

ASBOG Fundamentals of Geology (FG) Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

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. If the south side of a fault is up relative to the north side, what fault type does this indicate?**
 - A. Normal fault**
 - B. Strike-slip fault**
 - C. Reverse fault**
 - D. Oblique-slip fault**

- 2. The mining method most appropriate for a disseminated ore in relatively weak and fractured rock is:**
 - A. Open-pit mining**
 - B. Block caving**
 - C. Room-and-pillar**
 - D. Sublevel stoping**

- 3. Which horizon is commonly referred to as subsoil; lighter layer below topsoil, mostly minerals with little to no organic matter?**
 - A. B Horizon**
 - B. O Horizon**
 - C. A Horizon**
 - D. C Horizon**

- 4. A reverse fault is typically formed under which stress regime?**
 - A. Compression**
 - B. Tension**
 - C. Shear**
 - D. Gravitational**

- 5. Which feature is most likely to expose younger rocks beneath the thrust sheet?**
 - A. Fenster**
 - B. Syncline**
 - C. Anticline**
 - D. Monocline**

- 6. Which parameter is used to determine flow pattern, type of flow, and whether a non-cohesive particle will settle through a water column?**
- A. Darcy's law**
 - B. Bernoulli's principle**
 - C. Reynolds number**
 - D. Froude number**
- 7. If there is no vertical offset between two parts of an offset bed, the throw is?**
- A. Undefined**
 - B. Zero**
 - C. Infinite**
 - D. Negative**
- 8. What is juvenile water?**
- A. Derived from magma that comes to the surface for the first time**
 - B. Derived from rainfall**
 - C. Water from meteoric sources**
 - D. Groundwater dissolved from minerals**
- 9. Each magnitude releases how much more energy than the previous magnitude?**
- A. 10x**
 - B. 32x**
 - C. 100x**
 - D. 2x**
- 10. A distance-drawdown curve flattening at a distance from the pumped well indicates which boundary condition?**
- A. Constant-head boundary**
 - B. Recharge boundary**
 - C. Leaky boundary**
 - D. Impermeable boundary**

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. If the south side of a fault is up relative to the north side, what fault type does this indicate?

- A. Normal fault**
- B. Strike-slip fault**
- C. Reverse fault**
- D. Oblique-slip fault**

Movement where the block above the fault plane (the hanging wall) rises relative to the block below (the footwall) indicates compression along the fault, which is a reverse fault. In a reverse fault, the hanging wall moves up relative to the footwall, whereas a normal fault has the hanging wall moving down due to extension, a strike-slip fault involves mostly horizontal (lateral) movement with little vertical offset, and oblique-slip faults combine vertical and horizontal movement but not a clean up-motion of one side as described. So the observed up-motion of the southern side relative to the northern side best identifies a reverse fault.

2. The mining method most appropriate for a disseminated ore in relatively weak and fractured rock is:

- A. Open-pit mining**
- B. Block caving**
- C. Room-and-pillar**
- D. Sublevel stoping**

When ore is disseminated in relatively weak, fractured rock, the mining method that enables very large-tonnage extraction by using gravity to break and move the rock is most suitable. This approach, block caving, starts with undercutting the ore body so the surrounding fractured rock can progressively cave and break into a loose mass that can be drawn to the surface. The ore is distributed through a wide volume, so you don't rely on mined-out high-grade blocks; instead, you exploit the rock mass's tendency to collapse under its own weight, which lowers operating costs and allows rapid, continuous production. Open-pit mining tends to be impractical here if the deposit is deep or the rock is too unstable, while room-and-pillar and sublevel stoping are better suited to more competent rock and different ore geometries. The combination of low-grade, disseminated ore and weak, highly fractured rock makes block caving the best fit for efficient, large-scale extraction.

3. Which horizon is commonly referred to as subsoil; lighter layer below topsoil, mostly minerals with little to no organic matter?

A. B Horizon

B. O Horizon

C. A Horizon

D. C Horizon

The main idea here is identifying which soil layer is called subsoil by its makeup and position. Subsoil is the mineral-rich layer beneath the topsoil that has received materials leached down from above (illuviation). It typically contains little organic matter compared with the surface layer, so it often appears lighter in color and is dominated by minerals rather than organic material. This description matches the B horizon, which sits below the topsoil and is characterized by accumulated minerals such as clay and oxides from the layers above. The O horizon is the organic surface layer, the A horizon is the organic-rich topsoil, and the C horizon is the less-weathered parent material.

4. A reverse fault is typically formed under which stress regime?

A. Compression

B. Tension

C. Shear

D. Gravitational

Reverse faults form when rocks are squeezed in compression, shortening the crust so the hanging wall moves up relative to the footwall. This compressional regime is typical at convergent plate boundaries where plates push toward each other. Under tension, rocks are pulled apart and normal faults form with the hanging wall moving down. Shear stress yields strike-slip faults with predominantly lateral movement and little vertical displacement. Gravitational forces can cause movement, but they don't define the tectonic stress regime that creates a reverse fault.

5. Which feature is most likely to expose younger rocks beneath the thrust sheet?

A. Fenster

B. Syncline

C. Anticline

D. Monocline

Fenster, or window, is an opening in a thrust sheet that unroofs rocks lying beneath it. In a thrust belt, erosion or tectonic removal of part of the overlying sheet can create a window, so you can directly see the rocks that lie beneath the thrust sheet. If those underlying rocks are younger than the sheet, this window will expose younger material. The other options describe folds or bends in layered rocks (syncline, anticline, monocline) and do not by themselves produce an exposure through the thrust sheet to reveal underlying units. So the window is the feature that best explains exposing younger rocks beneath the thrust sheet.

6. Which parameter is used to determine flow pattern, type of flow, and whether a non-cohesive particle will settle through a water column?

- A. Darcy's law
- B. Bernoulli's principle
- C. Reynolds number**
- D. Froude number

Reynolds number is the parameter that tells you how inertial forces compare to viscous forces in a fluid. That balance controls how the flow behaves around a particle and through the water column, which in turn determines both the flow pattern (laminar vs. turbulent) and whether a non-cohesive particle settles smoothly or with disturbances. When Reynolds number is low, viscous forces dominate, the flow is smooth and orderly, and a particle settles in a predictable, nearly steady way (described by Stokes' regime). As Reynolds number increases, inertial forces become more important, the flow around the particle can become unsteady and turbulent, the drag changes, and the settling behavior becomes more complex. This same concept also governs flow pattern in open channels or pipes: small Reynolds numbers yield laminar flow, large Reynolds numbers yield turbulent flow. The other options describe different ideas that don't capture this direct link between inertial vs. viscous effects and the settling behavior in a water column.

7. If there is no vertical offset between two parts of an offset bed, the throw is?

- A. Undefined
- B. Zero**
- C. Infinite
- D. Negative

Throw is the vertical displacement of one side of a fault relative to the other, as observed in the bed. When there is no vertical offset between the two parts of an offset bed, there is no upward or downward movement to measure, so the vertical displacement is zero. In that situation the fault may still shift laterally (a pure strike-slip component), but that horizontal movement doesn't affect the vertical throw. So the value is zero, not undefined, infinite, or negative.

8. What is juvenile water?

- A. Derived from magma that comes to the surface for the first time**
- B. Derived from rainfall
- C. Water from meteoric sources
- D. Groundwater dissolved from minerals

Juvenile water is water that originates from deep within the Earth's interior and is released as magma degases or erupts. As magma moves upward and crystallizes, water dissolved in the melt exsolves into vapor and hydrothermal fluids, reaching the surface for the first time. This magmatic origin distinguishes it from water derived from rainfall (meteoric water) or groundwater minerals, which come from surface processes or rocks rather than the Earth's interior. So the best description is water derived from magma that comes to the surface for the first time.

9. Each magnitude releases how much more energy than the previous magnitude?

- A. 10x
- B. 32x**
- C. 100x
- D. 2x

Earthquake magnitude scales are logarithmic, so a rise of one whole number means a large, multiplicative increase in energy. The energy released is proportional to $10^{(1.5M)}$, so increasing magnitude by 1 multiplies energy by $10^{1.5}$, which is about 31.6 – commonly rounded to 32 times. Therefore, each higher magnitude releases roughly 32 times more energy than the previous one. The other options aren't correct: 10x is too small, 100x is too large, and 2x is far too small.

10. A distance-drawdown curve flattening at a distance from the pumped well indicates which boundary condition?

- A. Constant-head boundary
- B. Recharge boundary
- C. Leaky boundary
- D. Impermeable boundary**

When you pump from a well, the drawdown you measure at various distances shows how far the pumping influence reaches and how surrounding boundaries constrain flow. If there is an impermeable, no-flow boundary, the flow field created by the pumped well cannot cross that boundary. The cone of depression expands until it encounters the boundary, and beyond that boundary the boundary condition prevents any further change in head due to the pumping. As a result, the distance-drawdown curve levels off or flattens at the distance where the boundary lies, indicating the influence of an impermeable limit. Other boundary types involve ongoing exchange or leakage that keep altering the drawdown pattern with distance, so you wouldn't expect a clean flattening at a finite distance in those cases.

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://asbogfg.examzify.com>

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

SAMPLE