

1. You want to add 20 friends to a collection, and you have four face images for each friend. Each face image is referred to as a face, and each friend is referred to as a person. In the Face API, what is this collection of friends called? (Choose one.)

- a. People Group
- b. Person group
- c. Person Collection

Answer - B

2. You create several AI models in Azure Machine Learning Studio. You deploy the models to a production environment. You need to monitor the compute performance of the models.

Solution: You write a custom scoring script.

Does this meet the goal?

- a. Yes
- b. No

Answer - No - To effectively monitor compute performance, it's recommended to leverage Azure Machine Learning's built-in monitoring capabilities. These capabilities provide valuable metrics and visualizations, such as CPU utilization, memory usage, and latency, which can help you identify performance bottlenecks and optimize your models.

3. You are developing a Computer Vision application. You plan to use a workflow that will load data from an on-premises database to Azure Blob storage, and then connect to an Azure Machine Learning service.

What should you use to orchestrate the workflow?

- a. AKS
- b. Azure Container Instance
- c. Azure Pipeline
- d. Azure Data Factory

Answer - Azure Data Factory can be used for workflows to orchestrate data integration and data transformation process at scale.

4. You have Azure IoT Edge devices that generate streaming data. On the devices, you need to detect anomalies in the data by using Azure Machine Learning models. Once an anomaly is detected, the devices must add information about the anomaly to the Azure IoT Hub stream.

Solution: You expose a Machine Learning model as an Azure web service.

Does this meet the goal?

- a. YES
- b. NO

Answer - No, instead use Azure Stream Analytics and REST API

5. When analyzing an image using the Computer Vision API, you can specify visual feature types to return. Which of the following is a valid visual feature type when calling the 'analyze' operation?

- a. Crops images from the top left
- b. Centers the thumbnail on the "region of interest"

Answer - B

6. You are developing an application that uses an Azure Kubernetes Service (AKS) cluster. You are troubleshooting a node issue. You need to connect to an AKS node by using SSH.

Solution: You create a managed identity for AKS, and then you create an SSH connection.

Does this meet the goal?

- a. YES
- b. NO

Answer - NO, instead of add an SSH key to the node and then create a SSH connection.

7. What two values do you need to know in order to make a call to the Prediction API from client code?

- a. Prediction URL and Prediction Key
- b. Client Secret and Redirect URL
- c. Service Name and Authentication Token

Answer a - Prediction URL and Prediction Key

8. When creating a new Custom Vision Service project, what is a domain used for?

- a. Optimizes the classifier for a specific image type
- b. Helps you decide how to structure your project
- c. Helps you decide what to name your project

Answer A - The domain gives the classifier more info about the expected content of the images

9. You're integrating the Computer Vision API into your solution. You created a cognitive services account for the Computer Vision service in the eastus region. Which of the following is the correct address for you to access the ocr operation?

- a. eastus.api.cognitive.microsoft.com/vision/v2.0/ocr
- b. eastus2.api.cognitive.microsoft.com/vision/v2.0/ocr
- c. eastus.api.cognitive.microsoft.com/vision/v2.0/describe

Answer - a The basic structure is

<region>.api.cognitive.microsoft.com/<service>/<version>/<operation>

10. Which RBAC role should you assign to the Key Managers group?

- a. Security Admin
- b. Cognitive Service Contributor
- c. Cognitive Service User
- d. Security Manager

Answer - B Cognitive Service Contributor

11. You have Azure IoT Edge devices that generate streaming data.

On the devices, you need to detect anomalies in the data by using Azure Machine Learning models. Once an anomaly is detected, the devices must add information about the anomaly to the Azure IoT Hub stream.

Solution: You deploy Azure Stream Analytics as an IoT Edge module. Does this meet the goal?

- a. YES
- b. NO

Answer - YES

12. Your company has factories in 10 countries. Each factory contains several thousand IoT devices.

The devices present status and trending data on a dashboard. You need to ingest the data from the IoT devices into a data warehouse.

Which two Microsoft Azure technologies should you use? Each correct answer presents part of the solution. NOTE: Each correct selection is worth one point.

- a. Azure Data Lake
- b. Azure Batch
- c. Azure Stream Analytics
- d. Azure Data Factory
- e. Azure HDInsight Cluster

Answer C and D

13. You plan to design an application that will use data from Azure Data Lake and perform sentiment analysis by using Azure Machine Learning algorithms.

The developers of the application use a mix of Windows- and Linux-based environments. The developers contribute to shared GitHub repositories.

You need all the developers to use the same tool to develop the application.

What is the best tool to use? More than one answer choice may achieve the goal.

- a. Microsoft Visual Studio
- b. Azure Machine Learning Studio
- c. Microsoft Visual Studio Code
- d. Azure Notebooks

Answer B and C

14. You are designing an AI workflow that will aggregate data stored in Azure as JSON documents. You expect to store more than 2 TB of new data daily. You need to choose the data storage service for the data. The solution must minimize costs. Which data storage service should you choose?

- a. Azure Blob Storage
- b. Azure Data Lake Storage
- c. Azure File Storage
- d. Azure Data Lake Storage Gen 2

Answer - Azure Data Lake Storage Gen 2

15. You create an Azure Cognitive Services resource. You develop needs to be able to retrieve the keys used by the resource. The solution must use the principle of least privilege. What is the best role to assign to the developer? More than one answer choice may achieve the goal

- a. Security Manager
- b. Cognitive Service Contributors
- c. Cognitive Service Users
- d. Security Reader

Answer C - Cognitive Service Users

16. You need to build an API pipeline that analyzes streaming data. The pipeline will perform the following: Visual text recognition, Audio transcription, Sentiment analysis, Face detection
Which Azure Cognitive Services should you use in the pipeline?

- a. Text Analytics
- b. Custom Speech Service
- c. Video Indexer
- d. Face API

Answer C - Video Indexer enables you to extract insight from videos

17. (Blank) - use a video stream to detect anomalies at the location

- a. Azure Functions
- b. Azure IoT Hubs
- c. Azure IoT Edge
- d. Azure Logic Apps

Answer Azure IOT Edge

18. (Fill In The Blank) - send the picture and location information to Azure

- a. Azure Functions
- b. Azure IoT Hubs
- c. Azure IoT Edge
- d. Azure Logic Apps

Answer Azure Functions

19. (Fill In The Blank) - The following service (blank) can be used to email a user the picture and location of an anomaly when detected.

- a. Azure Functions
- b. Azure IoT Hubs
- c. Azure IoT Edge
- d. Azure Logic Apps

Answer Azure Logic Apps

20. You have several AI applications that use an Azure Kubernetes Service (AKS) cluster. The cluster supports a maximum of 32 nodes. You discover that occasionally and unpredictably, the application requires more than 32 nodes. You need to recommend a solution to handle the unpredictable application load. Which scaling method should you recommend?

- a. Cluster AutoScaler
- b. Manual Scaling
- c. Horizontal Pod Autoscaler
- d. Azure Container Instance

Answer A - Cluster AutoScaler

21. (Match the service) Move data from on premise to the cloud

- a. Azure SSIS Integration Runtime
- b. Common Language Runtime
- c. Integration Runtime
- d. Self Hosted Integration Runtime

Answer D - Self Hosted Integration Runtime

22. (Select The Service) - Consume Cognitive Service APIs:

- a. Azure API Management
- b. Azure Logic Apps
- c. Webjobs in Azure

Answer B

23. You need to build an AI solution that will be shared between several developers and customers. You plan to write code, host code, and document the runtime all within a single user experience. You build the environment to host the solution. Which three actions should you perform in sequence next?

Answer - Create a Azure ML Studio Workspace > Create a new notebook > Create a new experiment

24. Which of the following text-to-speech output formats are supported by the Speech Translation API Translate method?

- a. audio/m4a
- b. audio/midi
- c. audio/mov
- d. audio/wav

Answer - d. audio/wav - The Speech Translation API Translate method supports “audio/wav” and “audio/mp3” as output formats via the format parameter.

25. How can a chatbot get authorization to your QnA service?

- a. By setting the Content-Type in the HTTP request to the application or bot.
- b. By passing an access token as the first field in a JSON request to the service.
- c. By using the knowledge base ID, host endpoint, and endpoint key values from the QnA service

Answer C

26. True or false: The Web App Bot template creates a Web App and a Bot.

Answer - TRUE: The template creates a Bot and an Azure Web App to host the Bot. It also configures the Bot to use a QnA Maker knowledge base. You will need to create the knowledge base yourself and connect it to the Bot.

27. (SELECT THREE) Your company develops an AI application that is orchestrated by using Kubernetes. You need to deploy the application. Which three actions should you perform? Each correct answer presents part of the solution. NOTE: Each correct selection is worth one point.

- a. Create an Azure Container Registry instance.
- b. Create an Azure container instance.
- c. Create a Web App for Containers.
- d. Create a container image file.
- e. Create a Kubernetes cluster

Answer - a, d, e: Once you have completed these steps, you can deploy your application to the Kubernetes cluster using the kubectl command-line tool.

28. Under the classification of the text, what type of value is returned for the category?

- a. A percentage indicating which category is most appropriate
- b. A Boolean value indicating that a human review is necessary
- c. A value between 0 and 1

Answer - The categories are rated with a value between 0 and 1, with values closer to 1 being more positive for the match.

29. What is the purpose of the ListId value in a response from the profanity check?
- It's the language ID that the list used for testing.
 - It's the identifier of a term in a custom term list.
 - It's the identifier of the profanity word list that was used for the check.

Answer - c. It's the identifier of the profanity word list that was used for the check.

30. You are deploying an Azure Machine Learning model to an Azure Kubernetes Service (AKS) container. You need to monitor the accuracy of each run of the model. Solution: You modify the scoring file. Does this meet the goal?
- YES
 - NO

Answer - NO, to effectively monitor one should use the following: Azure ML Model Monitoring, Custom Monitoring, A/B Testing, Regular Retraining

31. You need to design the workflow for an Azure Machine Learning solution. The solution must meet the following requirements: * Retrieve data from file shares, Microsoft SQL Server databases, and Oracle databases that in an on premises network. *Use an Apache Spark job to process data stored in an Azure SQL Data Warehouse database. Which service should you use to meet each requirement?
- Azure Data Factory, Azure Data Bricks
 - Azure Data Bricks, Azure Logic Apps
 - Azure Stream Analysis, Azure Logic Apps

Answer a

32. You are designing an application to parse images of business forms and upload the data to a database. The upload process will occur once a week. You need to recommend which services to use for the application. The solution must minimize infrastructure costs. Which services should you recommend?

(i) Parse The Image

- Azure Bot Service
- Azure Cognitive Service
- Azure Linguistics API

(ii) Upload the data to the data warehouse

- Azure AI Apps
- Azure Batch AI
- Azure Data Factory
- Azure Functions

Answer b & c

33. Which AI solution can help extract useful insights from large amounts of unstructured data?
- Internet of Things
 - Azure Cosmos DB
 - Knowledge mining
 - Azure Bot Services

Answer - c. Azure Cognitive Search uses knowledge mining to help retrieve information and extract insights through integration with other AI capabilities.

34. Sophisticated pre-trained models, popular frameworks, productive services, powerful infrastructure, and flexible deployment refer to:
- Azure App Services - Web Apps
 - AI apps and agents
 - Azure Cognitive Services
 - Azure machine learning layers

Answer d. From PoE, we see that (d) provides the best answer.

35. You plan to deploy two AI applications named AI1 and AI2. The data for the applications will be stored in a relational database.

You need to ensure that the users of AI1 and AI2 can see only data in each user's respective geographic region. The solution must be enforced at the database level by using row-level security.

Which database solution should you use to store the application data?

- Microsoft Azure Cosmos DB
- Microsoft Azure Data Lake Store
- Microsoft SQL Server on a Microsoft Azure virtual machine
- Microsoft Azure Database for MySQL

Answer c. Row-level security is supported by SQL Server, Azure SQL Database, and Azure SQL Data Warehouse.

36. You design an AI solution that uses an Azure Stream Analytics job to process data from an Azure IoT hub. The IoT hub receives time series data from thousands of IoT devices at a factory. The job outputs millions of messages per second. Different applications consume the messages as they are available. The messages must be purged.

You need to choose an output type for the job.

What is the best output type to achieve the goal? More than one answer choice may achieve the goal.

- Azure SQL Database
- Azure Event Hubs
- Azure Cosmos DB
- Azure Blob storage

Answer - Stream Analytics can target Azure Cosmos DB for JSON output, enabling data archiving and low-latency queries on unstructured JSON data.

37. You plan to deploy an Azure Data Factory pipeline that will perform the following:
Move data from on-premises to the cloud. Consume Azure Cognitive Services APIs. You need to recommend which technologies the pipeline should use. The solution must minimize custom code. What should you include in the recommendation?

- (i) Move data from on premise to the cloud
 - a. Azure SSIS Integration Runtime
 - b. Common Language Runtime (CLR)
 - c. Integration Runtime (IR)
 - d. Self Hosted Integration Runtime

Answer - d Self-hosted Integration Runtime A self-hosted IR is capable of running copy activity between a cloud data stores and a data store in private network. Not Azure-SSIS Integration Runtime, as you would need to write custom code.

- (ii) Consume Cognitive Service APIs
 - a. Azure API Management
 - b. Azure Logic Apps
 - c. WebJobs In Azure

Answer - c. Azure Logic Apps Azure Logic Apps helps you orchestrate and integrate different services by providing 100+ ready-to-use connectors, ranging from on-premises SQL Server or SAP to Microsoft Cognitive Services.

38. You are designing an AI solution that will use IoT devices to gather data from conference attendees, and then later analyze the data. The IoT devices will connect to an Azure IoT hub.

You need to design a solution to anonymize the data before the data is sent to the IoT hub.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Answer - Create a storage container Create an Azure Stream Analytics Edge job Add the job to the IoT devices in IoT hub

39. You create an Azure Machine Learning Studio experiment. You plan to publish the experiment as a Machine Learning Web service. You need to ensure that you can consume the web service from Microsoft Excel spreadsheets. What should you use?

- a. BES and API Key
- b. RRS and API Key
- c. RRS and an Azure Managed Identity
- d. BES and Azure Managed Identity

Answer B - RRS is designed for real-time, synchronous interactions.

40. (Three Choice) You are designing an Azure infrastructure to support an Azure Machine Learning solution that will have multiple phases. The solution must meet the following requirements: Securely query an on-premises database once a week to update product lists. Access the data without using a gateway. Orchestrate the separate phases. What should you use? To answer, select the appropriate options in the answer area.

- a. A P2S VPN Connection
- b. A S2S VPN Connection
- c. Azure App Service Hybrid Connection
- d. A ML Experiment
- e. Azure ML Studio
- f. ML pipelines
- g. Azure Automation
- h. Azure Databricks
- i. Azure Notebooks

Answer Azure app Service Hybrid Connections Machine learning pipelines Azure Databricks

41. (YES or NO) You create several AI models in Azure Machine Learning Studio. You deploy the models to a production environment. You need to monitor the compute performance of the models. Solution: You write a custom scoring script. Does this meet the goal?

- a. YES
- b. NO

Answer - NO, you would need to enable Model data collection

42. What are the foundational elements of AI?

- a. On premise, cloud, and hybrid
- b. Vision, speech, and language
- c. Security, privacy, and compliance
- d. Data, cloud, and algorithms

Answer - d. From PoE, we see that (d) fits the question well

43. A data scientist deploys a deep learning model on an Fsv2 virtual machine. Data analysis is slow. You need to recommend which virtual machine series the data scientist must use to ensure that data analysis occurs as quickly as possible. Which series should you recommend?.

- a. DC
- b. B
- c. Ev3
- d. ND

Answer - ND

44. Your company has recently purchased and deployed 25,000 IoT devices. You need to recommend a data analysis solution for the devices that meets the following requirements: Each device must use its own credentials for identity. Each device must be able to route data to multiple endpoints. The solution must require the minimum amount of customized code. What should you include in the recommendation?

- a. Azure Service Bus
- b. Azure Event Hubs
- c. Azure Notification Hubs
- d. Azure IoT Hubs

Answer D - An IoT hub has a default built-in endpoint. You can create custom endpoints to route messages to by linking other services in your subscription to the hub.

45. You plan to design a solution for an AI implementation that uses data from IoT devices. You need to recommend a data storage solution for the IoT devices that meets the following requirements: Allow data to be queried in real-time as it streams into the solution. Provide the lowest amount of latency for loading data into the solution. What should you include in the recommendation?

- a. Azure Table Storage Solution
- b. Azure SQL database that has In Memory OLTP enabled
- c. Azure HDInsight Hadoop Cluster
- d. Azure HDInsight R Server Cluster

Answer A - Azure Table Storage is the most appropriate data storage solution for your IoT AI implementation based on the given requirements.

46. (Multiple Selection) You create an image classification model in Azure Machine Learning Studio. You need to deploy the model as a containerized web service. Which four actions should you perform in sequence?

- a. Start the container
- b. Create a container image
- c. Create an Azure Batch AI account
- d. Get the http endpoint of the web service
- e. Register the container image
- f. Train the model

Answer - Train the model Create a container image Register the container image Get the http endpoint of the web service

47. You deploy an Azure bot. You need to collect Key Performance Indicator (KPI) data from the bot. What service should you configure?

- a. Azure Monitor
- b. Azure App Insight
- c. Bot Analytics
- d. Azure Analysis Services

Answer - Azure App Insight

48. You need to design an application that will analyze real-time data from financial feeds. The data will be ingested into Azure IoT Hub. The data must be processed as quickly as possible in the order in which it is ingested. Which service should you include in the design?

- a. Azure Data Factory
- b. Azure Queue Storage
- c. Azure Notification Hubs
- d. Azure Stream Analytics

Answer - D: While Azure Data Factory can be used for data integration and transformation, it's not optimized for real-time processing. Azure Queue storage is for storing messages, not processing them. Azure Notification Hubs is for sending push notifications, not real-time data analysis. Thus, from PoE, Azure Stream Analytics is the best choice.

49. You need to deploy cognitive search. You provision an Azure Search service. What should you do next?

- a. Load Data
- b. Search by using Rest API
- c. Search by using NET SDK
- d. Create an Index

Answer D. The three components are create a data source, a skill set, and an index.

50. You develop a custom application that uses a token to connect to Azure Cognitive Services resources. A new security policy requires that all access keys are changed every 30 days. You need to recommend a solution to implement the security policy. Which three actions should you recommend be performed every 30 days?

Actions	Answer Area
Retrieve a token from the Cognitive Services endpoint	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> ⬅ ➡ </div> <div style="text-align: center;"> ⬆ ⬆ </div> </div>
Generate new keys in the Cognitive Services resources	
Generate new keys in Azure Key Vault	
Update the custom application to use the new authorization	
Retrieve a token from the Azure Key Vault endpoint	

Answer - Generate a new Keys in the Cognitive Service resources Retrieve a token from the Cognitive Service endpoint Update the custom application to use the new authorization

51. A completely automated chess engine (Learn from previous games) is based on
- Cognitive AI approach
 - Strong AI approach
 - Applied AI approach
 - Weak AI approach

Answer - d. Weak Ai (Narrow AI) do not possess general intelligence and they follow algorithms and models to solve problems.

52. Azure Cognitive Services are pre-trained AI models that fall under the following broad categories:
- Search, vision, language, bots, knowledge
 - Vision, knowledge, language, speech, apps
 - Vision, speech, knowledge, language, data
 - Search, vision, speech, language, knowledge

Answer d.

53. You are designing a solution that will ingest temperature data from IoT devices, calculate the average temperature, and then take action based on the aggregated data. The solution must meet the following requirements:

- ☞ Minimize the amount of uploaded data.
- ☞ Take action based on the aggregated data as quickly as possible.

What should you include in the solution? To answer, select the appropriate options in the answer area.

Answer Area

Service to use:

	▼
Apache Hive	
Azure Data Factory	
Azure Functions	
Azure Stream Analytics	

Location to deploy the job:

	▼
A Web Job in Azure	
An Azure IoT Edge device	
Azure Event Hubs	
Azure Notification Hubs	

Answer - Azure Stream Analytics, Azure IoT Edge Devices

54. You are building an Azure Analysis Services cube for your AI deployment. The source data for the cube is located in an on premises network in a Microsoft SQL Server database. You need to ensure that the Azure Analysis Services service can access the source data. What should you deploy to your Azure subscription?

- a. a site-to-site VPN
- b. a network gateway
- c. a data gateway
- d. Azure Data Factory

Answer C - From April 2017 onward we can use On-premises Data Gateway for Azure Analysis Services. This means you can connect your Tabular Models hosted in Azure Analysis Services to your on-premises data sources through On-premises Data Gateway.

55. Who is the “father” of artificial intelligence?

- a. John McCarthy
- b. Fisher Ada
- c. Allen Newell
- d. Alan Turning

Answer A. John McCarthy is considered the “father” of artificial intelligence. He coined the term “artificial intelligence” and organized the Dartmouth Conference in 1956, which is often seen as the birth of AI as a field of study.

56. Your company has 1,000 AI developers who are responsible for provisioning environments in Azure. You need to control the type, size, and location of the resources that the developers can provision. What should you use?

- a. Azure Security Center
- b. Azure service principals
- c. Azure Policy
- d. Azure Key Vault
- e. Azure managed identities

Answer - Azure Policy allows to define declarative statements that enforce specific rules

57. You are designing an AI solution in Azure that will perform image classification. You need to identify which processing platform will provide you with the ability to update the logic over time. The solution must have the lowest latency for inferencing without having to batch. Which compute target should you identify?

- a. field-programmable gate arrays (FPGAs)
- b. central processing units (CPUs)
- c. application-specific integrated circuits (ASICs)
- d. graphics processing units (GPUs)

Answer A. FPGAs, such as those available on Azure, provide performance close to ASICs. They are also flexible and reconfigurable over time, to implement new logic.