to the cloud but still manage the OS.
A) IaaS B) PaaS C) SaaS D) FaaS
Answer: A) IaaS — provides full control of OS, runtime, and database.

4. A developer wants to deploy code without managing servers.
A) EC2 B) Lambda C) RDS D) S3
Answer: B) Lambda — serverless compute service with automatic scaling.

5. A company uses GCP. They want to restrict resources to only US regions for compliance.
A) Network peering B) Data residency constraint C) Cloud DNS D) Shared VPC
Answer: B) Data residency constraint — limits where data is stored and processed.

6. In Azure, which service allows you to run containers without managing Kubernetes infrastructure?
A) Azure Kubernetes Service B) Azure Container Instances C) Azure DevOps D) Azure App Service
Answer: B) Azure Container Instances — run containers directly without cluster management.

7. Which of the following best describes a multi-cloud strategy?
A) Using multiple regions in one cloud B) Using different cloud providers for different workloads C) Using multiple accounts in AWS D) Using hybrid architecture
Answer: B) Using different cloud providers for different workloads — combines providers for resilience.

8. A company wants to isolate its resources by department in the same AWS account.
A) IAM policies B) Tags C) CloudFront D) VPC peering
Answer: B) Tags — group and manage resources for billing and policies.

21. A team wants to schedule automatic nightly VM backups.
A) IaaS B) PaaS C) Backup-as-a-Service D) Monitoring-as-a-Service
Answer: C) Backup-as-a-Service — automated backup scheduling.

22. An application must process large data streams in real-time.
A) S3 B) Kinesis C) RDS D) Glacier
Answer: B) Kinesis — real-time streaming analytics service.

23. A company wants a "pay as you go" billing model.
A) Broad network access B) Measured service C) Resource pooling D) Rapid elasticity
Answer: B) Measured service — pay for actual resource usage.

24. Which Azure service helps manage identities across hybrid environments?
A) Azure AD B) Azure Monitor C) Azure Firewall D) Azure DevOps
Answer: A) Azure AD — manages authentication for cloud and on-prem apps.

25. A developer wants to run containerized apps easily.
A) S3 B) ECS C) RDS D) CloudFront
Answer: B) ECS — manages Docker containers efficiently.

26. Which of the following best defines virtualization in cloud computing?
A) Splitting hardware into multiple logical machines B) Encrypting data C) Storing backups D) Reducing network traffic
Answer: A) Splitting hardware into multiple logical machines.

27. You're using AWS and want to define reusable infrastructure templates.
A) CloudTrail B) CloudFormation C) CloudWatch D) IAM
Answer: B) CloudFormation — YAML/JSON templates for provisioning.

28. Which GCP service handles serverless data warehousing?
A) Cloud Storage B) BigQuery C) Dataproc D) Cloud SQL
Answer: B) BigQuery — fully serverless analytics platform.

9. A developer wants to automate resource provisioning.
A) CloudTrail B) CloudFormation C) CloudFront D) CloudWatch
Answer: B) CloudFormation — IaC service to automate setup using templates.

10. Which layer of cloud security ensures that users access only what they are allowed to?
A) Data encryption B) IAM C) Network security D) Backup
Answer: B) IAM — defines user permissions and policies.

11. Your web app must stay available even if one data center fails.
A) Availability Zones B) Snapshots C) Security groups D) Vertical scaling
Answer: A) Availability Zones — deploy across zones for fault tolerance.

12. A team wants to track who deleted an S3 bucket.
A) CloudWatch B) CloudTrail C) Config D) Inspector
Answer: B) CloudTrail — records API activity and user actions.

13. A web app's performance drops during traffic spikes.
A) Elastic load balancing B) Horizontal scaling C) Manual restart D) Static hosting
Answer: B) Horizontal scaling — adds more instances dynamically.

14. You want your GCP VM to restart automatically if it crashes.
A) Preemptible mode B) Auto-restart C) Shared VPC D) Reserved instance
Answer: B) Auto-restart — keeps workloads available after VM failure.

15. Which cloud concept refers to users sharing the same physical resources securely?
A) Elasticity B) Multi-tenancy C) Redundancy D) Virtualization
Answer: B) Multi-tenancy — multiple users share infrastructure while isolated.

16. You want to reduce costs on a VM used for background batch jobs.
A) On-demand instances B) Spot instances C) Reserved instances D) Dedicated hosts
Answer: B) Spot instances — use unused capacity at lower cost.

17. A developer wants to host code repositories with CI/CD pipelines.
A) Cloud Storage B) Cloud Source Repositories C) Cloud Run D) Cloud Scheduler
Answer: B) Cloud Source Repositories — private Git repos with CI/CD integration.

29. A bank needs to comply with strict data location laws.
A) Public Cloud B) Private Cloud C) Hybrid Cloud D) Multi-Cloud
Answer: B) Private Cloud — full control over data location.

30. What feature helps cloud users instantly increase resources when load spikes?
A) Elasticity B) Metering C) Multi-tenancy D) Snapshot
Answer: A) Elasticity — scales resources up/down dynamically.

31. An app should continue running if one VM fails.
A) Load balancing B) Fault tolerance C) Redundancy D) Scalability
Answer: B) Fault tolerance — shifts workload automatically.

32. Which AWS service is ideal for NoSQL database needs?
A) RDS B) DynamoDB C) S3 D) Redshift
Answer: B) DynamoDB — managed high-performance NoSQL database.

33. Which GCP tool manages permissions and access control?
A) IAM B) Cloud Run C) Dataflow D) Compute Engine
Answer: A) IAM — defines user permissions.

34. A company's app needs to stay running during software updates.
A) Rolling updates B) Blue-green deployment C) Manual patching D) Reboot policy
Answer: B) Blue-green deployment — update one environment while the other runs.

35. Which service provides global DNS management in AWS?
A) CloudWatch B) Route 53 C) CloudFront D) Elastic IP
Answer: B) Route 53 — AWS DNS service.

36. You want to analyze logs from multiple servers in near real-time.
A) S3 B) CloudWatch Logs C) CloudTrail D) Inspector
Answer: B) CloudWatch Logs — aggregates and monitors logs.

37. Which Azure service provides Infrastructure as Code capabilities?
A) ARM templates B) Azure Monitor C) Azure Backup D) Blob Storage
Answer: A) ARM templates — define infrastructure in JSON.

18. Which GCP service provides object storage?
A) Cloud SQL B) Cloud Storage C) BigQuery D) Dataproc
Answer: B) Cloud Storage — scalable object storage solution.

19. Which AWS service accelerates content delivery globally?
A) S3 B) CloudFront C) Route 53 D) VPC
Answer: B) CloudFront — CDN caches data close to users.

20. Which cloud model lets a company use both on-premise and public cloud resources?
A) Private cloud B) Hybrid cloud C) Multi-cloud D) Edge cloud
Answer: B) Hybrid cloud — combines on-prem and public cloud.

38. A company needs to store archival data cheaply.
A) S3 Standard B) S3 Glacier C) S3 Intelligent Tiering D) RDS
Answer: B) S3 Glacier — low-cost long-term storage.

39. Which cloud concept helps developers roll back quickly after deployment failure?
A) Versioning B) Virtualization C) Load balancing D) Encryption
Answer: A) Versioning — maintains multiple versions for rollback.

40. Which of these ensures that data remains confidential in transit and at rest?
A) Virtualization B) Encryption C) Redundancy D) IAM
Answer: B) Encryption — protects data at rest and in transit.