

WESTERN GOVERNORS UNIVERSITY (WGU) ITEC2117 D427 DATA MANAGEMENT - APPLICATIONS PRE- ASSESSMENT PRACTICE (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

<https://wgu-itec2117-d427.examzify.com>



Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	16

SAMPLE

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. 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.

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. 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

SAMPLE

- 1. Which of the following best describes the function of a database schema?**
 - A. A structure that contains the database files
 - B. A blueprint for how database tables are organized
 - C. A method for querying the database
 - D. A security protocol for database access

- 2. Which SQL keyword is used to combine the results of two or more tables based on a related column?**
 - A. JOIN
 - B. MERGE
 - C. UNION
 - D. LINK

- 3. What does data migration refer to?**
 - A. The process of permanently deleting data
 - B. The transfer of data between storage types or formats
 - C. The creation of new data formats
 - D. The analysis of data usage over time

- 4. What is the result of a query with an INNER JOIN?**
 - A. All rows from both tables regardless of matching
 - B. Only rows that have matching values in both tables
 - C. All rows from the first table and matched rows from the second table
 - D. All rows from the second table and matched rows from the first table

- 5. What is the purpose of the FOREIGN KEY in SQL?**
 - A. To create a unique record in a table
 - B. To enforce referential integrity between two tables
 - C. To allow duplicate entries in a column
 - D. To categorize data within a table

6. How would you write a SQL query to count the number of books with a Year value of 2019?
- A. SELECT COUNT(*) FROM Books WHERE Year = 2019
 - B. SELECT COUNT(*) FROM Book WHERE Year = 2019
 - C. COUNT(*) FROM Book WHERE Year = 2019
 - D. SELECT TOTAL(*) FROM Book WHERE Year = 2019
7. What type of relationship is indicated by a binary many-to-many in an entity-relationship diagram?
- A. Binary one-to-one
 - B. Unary many-to-many
 - C. Binary one-to-many
 - D. Ternary one-to-one
8. What is involved in data profiling?
- A. Assessing hardware requirements
 - B. Analyzing data structure and quality
 - C. Creating new databases
 - D. Designing user interfaces
9. Which SQL statement correctly creates the Exam table with a primary and foreign key?
- A. CREATE TABLE Exam (exam_id INT PRIMARY KEY, patient_id INT FOREIGN KEY)
 - B. CREATE TABLE Exam (exam_id INT, exam_date DATE, patient_id INT, PRIMARY KEY (exam_id), FOREIGN KEY (patient_id))
 - C. CREATE TABLE Exam (exam_id INT, PRIMARY KEY, patient_id INT)
 - D. CREATE TABLE Exam (exam_id INT, patient_id INT UNIQUE)
10. Which relationship is described as binary one-to-one in an entity-relationship diagram?
- A. Unary many-to-many
 - B. Binary one-to-many
 - C. Binary many-to-many
 - D. Binary one-to-one

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. Which of the following best describes the function of a database schema?

- A. A structure that contains the database files
- B. A blueprint for how database tables are organized**
- C. A method for querying the database
- D. A security protocol for database access

A database schema serves as a blueprint that outlines how database tables are organized, defining the structure of the data, the relationships between different tables, and the types of data that can be stored in each table. This includes details such as the columns in each table, their data types, constraints, and relationships with other tables, thereby providing a comprehensive framework for data management within the database. While the other choices present related concepts, they do not accurately define the primary function of a database schema. For instance, the structure that contains the database files refers more to the physical storage aspect rather than how the data is organized logically. Similarly, methods for querying the database relate to how data is retrieved, not the organization's structure of that data, and security protocols pertain to access control rather than providing a framework for data arrangement. Thus, the definition that identifies the schema as a blueprint emphasizes its critical role in data organization and database design.

2. Which SQL keyword is used to combine the results of two or more tables based on a related column?

- A. JOIN**
- B. MERGE
- C. UNION
- D. LINK

The keyword that is used to combine the results of two or more tables based on a related column is JOIN. JOIN allows you to retrieve data from multiple tables by establishing a relationship between them through columns that have matching values. There are different types of JOINS, such as INNER JOIN, LEFT JOIN, RIGHT JOIN, and FULL JOIN, each serving different purposes in how data is fetched based on the relationships defined. When using JOIN, you specify which columns to use to combine the tables, allowing for more complex queries that draw on data distributed across different tables in a relational database. Other terms like MERGE, UNION, and LINK do not adequately describe the specific action of combining rows from multiple tables based on matching values. MERGE is typically used in different contexts, such as merging data sets or within procedural statements. UNION is utilized to combine the results of two or more SELECT queries, but it does not involve combining rows based on relationships between columns; rather, it appends the results as long as the same number of columns and compatible data types are present. LINK is not a standard SQL keyword associated with combining tables in the context described.

3. What does data migration refer to?

- A. The process of permanently deleting data
- B. The transfer of data between storage types or formats**
- C. The creation of new data formats
- D. The analysis of data usage over time

Data migration refers specifically to the transfer of data between storage types or formats. This process is essential when organizations upgrade their systems, move to a different data storage solution, or integrate new technologies. Data migration involves various tasks, including extracting data from the source, transforming it if necessary (to fit the new format or requirements), and loading it into the target system. This is an important aspect of data management, as it ensures that data remains accessible and useful throughout changes in technology or organizational needs. The successful execution of data migration ensures the integrity and accuracy of data during the transition process, and it can facilitate the optimization of data storage and access methods. Other options provide different definitions or concepts that do not accurately represent the process of data migration. For example, permanently deleting data, creating new data formats, or analyzing data usage are distinct processes unrelated to the act of transferring data between storage types or formats.

4. What is the result of a query with an INNER JOIN?

- A. All rows from both tables regardless of matching
- B. Only rows that have matching values in both tables**
- C. All rows from the first table and matched rows from the second table
- D. All rows from the second table and matched rows from the first table

An INNER JOIN combines rows from two or more tables based on a related column between them. It filters the result set to include only those rows where there is a match found between the specified columns of the joined tables. This means that if a row in the first table does not have a corresponding matching row in the second table (and vice versa), it will not appear in the results of the query. For instance, consider two tables: one containing customer information and another containing order details. If you perform an INNER JOIN on the customer ID, the resulting dataset will only include customers who have placed at least one order. Any customers without orders or orders without matching customers will be excluded. This filtering characteristic distinguishes INNER JOINS from other types of joins, such as LEFT JOINS or RIGHT JOINS, which include non-matching rows from one table. Thus, the INNER JOIN effectively highlights the intersections of the data from the participating tables by only presenting the rows where matches exist.

5. What is the purpose of the FOREIGN KEY in SQL?

- A. To create a unique record in a table
- B. To enforce referential integrity between two tables**
- C. To allow duplicate entries in a column
- D. To categorize data within a table

The purpose of the FOREIGN KEY in SQL is to enforce referential integrity between two tables. When a FOREIGN KEY is defined in a table, it establishes a link between that table and another table, ensuring that the value in the FOREIGN KEY column must match a value in the primary key column of the referenced table. This creates a relationship between the two tables, preventing orphaned records and maintaining data consistency. For example, in a scenario where you have a "Customers" table and an "Orders" table, a FOREIGN KEY in the "Orders" table that references the "Customers" table ensures that each order is associated with an existing customer. This way, you can guarantee that no order can exist without a corresponding customer, preserving the relational model of the database. The other options do not accurately describe the function of a FOREIGN KEY. Creating a unique record pertains to primary keys, while allowing duplicate entries relates to unique constraints and indexing. Categorizing data within a table is handled through attributes and potentially using different columns, but is not the specific role of a FOREIGN KEY.

6. How would you write a SQL query to count the number of books with a Year value of 2019?

- A. `SELECT COUNT(*) FROM Books WHERE Year = 2019`
- B. `SELECT COUNT(*) FROM Book WHERE Year = 2019`**
- C. `COUNT(*) FROM Book WHERE Year = 2019`
- D. `SELECT TOTAL(*) FROM Book WHERE Year = 2019`

The correct choice to count the number of books with a Year value of 2019 is not option B, but rather option A. This option effectively uses the SQL `COUNT` function, which counts the number of rows that meet the specified condition in the `WHERE` clause. The `SELECT COUNT(*) FROM Books WHERE Year = 2019` query accurately retrieves the total number of entries in the `Books` table where the `Year` is 2019. Option B refers to `Book` instead of `Books`, which is a potential issue, as the table name must match the actual name in the database schema. If the actual table name is indeed `Books`, this would lead to an error when executed. The other options do not provide a complete or correct SQL statement. Option C omits the `SELECT` keyword entirely, making it an incomplete query. Option D incorrectly uses `TOTAL(*)` instead of the valid `COUNT(*)` function, which could result in a syntax error. This demonstrates the importance of using the correct SQL syntax and keywords for successful query execution.

7. What type of relationship is indicated by a binary many-to-many in an entity-relationship diagram?

- A. Binary one-to-one
- B. Unary many-to-many**
- C. Binary one-to-many
- D. Ternary one-to-one

A binary many-to-many relationship in an entity-relationship diagram indicates that two entities can each have multiple associations with each other. This means that for every instance of one entity, there can be many instances associated with another entity, and vice versa. Choosing a unary many-to-many relationship would imply that a single entity is related to itself in a way that multiple instances are involved. However, this does not accurately capture the interaction between two distinct entities that a binary relationship represents. Other options like binary one-to-one and binary one-to-many focus on the nature of relationships that involve either exact matches (one-for-one) or a single entity relating to multiple instances of another (one-to-many), which does not reflect the complexity and flexibility inherent in a many-to-many relationship. The ternary one-to-one option suggests that three entities are involved in a singular relationship, which again does not align with the definition of a binary relationship, which specifically involves just two separate entities engaging in a many-to-many association.

8. What is involved in data profiling?

- A. Assessing hardware requirements
- B. Analyzing data structure and quality**
- C. Creating new databases
- D. Designing user interfaces

Data profiling involves analyzing data structures and quality. This process typically includes examining the content, format, and relationships of the data to identify patterns, inconsistencies, and anomalies. By performing data profiling, organizations can gain insights into the data's reliability and validity, which is essential for effective data management, data cleansing, and ensuring that analytics processes are built on a solid foundation of accurate data. This careful examination helps to reveal issues like duplicate entries, missing values, and data that doesn't conform to expected formats, thus enabling necessary corrections to be made. Analyzing the data in this way is crucial for informing decisions about data usage, integration, and compliance with regulations. In summary, data profiling is essential for maintaining high data quality, which supports accurate and effective data-driven decision-making.

9. Which SQL statement correctly creates the Exam table with a primary and foreign key?

- A. CREATE TABLE Exam (exam_id INT PRIMARY KEY, patient_id INT FOREIGN KEY)
- B. CREATE TABLE Exam (exam_id INT, exam_date DATE, patient_id INT, PRIMARY KEY (exam_id), FOREIGN KEY (patient_id))**
- C. CREATE TABLE Exam (exam_id INT, PRIMARY KEY, patient_id INT)
- D. CREATE TABLE Exam (exam_id INT, patient_id INT UNIQUE)

The choice that creates the Exam table correctly, including both a primary key and a foreign key, is the one that clearly defines these constraints in the table structure. It specifies the columns to be included in the table, such as exam_id, exam_date, and patient_id, and explicitly sets exam_id as the primary key. Moreover, it establishes patient_id as a foreign key. This is crucial in relational database design, as the foreign key establishes a relationship between the Exam table and another table (presumably a Patients or similar table) where patient_id exists. This maintains referential integrity by ensuring that the patient_id in the Exam table must correspond to an existing patient in the related table. In contrast, other options either miss elements necessary for defining these keys properly or misrepresent their roles. For example, the first option attempts to designate patient_id as a foreign key but does not correctly structure the command. The third option mentions a primary key but lacks the proper syntax to define patient_id as a foreign key or even to lay out any additional constraints. The fourth option misuses the UNIQUE constraint instead of a foreign key, thus failing to create the necessary relationship between tables. Overall, the correct option provides a complete and syntactically correct definition

10. Which relationship is described as binary one-to-one in an entity-relationship diagram?

- A. Unary many-to-many
- B. Binary one-to-many
- C. Binary many-to-many
- D. Binary one-to-one**

In an entity-relationship diagram, a binary one-to-one relationship is characterized by the association between two distinct entities where each entity instance is related to exactly one instance of the other entity. This means that for every record in the first entity, there is exactly one corresponding record in the second entity, and vice versa. In this type of relationship, neither entity can have more than one associated entity instance. For example, if we consider a relationship between "Persons" and "Passports," each person can have only one passport, and each passport is issued to only one person, illustrating the one-to-one nature of the relationship. This specific relationship helps ensure data integrity and enables precise linking of records between connected entities, facilitating clearer data management and reporting.

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://wgu-itec2117-d427.examzify.com>

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

SAMPLE