Microsoft Azure AI Fundamentals (AI-900) Practice Exam (Sample)

Study Guide

Everything you need from our exam experts!

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- **Practice answering questions under realistic conditions,**
- **Improve accuracy and speed,**
- **Review explanations to strengthen weak areas, and**
- **Approach the exam with greater confidence.**

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here’s how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Don’t worry about getting everything right, your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations, and take breaks to retain information better.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don’t just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning.

7. Use Other Tools

Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There’s no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly — adapt the tips above to fit your pace and learning style. You've got this!

Questions

1. **To create both a training and validation dataset from an existing dataset in Azure Machine Learning, which module should be used?**

   A. Combine Data

   B. Split Data

   C. Prepare Data

   D. Transform Data

2. **Which type of machine learning is best suited for predicting sea level changes over the next decade?**

   A. Classification

   B. Regression

   C. Clustering

   D. Association

3. **Which of the following best describes a chatbot's utilization of AI?**

   A. Data Mining

   B. Natural Language Processing

   C. Computer Graphics

   D. Simulation Modeling

4. **What type of AI is used to predict the sentiment of a social media post?**

   A. Natural language processing

   B. Machine learning (Regression)

   C. Anomaly detection

   D. Computer vision

5. **What is a primary benefit of using Azure ML designer?**

   A. It eliminates the need for data preprocessing

   B. It provides tools for both beginner and advanced users

   C. It only supports supervised learning

   D. It focuses on manual coding practices

6. Using drones to identify the growth of weeds in crop fields is an example of which type of computer vision?

A. Facial recognition

B. Image classification

C. Object detection

D. Optical character recognition (OCR)

7. Counting animals in an area based on a video feed is an example of which technology?

A. Machine learning

B. Natural language processing

C. Computer vision

D. Data processing

8. Can the Speech service translate audio from a call into a different language?

A. No

B. Yes

C. Only if the call is recorded

D. Only for specific languages

9. Organizing documents into groups based on textual similarities is an example of which machine learning concept?

A. Classification

B. Regression

C. Clustering

D. Association

10. What method involves grouping items by their common characteristics?

A. Classification

B. Clustering

C. Regression

D. Labeling

Answers

1. B
2. B
3. B
4. A
5. B
6. C
7. C
8. B
9. C
10. B

Explanations

1. To create both a training and validation dataset from an existing dataset in Azure Machine Learning, which module should be used?

A. Combine Data

B. Split Data

C. Prepare Data

D. Transform Data

The appropriate module to use for creating both a training and validation dataset from an existing dataset in Azure Machine Learning is indeed the Split Data module. This module is specifically designed to divide a single dataset into two or more subsets, which can include a training dataset to train the model and a validation dataset to evaluate its performance. When modeling, it is a best practice to split the data into these subsets to prevent overfitting and to assess how well the model generalizes to unseen data. The Split Data module allows users to specify the proportion of the data to be used for training and validation, ensuring that the model can be accurately trained and tested. Other modules like Combine Data focus on merging multiple datasets, Prepare Data is generally used for preprocessing and cleaning the data, and Transform Data emphasizes modifying data structures or features. While these functions are important in the data preparation workflow, they do not specifically facilitate the splitting of a dataset into training and validation sets, which is why they do not fit the needs described in the question.

2. Which type of machine learning is best suited for predicting sea level changes over the next decade?

A. Classification

B. Regression

C. Clustering

D. Association

The correct choice is regression, as it is particularly well-suited for predicting continuous numerical values, such as sea level changes over a specified period, like the next decade. Regression algorithms analyze the relationship between independent variables (factors that may influence sea level changes, such as temperature, ice melt, etc.) and the dependent variable (the predicted sea level). By modeling these relationships, regression techniques can generate forecasts based on historical data. In this scenario, predicting something like sea level change involves estimating a numerical value, thus making regression the most appropriate approach. It allows for the creation of a model that provides specific predictions based on trends and patterns identified in the data. The other approaches serve different purposes. Classification is used for categorizing data into predefined classes and is not suitable for continuous predictions. Clustering focuses on grouping similar data points together without prior labels and is mainly used for exploratory data analysis rather than making specific predictions. Association, on the other hand, identifies relationships between variables but does not provide predictions about future numerical outcomes. Therefore, for predicting sea level changes, regression is the optimal choice.

3. Which of the following best describes a chatbot's utilization of AI?

A. Data Mining

B. Natural Language Processing

C. Computer Graphics

D. Simulation Modeling

A chatbot's utilization of AI is best described by natural language processing (NLP). NLP is a subset of artificial intelligence that focuses on the interaction between computers and humans through natural language. This technology allows chatbots to understand, interpret, and respond to user inputs in a conversational manner, thereby mimicking human-like interaction. In the context of chatbots, NLP plays a crucial role as it enables the system to decode the meaning of sentences, recognize different intents behind user queries, and generate appropriate responses. Through techniques such as tokenization, sentiment analysis, and entity recognition, chatbots can effectively engage users and provide relevant information or assistance. Data mining, while relevant to many AI applications, primarily involves discovering patterns or extracting valuable information from large datasets rather than focusing on language comprehension. Computer graphics pertain to the creation and manipulation of visual images and are less relevant to conversational AI. Simulation modeling involves creating digital models to simulate real-world systems, which does not align with the operational purpose of chatbots in interacting through language.

4. What type of AI is used to predict the sentiment of a social media post?

A. Natural language processing

B. Machine learning (Regression)

C. Anomaly detection

D. Computer vision

Natural language processing (NLP) is the correct choice for predicting the sentiment of a social media post because it involves the ability of a computer system to understand, interpret, and respond to human language in a valuable way. Sentiment analysis, which determines the emotional tone behind a series of words, is a common application of NLP. By analyzing text data, such as social media posts, NLP can classify sentiments as positive, negative, or neutral, providing insights into public opinion and emotional responses. Machine learning regression focuses on predicting a continuous outcome rather than interpreting textual data, making it less suited for sentiment analysis directly. Anomaly detection is about identifying rare items, events, or observations that raise suspicions by differing significantly from the majority of the data, and it does not pertain to understanding sentiment in text. Computer vision deals with image and video data, which is unrelated to text-based sentiment analysis. Therefore, natural language processing is the most appropriate choice for this purpose.

5. What is a primary benefit of using Azure ML designer?

A. It eliminates the need for data preprocessing

B. It provides tools for both beginner and advanced users

C. It only supports supervised learning

D. It focuses on manual coding practices

Using Azure ML designer offers a primary benefit by providing tools that cater to users of varying skill levels, from beginners to advanced data scientists. This versatility is crucial because it allows individuals who may not have extensive programming experience to develop and deploy machine learning models through a visual interface. This user-friendly design includes drag-and-drop functionality, making it easier for newcomers to experiment with different algorithms and datasets without needing deep technical knowledge. At the same time, advanced users can benefit from the ability to customize their workflows and integrate more complex coding elements when needed. This combination of ease of use and advanced capabilities makes Azure ML designer a powerful tool in the field of machine learning, facilitating collaboration among different team members with diverse expertise.

6. Using drones to identify the growth of weeds in crop fields is an example of which type of computer vision?

A. Facial recognition

B. Image classification

C. Object detection

D. Optical character recognition (OCR)

Using drones to identify the growth of weeds in crop fields exemplifies object detection in computer vision. Object detection is a process that involves identifying and locating objects within an image or video. In this context, the goal is to differentiate between crops and weeds, which means the system must not only recognize these entities but also determine their locations within the field as captured by the drone's cameras. This process enables farmers to monitor weed infestation accurately and make informed decisions regarding the application of herbicides, leading to more efficient and sustainable agricultural practices. The technology can analyze visual data from the drone, identify multiple types of plants, and provide insights into their sizes and distributions across the landscape. In contrast, the other types of computer vision mentioned are not applicable here. Facial recognition focuses specifically on identifying human faces; image classification involves categorizing images into predefined classes without locating specific instances; and optical character recognition (OCR) deals with recognizing and converting different types of text into readable formats. These definitions illustrate why the correct choice is indeed object detection, as it encompasses the essential elements required to address the task of identifying and locating weeds in crop fields.

7. Counting animals in an area based on a video feed is an example of which technology?

A. Machine learning

B. Natural language processing

C. Computer vision

D. Data processing

Counting animals in an area based on a video feed exemplifies computer vision technology. Computer vision enables machines to interpret and process visual information from the world, similar to how humans use their eyesight. By analyzing video footage, computer vision algorithms can identify, track, and count different animals in the scene, using techniques such as object detection and image classification. In this context, the ability to recognize and quantify specific entities in a visual medium showcases the applications of computer vision in image and video analysis. This technology often incorporates machine learning algorithms which help improve accuracy over time by learning from data. However, the primary focus in this scenario is on the interpretation and analysis of visual data rather than merely learning patterns from data or processing language.

8. Can the Speech service translate audio from a call into a different language?

A. No

B. Yes

C. Only if the call is recorded

D. Only for specific languages

The Speech service in Azure is designed to provide real-time speech translation capabilities, which means it can indeed translate audio from a call into a different language without the need for prior recording. This feature is particularly beneficial for communication across different languages, allowing participants in a conversation to understand each other even if they speak different languages. The Speech service leverages advanced machine learning and artificial intelligence technologies to process the speech in real-time, translating it into the desired target language as the call takes place. This service operates on a wide range of languages, making it versatile for diverse applications. The ability to translate audio during an active call enhances accessibility and facilitates smoother interactions in multilingual environments, demonstrating the power of AI in bridging communication gaps.

9. Organizing documents into groups based on textual similarities is an example of which machine learning concept?

A. Classification

B. Regression

C. Clustering

D. Association

Organizing documents into groups based on textual similarities is a clear example of clustering, which is a type of unsupervised machine learning. Clustering involves grouping data points that are similar to each other within the same cluster while keeping them distinct from those in other clusters. In this scenario, documents are analyzed to find patterns and similarities in their text, allowing the algorithm to organize them accordingly without having predefined categories or labels. This contrasts with classification, where the algorithm is trained on labeled data to predict a specific category for new instances. It also differs from regression, which focuses on predicting continuous values rather than grouping. Association refers to finding relationships between variables in large datasets, which does not apply to organizing documents based on textual similarities. Therefore, clustering is the most appropriate concept for this scenario.

10. What method involves grouping items by their common characteristics?

A. Classification

B. Clustering

C. Regression

D. Labeling

The concept of clustering is about grouping items based on their shared characteristics or similarities without prior knowledge of the group labels. This method is widely used in machine learning for tasks such as market segmentation, social network analysis, and organization of computing clusters. In clustering, algorithms analyze the data by identifying patterns and similarities among the data points, effectively categorizing them into distinct groups or clusters. For example, in a customer segmentation scenario, clustering can be used to identify distinct groups of customers based on their purchasing behaviors or attributes, allowing businesses to tailor their marketing strategies for each segment. While classification involves assigning predefined labels to data points based on learned characteristics from a labeled training set, clustering does not require labels and is used primarily for exploratory data analysis. Regression focuses on predicting continuous outcomes rather than grouping items, and labeling involves tagging or categorizing items with specific identifiers rather than determining their grouping based on similarity. Thus, clustering is specifically the correct approach for grouping items by common characteristics.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://microsoftazureaifundamentals-ai900.examzify.com

We wish you the very best on your exam journey. You've got this!