

END OF YEAR 8 (EOY8) COMPUTER SCIENCE PRACTICE EXAM (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

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

<https://eoy8compsci.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	15

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. How would you generate a pseudo-random number in a typical programming language?**
 - A. Use a hardware random number generator.
 - B. Seed with the system time and use a standard library function.
 - C. Use a function like rand().
 - D. Ask the user for input to generate the number.
- 2. What decimal value does the binary number 10000000 represent?**
 - A. 8
 - B. 64
 - C. 256
 - D. 128
- 3. What is a code comment and why is it important for maintenance?**
 - A. A note in code explaining logic or decisions; helps others understand intent.
 - B. A syntax error that stops code from running.
 - C. A type of function.
 - D. A runtime exception.
- 4. What is a variable in programming?**
 - A. A fixed value that never changes.
 - B. A named location in RAM used to store values while the program is running.
 - C. A type of data storage device.
 - D. A function that returns a value.
- 5. What is Iteration in problem-solving terms?**
 - A. A method of storing data
 - B. A unit of measurement for time
 - C. Repeating a process to create a more efficient solution
 - D. A one-time snapshot of a process
- 6. What is the operator - used for?**
 - A. Addition
 - B. Division
 - C. Subtraction
 - D. Multiplication

7. In a flowchart, what does a flow line show?

- A. Data input
- B. Flow of control
- C. Loop
- D. A terminator

8. How many bytes are in 30,000 MB?

- A. 30,000,000,000 bytes
- B. 30,000,000 bytes
- C. 3,000,000,000 bytes
- D. 300,000,000,000 bytes

9. What term describes a 'picture element' in digital images?

- A. A color space model
- B. A picture element
- C. A type of audio sample
- D. A method of compressing data

10. Blagging

- A. An attack that invents a scenario to convince the victim to give data or money
- B. An attack that tricks users with a malicious link
- C. An attack that uses malware to steal data
- D. An attack that disrupts service

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. How would you generate a pseudo-random number in a typical programming language?

- A. Use a hardware random number generator.
- B. Seed with the system time and use a standard library function.
- C. Use a function like rand().
- D. Ask the user for input to generate the number.

Pseudo-random numbers are produced by a deterministic algorithm inside the program, so the numbers only appear random. In most programming languages you generate them by calling a function from the standard library that runs a pseudo-random number generator. Each call returns a number, usually within a specific range, and you can scale it as needed for your use. The generator is seeded with an initial value—often the system time—to ensure different sequences on each run, though many environments seed automatically. This is the standard, portable way to obtain a pseudo-random number. While hardware random number generators can provide true randomness and asking the user for input isn't reliable for randomness, the normal approach in code is to use a function like `rand()` from the standard library.

2. What decimal value does the binary number 10000000 represent?

- A. 8
- B. 64
- C. 256
- D. 128

Binary uses place values that double as you move left. In an eight-bit binary number, the bits from right to left represent 2^0 , 2^1 , 2^2 , up to 2^7 . In 10000000, the leftmost bit is 1 and all other bits are 0, so the value is 2^7 , which equals 128. The other options correspond to different bit positions: 8 would require a 1 in the 2^3 place; 64 is 2^6 ; 256 would need a ninth bit (a 1 followed by eight zeros), which is outside eight-bit range.

3. What is a code comment and why is it important for maintenance?

- A. A note in code explaining logic or decisions; helps others understand intent.
- B. A syntax error that stops code from running.
- C. A type of function.
- D. A runtime exception.

Code comments are notes in the source code that explain what the code is doing or why certain decisions were made. They're read by humans, not the computer, so they don't affect how the program runs. For maintenance, comments are invaluable because they capture the intent behind complex or non-obvious code. They help someone reviewing or updating the program understand why a particular approach was chosen, what edge cases were considered, and what a function expects or returns. This makes it faster and safer to modify the code later, fix bugs, or onboard new team members. Comments should be concise and relevant, providing just enough context to clarify intent without repeating what the code already clearly expresses. Other ideas aren't about maintaining code: a note that is actually a syntax error would stop the program from running, a function is something the code executes to perform tasks, and a runtime exception is an error that happens during execution. These describe problems or constructs, not helpful documentation for future maintenance.

4. What is a variable in programming?

- A. A fixed value that never changes.
- B. A named location in RAM used to store values while the program is running.**
- C. A type of data storage device.
- D. A function that returns a value.

A variable is a named container in a program that holds data. It points to a location in RAM where a value is stored while the program runs, and that value can be changed as the program executes. The name lets you read or update the data easily—for example, keeping a score or a user's input and changing it as needed. This differs from a constant, which is a fixed value that never changes, from hardware like a hard drive which is a storage device, and from a function, which is a block of code that does a task and returns a value. So the best description is a named memory location used to store values during execution.

5. What is Iteration in problem-solving terms?

- A. A method of storing data
- B. A unit of measurement for time
- C. Repeating a process to create a more efficient solution**
- D. A one-time snapshot of a process

Iteration is repeating a process to improve a solution. When solving a problem, you try something, see how it works, adjust based on what you learned, and try again. Each pass lets you fix mistakes, streamline steps, and move closer to the goal. You keep looping until the result fits what's required or becomes more efficient. The other options describe things that don't involve repeating and refining: storing data is just keeping information, a unit of time is a measurement, and a one-time snapshot captures only a single moment.

6. What is the operator - used for?

- A. Addition
- B. Division
- C. Subtraction**
- D. Multiplication

The minus sign is used for subtraction. It takes one number away from another or finds the difference between two numbers. For example, $7 - 3 = 4$. This is distinct from adding, dividing, or multiplying. Remember, the minus sign can also make a number negative when placed in front of a value, but as an operation it subtracts.

7. In a flowchart, what does a flow line show?

- A. Data input
- B. Flow of control**
- C. Loop
- D. A terminator

The flow line shows the flow of control—the path that the process follows from one step to the next. Arrows connect the different symbols to indicate the order of execution, guiding what happens after each action or decision. When you reach a decision, the arrows show the possible routes based on conditions, and they may rejoin later to continue the process. It's not the data input/output symbol, nor the start/end terminator, and any looping is just an arrow returning to an earlier step, creating repetition.

8. How many bytes are in 30,000 MB?

- A. 30,000,000,000 bytes**
- B. 30,000,000 bytes
- C. 3,000,000,000 bytes
- D. 300,000,000,000 bytes

When you see megabytes, think in decimal terms unless stated otherwise: 1 MB = 1,000,000 bytes. So, 30,000 MB equals $30,000 \times 1,000,000$ bytes = 30,000,000,000 bytes. That's why the correct value is 30,000,000,000 bytes. If you ever see binary definitions (where 1 MB would be 1,048,576 bytes), the number would be different, but this question uses the decimal convention.

9. What term describes a 'picture element' in digital images?

- A. A color space model
- B. A picture element**
- C. A type of audio sample
- D. A method of compressing data

A digital image is made up of tiny building blocks that determine what you see at each point, and that unit is called a picture element, commonly known as a pixel. Saying the term is a picture element directly identifies this smallest unit that carries color information in the image, which is exactly what the question asks for. In practice, pixel is the widely used shortcut for picture element, so they describe the same idea. The other options point to different concepts: a color space model deals with how colors are represented, an audio sample relates to sound data, and a data compression method is about reducing file size.

10. Blagging

- A. An attack that invents a scenario to convince the victim to give data or money
- B. An attack that tricks users with a malicious link
- C. An attack that uses malware to steal data
- D. An attack that disrupts service

Blagging is a form of social engineering where the attacker fabricates a believable scenario to persuade someone to reveal sensitive information or hand over money. The key idea is deception and exploiting trust or authority to get the victim to disclose data directly, rather than hacking a system or sending malware. This is why the best description is the one that says the attacker invents a scenario to convince the victim to provide data or money. Other attacks described involve different methods: tricking someone with a malicious link is phishing, using malware to steal data involves software, and disrupting service aims to take systems offline. Each of those is a different tactic; blagging focuses specifically on manipulating the person into revealing information or funds through a fabricated story.

SAMPLE

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://eoy8compsci.examzify.com>

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

SAMPLE