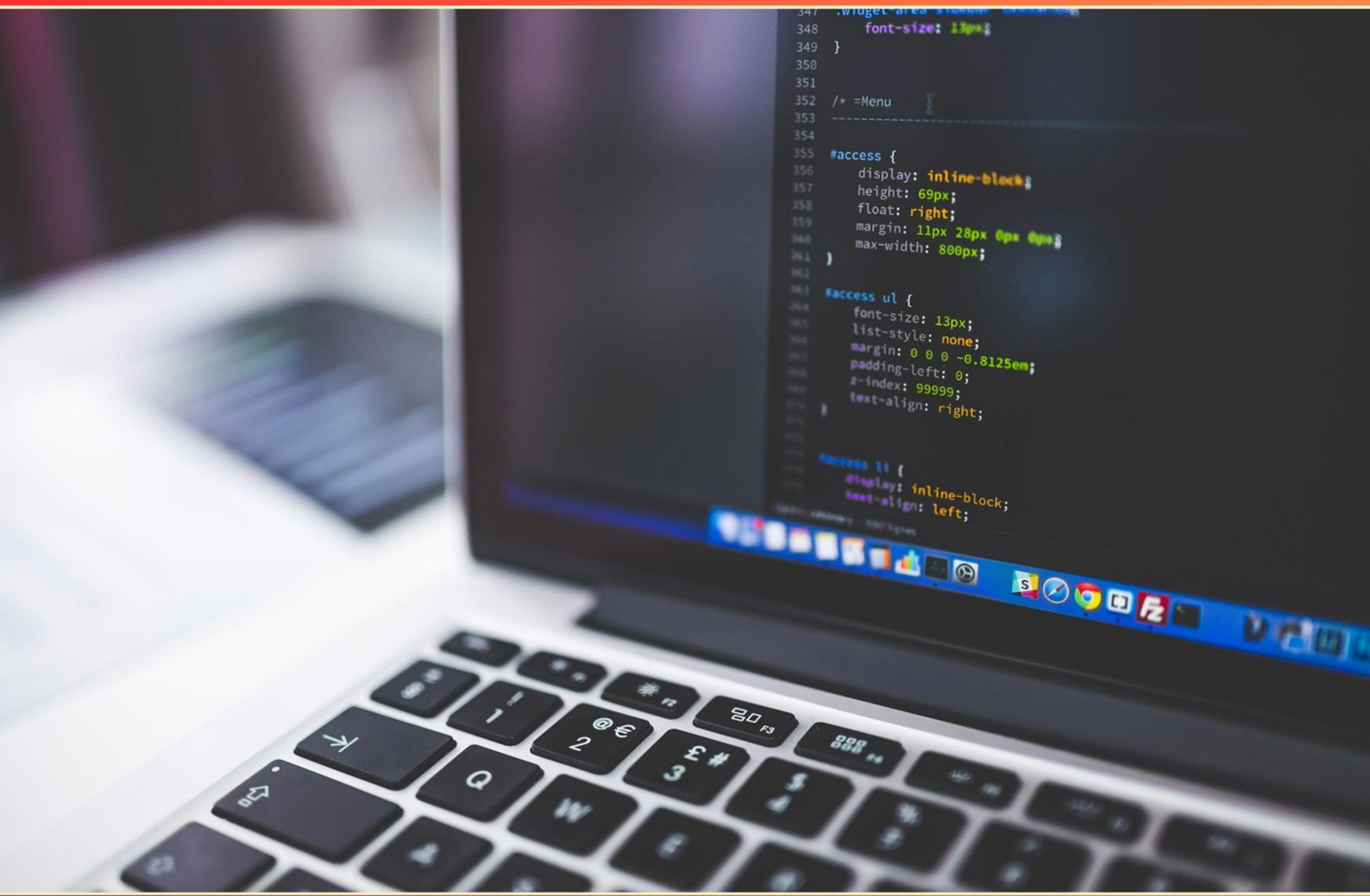
OXFORD, CAMBRIDGE AND RSA (OCR) GCSE COMPUTER SCIENCE PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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. 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

1. **What is Blagging?**

   A. A method of stealing passwords

   B. An invented scenario to engage a targeted victim for information

   C. A type of malware

   D. An online scam to obtain financial data

2. **What action does the CPU perform during the execution stage of the instruction cycle?**

   A. Interprets the instruction

   B. Retrieves the next instruction

   C. Performs what the instruction told

   D. Stores the results

3. **What type of malicious program replicates itself to spread across networks?**

   A. Virus

   B. Worm

   C. Trojan Horse

   D. Spyware

4. **What type of software generates unwanted advertisements for users?**

   A. Spyware

   B. Adware

   C. Worm

   D. Trojan Horse

5. **What type of test assesses how quickly specific features run and their impact on computer resources?**

   A. Usability test

   B. Performance test

   C. Security test

   D. Functionality test

6. What uniquely identifies a device on a network and is unable to be changed?

A. IP Address

B. MAC Address

C. Network ID

D. Host Name

7. In SQL, which symbol is used with LIKE to represent any combination of letters and numbers?

A. ?

B. #

C. %

D. *

8. What is the function of the Transport Layer in networking?

A. Splitting data into packets

B. Making connections between networks

C. Passing data over a physical network

D. Translating domain names into IP addresses

9. Which data type represents whole numbers in programming?

A. Float

B. Integer

C. String

D. Double

10. What is the primary function of the INSERT INTO command?

A. To create a new table

B. To add records to a table

C. To delete records from a table

D. To update existing records

Answers

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

Explanations

1. What is Blagging?

A. A method of stealing passwords

B. An invented scenario to engage a targeted victim for information

C. A type of malware

D. An online scam to obtain financial data

Blagging refers to the practice of creating a fabricated scenario to manipulate or engage a targeted individual into providing sensitive information. This deceptive tactic often involves pretending to be someone else or creating a convincing story to gain trust. It relies heavily on social engineering techniques, where the attacker uses psychological manipulation to exploit a victim's vulnerabilities and obtain information such as passwords, personal details, or financial data. This method is distinct from simply stealing passwords directly, engaging in malicious software attacks, or conducting online scams focused solely on financial data. Instead, blagging emphasizes the interpersonal aspect of deception, making it a more nuanced approach to collecting information through persuasion, rather than technical means.

2. What action does the CPU perform during the execution stage of the instruction cycle?

A. Interprets the instruction

B. Retrieves the next instruction

C. Performs what the instruction told

D. Stores the results

During the execution stage of the instruction cycle, the CPU performs the action specified by the instruction that has been fetched and decoded. This means that if the instruction requires an arithmetic operation, logical comparison, or any other type of processing, the CPU will carry out that operation during this stage. This step is crucial because it is where the actual task or computation defined by the instruction takes place. The CPU might, for example, perform calculations, move data from one memory location to another, or manipulate data in various ways as instructed. The focus of this stage is on executing the commands provided in the program instructions, making it a fundamental component of how the CPU operates to perform tasks efficiently.

3. What type of malicious program replicates itself to spread across networks?

A. Virus

B. Worm

C. Trojan Horse

D. Spyware

A worm is a type of malicious program that is designed to replicate itself and spread across networks independently. Unlike a virus, which requires a host file to attach itself to and relies on user interaction to propagate, a worm exploits vulnerabilities in network protocols or software to distribute itself automatically. This ability to self-replicate and also the capacity to traverse network connections makes worms particularly dangerous as they can lead to widespread infections without any user intervention. In contrast, a virus attaches itself to a legitimate program and requires user action for distribution, while a Trojan horse disguises itself as legitimate software but does not replicate. Spyware is designed to monitor user activity and gather information without consent but does not self-replicate. Thus, the defining characteristic of a worm is its autonomous ability to replicate and spread across networks, making it the correct answer to the question.

4. What type of software generates unwanted advertisements for users?

A. Spyware

B. Adware

C. Worm

D. Trojan Horse

The correct answer is adware, which is specifically designed to display unwanted advertisements to users, often within a web browser or through other software applications. Adware can manifest in various forms, including pop-up ads or banners that interrupt the user experience. The primary function is to generate revenue through advertising, often at the expense of the user's comfort and browsing experience. Adware typically comes bundled with legitimate software or can be downloaded inadvertently when users click on misleading links or ads. While it may not always have malicious intent, it can lead to decreased system performance and invasion of privacy by tracking user behavior to deliver targeted ads. Understanding the role of adware is crucial in recognizing how some types of software can affect user experience and system performance. This differentiates it from other types of software like spyware, which focuses more on spying on user activity without consent, worms that replicate themselves to spread to other computers, or Trojan horses that disguise themselves as legitimate programs to gain unauthorized access. Each of these has different implications for security and user experience.

5. What type of test assesses how quickly specific features run and their impact on computer resources?

A. Usability test

B. Performance test

C. Security test

D. Functionality test

The type of test that assesses how quickly specific features run and their impact on computer resources is known as a performance test. This testing focuses on evaluating the speed, responsiveness, and stability of a system under a given workload. Performance testing helps identify bottlenecks or weaknesses in the software that could affect its ability to handle expected workloads efficiently. In contrast, usability tests focus on how user-friendly and accessible a product is for end-users, and they do not measure performance metrics like speed and resource consumption. Security tests are designed to uncover vulnerabilities and ensure that the software is protected against potential threats, emphasizing safety rather than performance. Functionality tests verify that the system behaves as expected and meets specified requirements, ensuring all features work correctly, but they don't measure how well those features perform in terms of speed or resource use.

6. What uniquely identifies a device on a network and is unable to be changed?

A. IP Address

B. MAC Address

C. Network ID

D. Host Name

A MAC address, or Media Access Control address, is a unique identifier assigned to network interfaces for communications on the physical network segment. It serves as a unique signature for each network device, ensuring that data packets are directed to the correct hardware on a local area network (LAN). MAC addresses are hard-coded into the hardware by the manufacturer and are generally unable to be changed without specialized tools or methods. This permanence makes them essential for identifying devices distinctly on a network. Each MAC address consists of six groups of two hexadecimal digits, and no two devices should have the same MAC address on the same network, ensuring reliable communication. In contrast, an IP address can change due to various reasons such as device relocation to a different network or using DHCP (Dynamic Host Configuration Protocol) to assign addresses dynamically. Similarly, a network ID is associated with a broader range of devices on the same network and can also change over time. A host name is a user-friendly label for a device on a network and can be modified at will. Thus, the MAC address is the only choice that uniquely identifies a specific device on a network and remains unchanged, making it the correct answer.

7. In SQL, which symbol is used with LIKE to represent any combination of letters and numbers?

A. ?

B. #

C. %

D. *

The symbol used with the LIKE operator in SQL to represent any combination of letters and numbers is the percent sign (%). This wildcard character can match zero or more characters, which makes it very versatile when it comes to searching for patterns in strings. For example, if you used the SQL query `SELECT * FROM users WHERE username LIKE 'a%'`, it would return all usernames starting with the letter 'a', followed by any combination of other letters or numbers. The percent sign effectively tells the database that it should include any characters that come after 'a', making it a powerful tool for pattern matching. The other symbols mentioned do not serve this purpose in SQL. The question reflects the understanding of pattern matching within SQL databases, where the percent sign plays a crucial role in constructing flexible queries.

8. What is the function of the Transport Layer in networking?

A. Splitting data into packets

B. Making connections between networks

C. Passing data over a physical network

D. Translating domain names into IP addresses

The function of the Transport Layer in networking is primarily to manage the flow of data between devices, ensuring reliable transmission through established connections. It is responsible for tasks like segmentation of data into manageable packets and reassembling them on the receiving end, maintaining the order of packets, and providing error detection and correction to ensure data integrity during transmission. While establishing connections between networks is essential, this task is primarily associated with the functions of the Network Layer and the higher layers of the OSI model. The Transport Layer focuses more on the end-to-end communication between hosts, maintaining the quality and reliability of that communication. It uses protocols such as TCP (Transmission Control Protocol) and UDP (User Datagram Protocol) to facilitate this process, providing features such as flow control and acknowledgment of packets received. The roles of splitting data into packets, passing data over a physical network, and translating domain names into IP addresses are handled by other layers in the OSI model: the Data Link and Network Layers deal with packet creation and routing, while the Application Layer is more concerned with domain name resolution. Thus, the correct understanding of the Transport Layer revolves around its unique ability to establish reliable communications between devices across a network.

9. Which data type represents whole numbers in programming?

A. Float

B. Integer

C. String

D. Double

The data type that represents whole numbers in programming is the Integer. This type is specifically designed to hold non-decimal numeric values, making it ideal for counting, indexing, or performing arithmetic where fractions are not required. Integers can represent both positive and negative whole numbers, as well as zero, and they are widely used in various programming tasks that require discrete values. Floats and Doubles, on the other hand, are used to represent numbers that require decimal points and are therefore not suitable for situations where only whole numbers are needed. Strings are meant for textual data and cannot be directly used for numerical calculations without conversion. Thus, the Integer type is the most appropriate and efficient choice for handling whole numbers in programming.

10. What is the primary function of the INSERT INTO command?

A. To create a new table

B. To add records to a table

C. To delete records from a table

D. To update existing records

The primary function of the INSERT INTO command is to add records to a table in a database. This command is essential in database management systems, as it enables users to populate tables with new data entries. When using the INSERT INTO command, you specify the name of the table to which you want to add the record, along with the values for the fields in that table. For example, the command may look like this: `INSERT INTO Students (Name, Age) VALUES ('Alice', 20);` This would add a new record for a student named Alice who is 20 years old into the Students table. The ability to insert new records is crucial for maintaining and updating database information, allowing it to reflect current data accurately. In contrast, other options refer to different database operations: creating a new table is the function of the CREATE TABLE command, deleting records relates to the DELETE command, and updating existing records is handled by the UPDATE command. Each of these operations serves a unique purpose within database management, distinct from the primary function of adding new records.

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://ocr-gcse-computerscience.examzify.com

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