AI-900: Microsoft Azure AI Fundamentals Sample Questions

Last updated: 3/19/2022

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Microsoft is exploring the possibility of providing sample questions as an exam preparation resource, and we would like your feedback. While we prefer that you complete the survey after taking the exam, you may complete it at any time. Thank You!

User Guide

These sample questions are intended to provide an overview of the style, wording, and difficulty of the questions that you are likely to experience on this exam. These questions are **not** the same as what you will see on the exam nor is this document illustrative of the length of the exam or its complexity (e.g., you may see additional question types, multiple case studies, and possibly labs). These questions are **examples** only to provide insight into what to expect on the exam and help you determine if additional preparation is required.

In the first section, you will find the questions without answers so that you can test your knowledge. In the second section, the answer, a rationale, and a URL that will link you to additional information is provided immediately below each question.

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Questions

Question # 1 (Multiple Choice)

Which type of artificial intelligence workload uses sensors to proactively alert users about potential equipment mechanical failures?

A. Anomaly detection
B. Computer vision
C. Natural language processing
D. Conversational AI

Question # 2 (Matching)

Match the technologies on the left to the correct descriptions on the right.

Technologies	**Descriptions**
A. Object detection	_____ 1. Identify the location of a moving car within an image.
B. Image classification	_____ 2. Detect and read car registration plates in an image.
C. Optical character recognition	_____ 3. Differentiate types of vehicles from an image set containing different vehicle types.

Question # 3 (Sentence completion)

Select the answer that correctly completes the sentence.

The principle that describes raising awareness of the limitations of responsible AI-based solutions is called: _____.

A. Privacy and security
B. Reliability and safety
C. Transparency
D. Accountability

Question # 4 (Sentence completion)

Select the answer that correctly completes the sentence.

The principle of providing the benefits of responsible AI systems to all parts of society regardless of their gender or ethnicity is called: _____.

A. Privacy and security
B. Reliability and safety
C. Inclusiveness

D. Accountability

Question # 5 (Multiple Choice)

You need to identify numerical values that represent the probability of dogs becoming ill based on their age and body fat percentage.

Which type of machine learning model should you use?

A. Linear regression
B. Multiple linear regression
C. Logistic regression
D. Hierarchical clustering

Question # 6 (Matching)

Match the machine learning algorithms on the left to the correct descriptions on the right.

Machine learning algorithms	**Descriptions**
A. Clustering	_____ 1. Predict a numeric label based on an item's features.
B. Regression	_____ 2. Group similar items based on their features.
C. Classification	_____ 3. Assign items into a set of predefined categories.

Question # 7 (Sentence completion)

Select the answer that correctly completes the sentence.

You plan to use machine learning to predict how ill dogs become based on their age and body fat percentage.

The model should include _____.

A. two features and one label
B. two labels and one feature
C. three labels
D. three features

Question # 8 (Multiple Choice)

You create a multiclass classification model.

You need to evaluate the model.

Which two evaluation metrics can you use? Each correct answer presents a complete solution.

A. F1 score
B. Accuracy
C. Rand index
D. Mean Squared Error (MSE)

Question # 9 (Sentence completion)

Select the answer that correctly completes the sentence.

You train an Azure Machine Learning model and plan to deploy the model as a predictive service in a production environment.

You must create an inference cluster before you deploy the model to _____.

A. Azure Kubernetes Service
B. Azure Container Instance
C. Azure Function
D. Azure Logic Apps

Question # 10 (Multiple Choice)

You plan to build and deploy a predictive model by using AutoML UI in Azure Machine Learning.

Which three machine learning tasks are supported? Each correct answer presents a complete solution.

A. Classification
B. Regression
C. Forecasting
D. Clustering
E. Reinforcement learning

Question # 11 (Multiple Choice)

Which technique serves as the basis for modern image classification solutions?

A. Deep learning
B. Anomaly detection
C. Linear regression
D. Multiple linear regression

Question # 12 (Sentence completion)

Select the answer that correctly completes the sentence.

You can extract information printed on food product labels by using _____.

A. image classification
B. natural language processing
C. optical character recognition
D. image segmentation

Question # 13 (Multiple Choice)

What are two capabilities of the Azure Computer Vision service? Each correct answer presents a complete solution.

A. Class prediction
B. Model training
C. Model authoring
D. Data visualization
E. Data exploration

Question # 14 (Multiple Choice)

You need to train a machine learning model to detect company logos in images.

What should you use?

A. Azure Custom Vision image classification
B. Azure Custom Vision object detection
C. Azure Face Service
D. Language Understanding Intelligent Service (LUIS)

Question # 15 (Matching)

Match the features on the left to the correct descriptions on the right.

Features	**Descriptions**
A. Sentiment analysis B. Key phrase extraction C. Named entity recognition	_____ 1. Evaluate the main points from the text in a document. _____ 2. Determine whether the content of a document is positive or negative. _____ 3. Identify words in documents that represent persons, locations, or organizations.

Question # 16 (Multiple Choice)

You need to collect the names of people, organizations, and events from a set of PDF documents.

Which natural language processing feature should you use?

A. Extractive summarization
B. Sentiment analysis
C. Named entity recognition
D. Key phrase extraction

Question # 17 (Multiple Choice)

Which three capabilities does Azure Cognitive Services Text Analytics service support? Each correct answer presents a complete solution.

A. Unlimited document size
B. All world languages
C. Chatbot integration
D. Multilingual content
E. Confidence scoring

Question # 18 (Multiple Choice)

You need to identify users based on their voice.

Which Azure Speech service feature should you use?

A. Conversation transcription
B. Pronunciation assessment
C. Language Understanding Intelligent Service (LUIS)
D. Speaker recognition

Question # 19 (Sentence completion)

Select the answer that correctly completes the sentence.

You can exchange chatbot activities with other services by implementing _____.

A. cards
B. channels
C. dialog
D. turns

Question # 20 (Multiple Choice)

You develop a chatbot by using a Cognitive Services custom question answering project.

You need to add a personality to the chatbot.

What should you do?

A. Provide a default answer.
B. Add chitchat to the knowledge base.
C. Increase the Cognitive Search resource pricing tier limit.
D. Add hero cards to the chatbot.

Questions and Answers

Question # 1 (Multiple Choice)

Which type of artificial intelligence workload uses sensors to proactively alert users about potential equipment mechanical failures?

A. Anomaly detection
B. Computer vision
C. Natural language processing
D. Conversational AI

Answer:	A. Anomaly detection
Objective:	1.1 Identify features of common AI workloads
Rationale:	Anomaly detection analyzes data collected over time to identify unusual changes, such as fluctuations in engine revolutions or brake temperature. Computer vision, natural language processing, or conversational AI do not play a role in the scenario referenced in the question.
URL:	https://docs.microsoft.com/en-us/learn/modules/get-started-ai-fundamentals/1-introduction https://docs.microsoft.com/en-us/learn/modules/get-started-ai-fundamentals/3-understand-anomaly-detection

Question # 2 (Matching)

Match the technologies on the left to the correct descriptions on the right.

Technologies	**Descriptions**
A. Object detection B. Image classification C. Optical character recognition	_____ 1. Identify the location of a moving car within an image. _____ 2. Detect and read car registration plates in an image. _____ 3. Differentiate types of vehicles from an image set containing different vehicle types.
Answer:	Object detection (A) matches description 1: Identify the location of a moving car within an image. Image classification (B) matches description 3: Differentiate types of vehicles from an image set containing different vehicle types. Optical character recognition (C) matches description 2: Detect and read car registration plates in an image.
Objective:	1.1 Identify features of common AI workloads
Rationale:	Object detection allows you to identify specific object types in images. Optical character recognition (OCR) allows you to

	identify text in images. Image classification allows you to differentiate between different types of objects in images.
URL:	https://docs.microsoft.com/en-us/learn/modules/get-started-ai-fundamentals/4-understand-computer-vision

Question # 3 (Sentence completion)

Select the answer that correctly completes the sentence.

The principle that describes raising awareness of the limitations of responsible AI-based solutions is called: _____.

A. Privacy and security
B. Reliability and safety
C. Transparency
D. Accountability

Answer:	C. Transparency
Objective:	1.2 Identify guiding principles for responsible AI
Rationale:	Transparency provides clarity regarding the purpose of AI solutions, the way they work, as well as their limitations. Other principles of responsible AI are meant to apply to any AI solution, regardless of their limitations.
URL:	Identify principles and practices for responsible AI - Learn | Microsoft Docs

Question # 4 (Sentence completion)

Select the answer that correctly completes the sentence.

The principle of providing the benefits of responsible AI systems to all parts of society regardless of their gender or ethnicity is called: _____.

A. Privacy and security
B. Reliability and safety
C. Inclusiveness
D. Accountability

Answer:	C. Inclusiveness
Objective:	1.2 Identify guiding principles for responsible AI
Rationale:	Responsible AI systems should empower everyone and engage people. AI should bring benefits to all parts of society, regardless of physical ability, gender, sexual orientation, ethnicity, or other factors ensuring inclusiveness.
URL:	https://docs.microsoft.com/en-us/learn/modules/get-started-ai-fundamentals/8-understand-responsible-ai

Question # 5 (Multiple Choice)

You need to identify numerical values that represent the probability of dogs becoming ill based on their age and body fat percentage.

Which type of machine learning model should you use?

A. Linear regression
B. Multiple linear regression
C. Logistic regression
D. Hierarchical clustering

Answer:	B. Multiple linear regression
Objective:	2.1 Identify common machine learning types
Rationale:	Modeling relationships between several features and a single label is the primary characteristic of multiple linear regression, in contrast with linear regression which uses a single feature. Logistic regression is a classification model and hierarchical clustering is a type of clustering algorithm.
URL:	https://docs.microsoft.com/en-us/learn/modules/understand-regression-machine-learning/4-multiple-linear-regression https://docs.microsoft.com/en-us/learn/modules/understand-classification-machine-learning/2-what-is-classification https://docs.microsoft.com/en-us/learn/modules/train-evaluate-cluster-models/4-different-types-clustering

Question # 6 (Matching)

Match the machine learning algorithms on the left to the correct descriptions on the right.

Machine learning algorithms	**Descriptions**
A. Clustering B. Regression C. Classification	_____ 1. Predict a numeric label based on an item's features. _____ 2. Group similar items based on their features. _____ 3. Assign items into a set of predefined categories.
Answer:	Regression (B) matches description 1: Predict a numeric label based on an item's features. Clustering (A) matches description 2: Group similar items based on their features. Classification (C) matches description 3: Assign items into a set of predefined categories.
Objective:	2.1 Identify common machine learning types
Rationale:	The regression technique is used to predict numeric values. Classification predicts the category in which an input value should be categorized. Clustering groups data points that have similar characteristics.

URL:	https://docs.microsoft.com/en-us/learn/modules/create-regression-model-azure-machine-learning-designer/ https://docs.microsoft.com/en-us/learn/modules/understand-classification-machine-learning/2-what-is-classification

Question # 7 (Sentence completion)

Select the answer that correctly completes the sentence.

You plan to use machine learning to predict how ill dogs become based on their age and body fat percentage.

The model should include _____.

A. two features and one label
B. two labels and one feature
C. three labels
D. three features

Answer:	A. Two features and one label
Objective:	2.2 Describe core machine learning concepts
Rationale:	The current scenario represents a model in which you are trying to establish a relationship between two features (a dog's age and body fat percentage) and one label (the likelihood of that dog becoming ill).
URL:	https://docs.microsoft.com/en-us/learn/modules/understand-regression-machine-learning/4-multiple-linear-regression

Question # 8 (Multiple Choice)

You create a multiclass classification model.

You need to evaluate the model.

Which two evaluation metrics can you use? Each correct answer presents a complete solution.

A. F1 score
B. Accuracy
C. Rand index
D. Mean Squared Error (MSE)

Answer:	A. F1 score AND B. Accuracy
Objective:	2.2 Describe core machine learning concepts
Rationale:	You can use the F1 score and accuracy metrics for evaluating classification models. The F1 score combines precision and recall for classification

	evaluation while accuracy evaluates the ratio of correct predictions. Rand index is used for evaluating clustering models. MSE is used for evaluating regression models.
URL:	https://docs.microsoft.com/en-us/learn/modules/create-classification-model-azure-machine-learning-designer/evaluate-model

Question # 9 (Sentence completion)

Select the answer that correctly completes the sentence.

You train an Azure Machine Learning model and plan to deploy the model as a predictive service in a production environment.

You must create an inference cluster before you deploy the model to _____.

A. Azure Kubernetes Service
B. Azure Container Instance
C. Azure Function
D. Azure Logic Apps

Answer:	A. Azure Kubernetes Service
Objective:	2.3 Identify core tasks in creating a machine learning solution
Rationale:	In Azure Machine Learning, you have the option of deploying a predictive service to Azure Container Instance (ACI) or Azure Kubernetes Service (AKS). For production scenarios, you should use an AKS deployment, which requires creating an inference cluster compute target. ACI-based deployment is suitable for testing. Azure Machine Learning does not support deployment of predictive services to Azure Functions or Azure Logic Apps.
URL:	https://docs.microsoft.com/en-us/learn/modules/use-automated-machine-learning/7-deploy-model

Question # 10 (Multiple Choice)

You plan to build and deploy a predictive model by using AutoML UI in Azure Machine Learning.

Which three machine learning tasks are supported? Each correct answer presents a complete solution.

A. Classification
B. Regression
C. Forecasting
D. Clustering
E. Reinforcement learning

Answer:	A. Classification AND B. Regression AND C. Forecasting
Objective:	2.4 Describe capabilities of No-Code Machine Learning with Azure Machine Learning studio
Rationale:	AutoML UI supports classification, regression and forecasting machine learning tasks. Clustering and reinforcement learning are not available on AutoML UI.
URL:	https://docs.microsoft.com/en-us/learn/modules/use-automated-machine-learning/7-deploy-model

Question # 11 (Multiple Choice)

Which technique serves as the basis for modern image classification solutions?

A. Deep learning
B. Anomaly detection
C. Linear regression
D. Multiple linear regression

Answer:	A. Deep learning
Objective:	3.1 Identify common types of computer vision solutions
Rationale:	Modern image classification solutions are based on deep learning techniques that make use of convolutional neural networks (CNNs) to identify patterns in the pixels that comprise an image and map it to a particular class. Anomaly detection is an Artificial Intelligence technique that detects unusual occurrences in data patterns. Both linear and multiple linear regression are regression techniques, rather than classifications.
URL:	https://docs.microsoft.com/en-us/learn/modules/classify-images-custom-vision/1a-overview-classification

Question # 12 (Sentence completion)

Select the answer that correctly completes the sentence.

You can extract information printed on food product labels by using _____.

A. image classification
B. natural language processing
C. optical character recognition
D. image segmentation

Answer:	C. Optical character recognition

Objective:	3.1 Identify common types of computer vision solution
Rationale:	OCR supports printed text extraction. Image classification is a distractor because it cannot detect text on an object. Natural language processing is the approach of handling linguistic data, and it is a distractor. Image segmentation is not correct since it is used to segment areas in an image.
URL:	https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/overview-ocr

Question # 13 (Multiple Choice)

What are two capabilities of the Azure Computer Vision service? Each correct answer presents a complete solution.

A. Class prediction
B. Model training
C. Model authoring
D. Data visualization
E. Data exploration

Answer:	A. Class prediction AND B. Model training
Objective:	3.2 Identify Azure tools and services for computer vision tasks
Rationale:	Azure Computer Vision is an Azure resource that offers training and prediction capabilities. It does not provide the ability to author models, nor does it allow you to explore and visualize datasets.
URL:	https://docs.microsoft.com/en-us/learn/modules/classify-images-custom-vision/2-azure-image-classification

Question # 14 (Multiple Choice)

You need to train a machine learning model to detect company logos in images.

What should you use?

A. Azure Custom Vision image classification
B. Azure Custom Vision object detection
C. Azure Face Service
D. Language Understanding Intelligent Service (LUIS)

Answer:	B. Azure Custom Vision object detection
Objective:	3.2 Identify Azure tools and services for computer vision tasks
Rationale:	Object detection functionality in Azure Custom Vision can identify logos in images.

	Image classification functionality in Azure Custom Vision is used for classifying a set of images to groups. Azure Face Service is specifically used for identifying faces. This service cannot identify logos. LUIS is used for understanding natural language.
URL:	Detect objects in images with the Custom Vision service - Learn | Microsoft Docs

Question # 15 (Matching)

Match the features on the left to the correct descriptions on the right.

Features	**Descriptions**
A. Sentiment analysis B. Key phrase extraction C. Named entity recognition	_____ 1. Evaluate the main points from the text in a document. _____ 2. Determine whether the content of a document is positive or negative. _____ 3. Identify words in documents that represent persons, locations, or organizations.

Answer:	Key phrase extraction (B) matches description 1: Evaluate the main points from the text in a document. Sentiment analysis (A) matches description 2: Determine whether the content of a document is positive or negative. Named entity recognition (C) matches description 3: Identify words in documents that represent persons, locations, or organizations.
Objective:	4.1 Identify features of common NLP Workload Scenarios
Rationale:	Key phrase extraction scans documents and identifies the main points from the documents. Sentiment analysis scans a document to determine whether the content is positive or negative. Named entity recognition scans documents and identified important entities (objects, nouns) in the document.
URL:	https://docs.microsoft.com/en-us/learn/modules/extract-insights-text-with-text-analytics-service/

Question # 16 (Multiple Choice)

You need to collect the names of people, organizations, and events from a set of PDF documents.

Which natural language processing feature should you use?

A. Extractive summarization
B. Sentiment analysis

C. Named entity recognition
D. Key phrase extraction

Answer:	C. Named entity recognition
Objective:	4.1 Identify features of common NLP Workload Scenarios
Rationale:	The named entity recognition feature in text analytics identifies a range of prebuilt entities such as people, places, and organizations which can be used for entity identification in PDF documents.
URL:	https://docs.microsoft.com/en-us/learn/modules/get-started-ai-fundamentals/5-understand-natural-language-process

Question # 17 (Multiple Choice)

Which three capabilities does Azure Cognitive Services Text Analytics service support? Each correct answer presents a complete solution.

A. Unlimited document size
B. All world languages
C. Chatbot integration
D. Multilingual content
E. Confidence scoring

Answer:	C. Chatbot integration AND D. Multilingual content AND E. Confidence scoring
Objective:	4.2 Identify Azure tools and services for NLP workloads
Rationale:	Azure Text Analytics supports chatbot integration, multilingual content, and confidence scoring. It recognizes about 120 languages. Document sizes must be under 5,120 characters.
URL:	https://docs.microsoft.com/en-us/learn/modules/extract-insights-text-with-text-analytics-service/3-detect-language

Question # 18 (Multiple Choice)

You need to identify users based on their voice.

Which Azure Speech service feature should you use?

A. Conversation transcription
B. Pronunciation assessment
C. Language Understanding Intelligent Service (LUIS)
D. Speaker recognition

Answer:	D. Speaker recognition

Objective:	4.2 Identify Azure tools and services for NLP workloads
Rationale:	The Speaker Recognition service provides algorithms that verify and identify speakers by their unique voice characteristics. The Conversation transcription service is used for generating transcripts of a conversation. Pronunciation assessment evaluates the accuracy and fluency of spoken audio. LUIS is a distractor because it is used for understanding natural language which cannot be used for differentiating speakers
URL:	Recognize and synthesize speech - Learn | Microsoft Docs

Question # 19 (Sentence completion)

Select the answer that correctly completes the sentence.

You can exchange chatbot activities with other services by implementing _____.

A. cards
B. channels
C. dialog
D. turns

Answer:	B. Channels
Objective:	Exam objective number and text
Rationale:	Activities are exchanged across channels, such as web chat, email, or Microsoft Teams. Cards are visual elements used to contain messages. Dialog is formed by a flow of activities. Activities are performed in turns, leading to a user interaction with a chatbot.
URL:	https://docs.microsoft.com/en-us/learn/modules/design-bot-conversation-flow/1-introduction

Question # 20 (Multiple Choice)

You develop a chatbot by using a Cognitive Services custom question answering project.

You need to add a personality to the chatbot.

What should you do?

A. Provide a default answer.
B. Add chitchat to the knowledge base.
C. Increase the Cognitive Search resource pricing tier limit.
D. Add hero cards to the chatbot.

Answer:	B. Add chitchat to the knowledge base.

Objective:	5.2 Identify Azure services for conversational AI
Rationale:	You can add personality to a chatbot by providing answers that use a specific conversational tone. You use the chitchat feature to add the answers to a chatbot knowledge base. Provide a default answer from settings is incorrect because it is used to provide a pre-set answer from a chatbot. Increasing Cognitive Search resource pricing tier limits only increases the number of concurrent requests that can connect to a chatbot. Hero cards are used for showing media inside a chatbot, not to add a personality.
URL:	https://docs.microsoft.com/en-us/learn/modules/build-qna-solution-qna-maker/