

IGCSE COMPUTER SCIENCE PRACTICE TEST (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

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- 1. What technology do inkjet printers primarily use to apply ink?**
 - A. Laser technology
 - B. Thermal bubble or piezoelectric technology
 - C. Solid ink technology
 - D. Electrostatic technology
- 2. Which of the following statements is true about MAC addresses?**
 - A. They change frequently to enhance security
 - B. They are used for identifying devices on a network
 - C. They are always static and cannot be changed
 - D. They have higher transmission speeds compared to IP addresses
- 3. What materials can be used in 3D printing?**
 - A. Only plastic
 - B. Resin, powdered metal, paper, and plastic
 - C. Only metal and paper
 - D. Liquid ink and heat-resistant materials
- 4. How many bytes are in 1 megabyte?**
 - A. 1000 bytes
 - B. 1024 bytes
 - C. 2048 bytes
 - D. 2 to the 20 bytes
- 5. Which of the following is a significant advantage of laser printers?**
 - A. Slow printing speed
 - B. Inability to handle large print jobs
 - C. Consistently high print quality
 - D. Lower startup cost
- 6. What advantage does the internal clock provide in parallel data transmission?**
 - A. It allows unlimited data transmission distance
 - B. It ensures bits arrive in sequential order
 - C. It provides encryption for security
 - D. It speeds up the data processing in the CPU

7. Which technology allows for multi-touch interactions?

- A. Infra-red optical touch screens
- B. Resistive touch screens
- C. Mechanical touch screens
- D. Simple button interfaces

8. How does a 3D scanner gather data from an object?

- A. By taking photographs of the object
- B. By shining a laser and recording measurements
- C. By using infrared sensors
- D. By manual measurement of dimensions

9. What is a key step in the operation of an inkjet printer?

- A. Ink is loaded directly into the print head
- B. A print head moves in a straight line
- C. Data is sent to a printer driver for formatting
- D. The paper feeds without any sensors

10. In normal data encryption, what is required to decode cipher text back to plain text?

- A. A new key
- B. Any random key
- C. The same key used for encryption
- D. No key is required

Answers

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

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Explanations

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1. What technology do inkjet printers primarily use to apply ink?

- A. Laser technology
- B. Thermal bubble or piezoelectric technology**
- C. Solid ink technology
- D. Electrostatic technology

Inkjet printers primarily use thermal bubble or piezoelectric technology to apply ink. In thermal bubble technology, tiny resistors heat up the ink in the print head, creating a small bubble that forces a droplet of ink out of the nozzle onto the paper. This process allows for precise control over the size and placement of each ink droplet, resulting in high-quality prints. On the other hand, piezoelectric technology operates by using piezoelectric crystals that change shape when an electric current is applied, propelling ink from the nozzle without the need for heat. Both methods are effective in producing detailed, colorful images and text. Other technologies listed, such as laser, solid ink, and electrostatic, are not utilized in inkjet printers. Laser technology is used in laser printers, which employ static electricity and toner rather than liquid ink. Solid ink technology employs sticks of wax-like ink that are melted and applied to the page, while electrostatic technology is more commonly associated with photocopiers. Thus, the key function of inkjet printers is fundamentally rooted in thermal bubble or piezoelectric mechanisms for ink application.

2. Which of the following statements is true about MAC addresses?

- A. They change frequently to enhance security
- B. They are used for identifying devices on a network**
- C. They are always static and cannot be changed
- D. They have higher transmission speeds compared to IP addresses

MAC addresses, or Media Access Control addresses, play a crucial role in network communication by serving as unique identifiers for devices on a local network. Each network interface card (NIC) or network device is assigned a MAC address, which is a permanent address that allows devices within the same local area network (LAN) to recognize and communicate with each other. Unlike IP addresses, which can change based on the network environment (e.g., when a device connects to different networks), MAC addresses remain constant, providing a consistent identifier for the device. This consistency facilitates reliable communication and ensures proper data transmission within the network. The other statements do not accurately reflect the nature of MAC addresses. While some devices might have the capability to change their MAC addresses for security purposes, this is not a fundamental characteristic of MAC addresses as a whole. Additionally, while MAC addresses are generally static for a device, they can sometimes be altered, which contradicts the assertion that they are always immutable. Lastly, the comparison of MAC and IP addresses in regards to transmission speeds is not a relevant distinction; both serve different roles within the network stack, with MAC addresses functioning at the data link layer and IP addresses at the network layer.

3. What materials can be used in 3D printing?

- A. Only plastic
- B. Resin, powdered metal, paper, and plastic**
- C. Only metal and paper
- D. Liquid ink and heat-resistant materials

The answer is based on the wide range of materials that can be utilized in 3D printing technologies. 3D printing, particularly additive manufacturing, does not limit itself to a single material type. Resin is commonly used in processes like stereolithography (SLA), where light is used to cure the resin into solid objects. Powdered metal is a key material in selective laser sintering (SLS), which involves melting metal powders to create strong, durable parts. Additionally, paper can be utilized in certain 3D printing methods, such as laminated object manufacturing (LOM), where sheets of paper are cut and stacked to form a three-dimensional object. Finally, various forms of plastic, like PLA and ABS, are the most frequently used materials across different technologies due to their versatility and ease of use. This comprehensive range of materials illustrates the versatility of 3D printing technologies, enabling applications across industries such as manufacturing, healthcare, and consumer goods. Each material offered serves distinct purposes depending on the specific requirements of the object being printed, such as strength, flexibility, or cost-effectiveness.

4. How many bytes are in 1 megabyte?

- A. 1000 bytes
- B. 1024 bytes
- C. 2048 bytes
- D. 2 to the 20 bytes**

The correct answer identifies that 1 megabyte is equivalent to 2 to the 20 bytes. This is based on the binary definition of a megabyte, which is commonly used in computing. In binary terms, a kilobyte is defined as 1024 bytes (2 to the 10), so when we calculate a megabyte, we are essentially multiplying 1024 bytes by itself or, more precisely, raising 2 to the power of 20 (since $1 \text{ megabyte} = 1024 \text{ kilobytes}$, and $1 \text{ kilobyte} = 1024 \text{ bytes}$). This results in: $1024 \text{ KB} = 1024 \times 1024 = 2^{20} \text{ bytes}$. Thus, recognizing that 1 megabyte corresponds to 2 to the 20 bytes aligns with the common binary standard used in computer science and data storage to measure quantities. The other options do not accurately reflect the conventional definition of a megabyte in computing. For instance, 1000 bytes is far less than a megabyte, and both 1024 bytes and 2048 bytes do not represent a complete megabyte. Instead, they are part of the overall

5. Which of the following is a significant advantage of laser printers?

- A. Slow printing speed
- B. Inability to handle large print jobs
- C. Consistently high print quality**
- D. Lower startup cost

A significant advantage of laser printers is their consistently high print quality. Laser printers utilize a technology that produces sharp text and detailed graphics due to their use of a laser beam to fuse toner onto paper precisely. This process results in clean, crisp output that is often superior to that of inkjet printers, particularly for text documents. Laser printers are designed for efficiency in producing high volumes of documents while maintaining quality. They are particularly well-suited for printing large quantities of text-heavy documents, making them popular in business environments. The high resolution of laser printing technology ensures that even fine details are rendered clearly, which contributes to the overall professional appearance of printed materials. While other options such as printing speed and startup costs have their characteristics, they do not reflect the cornerstone advantage of laser printers, which is the quality of the printed output. This reliability and quality in printing make laser printers a preferred choice for many users who prioritize the appearance of their printed work.

6. What advantage does the internal clock provide in parallel data transmission?

- A. It allows unlimited data transmission distance
- B. It ensures bits arrive in sequential order**
- C. It provides encryption for security
- D. It speeds up the data processing in the CPU

In parallel data transmission, an internal clock is crucial because it ensures that all bits in a byte arrive at their destination in a synchronized manner. This synchronization is vital for maintaining the correct order of bits, as multiple bits are sent simultaneously over different channels. Without a clock, there could be timing discrepancies, leading to bits being misaligned, which would result in data corruption or incorrect interpretation of the received data. The internal clock serves as a timing reference that dictates when each bit should be transmitted and when it is expected to be received. This guarantees that the data remains in the correct order, which is essential for accurate data processing and interpretation by the receiving system. Other options, while they might sound plausible, do not accurately reflect functions provided by the internal clock in the context of parallel data transmission. For instance, the internal clock does not allow for unlimited transmission distance or provide security features like encryption. Additionally, while the clock's timing can influence data processing efficiency, it is not primarily designated for speeding up CPU operations. Its main role is about synchronization and order of data arrival.

7. Which technology allows for multi-touch interactions?

A. Infra-red optical touch screens

B. Resistive touch screens

C. Mechanical touch screens

D. Simple button interfaces

Multi-touch interactions are made possible through specific technologies that can detect multiple points of contact on the screen simultaneously. Infra-red optical touch screens utilize a grid of infrared light beams that create a sensing plane. When a user touches the screen, it interrupts these beams, allowing the system to accurately determine the location and number of touch points. This capability enables advanced gestures such as pinching, zooming, and swiping, which are essential for a rich and interactive user experience on devices like smartphones and tablets. In contrast, resistive touch screens rely on pressure to register a touch, usually responding to a single touch point at a time. Mechanical touch screens operate through physical switches, again limiting their functionality to single interactions. Simple button interfaces do not allow for any form of multi-touch, as they are designed for discrete, singular actions. Thus, the ability of infra-red optical technology to support multi-touch functionality sets it apart as the correct answer.

8. How does a 3D scanner gather data from an object?

A. By taking photographs of the object

B. By shining a laser and recording measurements

C. By using infrared sensors

D. By manual measurement of dimensions

A 3D scanner gathers data from an object primarily by shining a laser and recording measurements. This method leverages laser triangulation or time-of-flight techniques to capture the precise dimensions and surface details of the object. When a laser beam is emitted towards the object's surface, it reflects back to the scanner, which can calculate the distance based on the time taken for the light to return or the angle at which it reflects. This data can then be processed to create a detailed 3D model, including various surface textures and contours. Photographing the object does not typically allow for the accurate measurement of depth or the intricate details required for creating a 3D model. Infrared sensors can be used in some 3D scanning technologies but are not the primary mechanism for most scanners. Manual measurement, while it can provide dimensions, is impractical for capturing the complex and nuanced details of three-dimensional shapes efficiently. Thus, the use of lasers is the most effective and common method in modern 3D scanning technology.

9. What is a key step in the operation of an inkjet printer?

A. Ink is loaded directly into the print head

B. A print head moves in a straight line

C. Data is sent to a printer driver for formatting

D. The paper feeds without any sensors

In the operation of an inkjet printer, a crucial step involves sending data to a printer driver for formatting. The printer driver serves as a communication link between the computer and the printer, interpreting the image or document information and converting it into a format that the printer can understand. This process ensures that the printed output accurately reflects the intended design and layout specified by the user, including aspects like color management and print resolution. Other elements of the printing process, such as the movement of the print head or the loading of ink, are important but occur after the data has been properly formatted. The role of the printer driver is foundational since it sets the stage for the entire printing operation, dictating how the subsequent steps will proceed, including how the print head will move and how ink will be applied to the paper.

10. In normal data encryption, what is required to decode cipher text back to plain text?

- A. A new key
- B. Any random key
- C. The same key used for encryption**
- D. No key is required

To decode cipher text back to plain text in normal data encryption, it is essential to use the same key that was employed during the encryption process. This requirement stems from the fundamental principle of symmetric encryption, where the same key is used for both encrypting and decrypting data. When the encryption algorithm transforms plain text into cipher text, it applies a series of operations dictated by the key. Therefore, to reverse this process and retrieve the original plain text from cipher text, the decryption process must also be conducted using that exact key. The security of the encryption relies heavily on this key remaining confidential; if someone has access to the key, they can easily decode the information. Using a different key, any random key, or no key at all would not enable the recovery of the plain text from the cipher text, highlighting the importance of the specific key originally used in the encryption stage.

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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://igcsecompisci.examzify.com>

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

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