

NCEES Principles and Practice of Surveying Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

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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 advantage does static GNSS positioning provide?**
 - A. Enhanced speed of measurements**
 - B. Improved accuracy of location details**
 - C. Reduced costs for surveying tasks**
 - D. Ease of use without training**
- 2. Which conditions must be met for a monument to be considered controlling?**
 - A. It must be positioned in a publicly accessible area**
 - B. It must be called for in a document, identifiable, and undisturbed**
 - C. It must be agreed upon by all parties involved in the survey**
 - D. It must be supported by historical evidence of its existence**
- 3. Which technology is commonly used to enhance the precision of surveying?**
 - A. Laser scanning**
 - B. Microsoft Excel**
 - C. Basic calculators**
 - D. Drafting software**
- 4. What are meander lines used for in surveying?**
 - A. To establish legal boundaries**
 - B. To measure property abutting bodies of water**
 - C. To represent roads and trails**
 - D. To indicate elevation changes**
- 5. What does the term "Estate per Autrie Vie" refer to?**
 - A. Ownership by multiple individuals**
 - B. Ownership measured by someone else's life**
 - C. Absolute ownership with no conditions**
 - D. Time-limited ownership**

- 6. Define "horizontal control" in surveying.**
- A. A network of points on the earth's surface with known horizontal positions**
 - B. A type of control used for vertical measurements**
 - C. Measurements related to the curvature of the earth**
 - D. A technique for calculating land area**
- 7. In surveying, what does "field note" refer to?**
- A. A document for budget estimates**
 - B. A reference map for construction**
 - C. A document that records measurements and observations**
 - D. A summary report for stakeholders**
- 8. What is the primary tool used for measuring angles in surveying?**
- A. Level**
 - B. Measuring tape**
 - C. Theodolite**
 - D. Compass**
- 9. What type of survey is primarily used for mapping topography?**
- A. Boundary survey**
 - B. Construction survey**
 - C. Topographic survey**
 - D. Geodetic survey**
- 10. What doctrine states that the public has certain rights in navigable waters below the high water mark?**
- A. Water Resource Doctrine**
 - B. Public Trust Doctrine**
 - C. Environmental Protection Doctrine**
 - D. Navigable Waters Act**

Answers

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

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Explanations

1. What advantage does static GNSS positioning provide?

- A. Enhanced speed of measurements**
- B. Improved accuracy of location details**
- C. Reduced costs for surveying tasks**
- D. Ease of use without training**

Static GNSS positioning is primarily utilized for its ability to provide significantly improved accuracy in determining the location of points. When using static GNSS, measurements are taken over an extended period from a stationary position, allowing for the collection of data that can be averaged to mitigate errors caused by atmospheric conditions, satellite geometry, and other sources of noise. This process results in a higher level of precision, typically to within centimeters of accuracy or better. This accuracy is essential in scenarios where precise location data is critical, such as in cadastral surveys, control networks, and any applications requiring highly reliable geospatial information. While other methods of GNSS positioning may focus on speed, cost efficiency, or ease of operation, static GNSS is particularly valued by professionals in surveying when the utmost accuracy is required.

2. Which conditions must be met for a monument to be considered controlling?

- A. It must be positioned in a publicly accessible area**
- B. It must be called for in a document, identifiable, and undisturbed**
- C. It must be agreed upon by all parties involved in the survey**
- D. It must be supported by historical evidence of its existence**

For a monument to be considered controlling, it is essential that it is called for in a legal document, is identifiable, and remains undisturbed. When a monument is referenced in a legal description, such as a survey or a deed, it establishes it as a point of reference for property boundaries. Its identification ensures that it can be accurately located by surveyors, and the requirement for it to be undisturbed means that it should not have been moved or altered in a way that affects its original positional integrity. This condition is foundational in land surveying, as controlling monuments serve as reliable benchmark reference points from which boundaries are determined. If any part of this condition is not met—if the monument is not documented, not easily identifiable, or has been disturbed—it could lead to disputes or inaccuracies in property delineation. Thus, the emphasis on these three criteria encapsulates the essential characteristics that make a monument a controlling feature in surveying practices.

3. Which technology is commonly used to enhance the precision of surveying?

- A. Laser scanning**
- B. Microsoft Excel**
- C. Basic calculators**
- D. Drafting software**

Laser scanning is a technology frequently employed in surveying to significantly enhance precision. This method utilizes laser beams to capture detailed, three-dimensional information about physical spaces or objects. The result is a high-density point cloud that represents the surveyed environment, allowing for accurate measurements with minimal manual intervention. Laser scanning is particularly beneficial for capturing complex geometries and environments, which can be difficult to measure accurately with traditional surveying tools. The use of laser scanning not only improves accuracy but also increases efficiency, allowing surveyors to gather vast amounts of data quickly. This technology facilitates the analysis and modeling of the surveyed area in a digital format, which is invaluable for various applications, including construction, architecture, and environmental monitoring. In comparison, the other options—Microsoft Excel, basic calculators, and drafting software—while useful in their respective capacities, do not inherently enhance the precision of surveying measurements. Instead, they serve complementary roles in data analysis, calculation, and the visualization of survey results but do not directly contribute to the measurement process itself.

4. What are meander lines used for in surveying?

- A. To establish legal boundaries**
- B. To measure property abutting bodies of water**
- C. To represent roads and trails**
- D. To indicate elevation changes**

Meander lines are primarily used in surveying to mark the boundaries of properties that abut bodies of water, such as lakes and rivers. Their purpose is to define the limits of land ownership adjacent to these water features. Because the boundaries of waterways can fluctuate due to erosion, sediment deposition, and other natural changes, meander lines provide a reference that helps landowners and surveyors understand where property lines extend relative to water bodies. These lines typically follow the contours of the water's edge and help facilitate the accurate mapping of property rights and responsibilities. By establishing the relationship between land and water, meander lines play a crucial role in ensuring that the ownership of adjacent parcels is clear, which is essential for legal and property management purposes. While legal boundaries and certain elevations might also be significant in surveying, they do not specifically pertain to the function of meander lines in describing water boundaries.

5. What does the term "Estate per Autrie Vie" refer to?

- A. Ownership by multiple individuals**
- B. Ownership measured by someone else's life**
- C. Absolute ownership with no conditions**
- D. Time-limited ownership**

The term "Estate per Autrie Vie" refers specifically to a type of ownership that is measured by the life of another individual rather than the life of the owner themselves. This legal concept allows a person to hold an interest in property for as long as a designated third party is alive. Once that individual's life ends, the estate automatically passes to a predetermined remainderman or becomes part of the estate of the deceased. This term is significant in property law because it illustrates how ownership interests can be contingent upon the lifespan of someone other than the owner, which can affect estate planning, property transfers, and inheritance issues. Understanding this concept is crucial for legal and real estate professionals, as it has implications for property rights, taxation, and future ownership transitions.

6. Define "horizontal control" in surveying.

- A. A network of points on the earth's surface with known horizontal positions**
- B. A type of control used for vertical measurements**
- C. Measurements related to the curvature of the earth**
- D. A technique for calculating land area**

Horizontal control in surveying refers to a network of points on the earth's surface with established horizontal positions. These points serve as reference markers used in various types of surveying tasks, such as land boundary determination, construction layout, and mapping. The horizontal coordinates of these points are typically defined in terms of a horizontal coordinate system, enabling surveyors to derive accurate measurements and positions relative to these control points. This network is crucial for providing a consistent framework for horizontal measurements across a project area. By using these known horizontal positions, surveyors can ensure that their measurements and calculations are precise and reliable, contributing to the integrity of the survey as a whole. Other options do not accurately capture the essence of horizontal control. For instance, a type of control used for vertical measurements concerns vertical control, while measurements related to the curvature of the earth pertain to geodetic principles rather than to horizontal control specifically. Techniques for calculating land area are also separate from the concept of horizontal control, which is fundamentally concerned with positioning rather than area calculation.

7. In surveying, what does "field note" refer to?

- A. A document for budget estimates**
- B. A reference map for construction**
- C. A document that records measurements and observations**
- D. A summary report for stakeholders**

In surveying, a "field note" is a crucial document that serves to record measurements and observations made during fieldwork. This documentation captures real-time data about the physical characteristics of the land, including angles, distances, and other pertinent details that are recorded during surveys. The accuracy and clarity of these notes are essential, as they provide the foundational information needed for further analysis, calculations, and the creation of final maps or reports. Field notes must be maintained with precision, as they can directly influence the outcome of projects, legal boundaries, or construction plans. They act as an official record of what was physically observed and measured in the field, often becoming a reference point for future work or legal disputes. Other options listed do not accurately define "field notes." Documents for budget estimates, reference maps for construction, and summary reports for stakeholders serve different purposes within project management and surveying but do not capture the direct observations and measurements taken during surveying operations. Understanding the role of field notes is vital for anyone engaged in surveying practices, ensuring that all data collected is well-documented and reliable for further use.

8. What is the primary tool used for measuring angles in surveying?

- A. Level**
- B. Measuring tape**
- C. Theodolite**
- D. Compass**

The primary tool used for measuring angles in surveying is the theodolite. This instrument is specifically designed for measuring both horizontal and vertical angles with high precision. Its ability to provide accurate angle measurements makes it indispensable in various surveying applications, such as establishing control points, aligning structures, and calculating horizontal and vertical distances. The theodolite typically consists of a telescope mounted on a rotating base that can turn in the horizontal and vertical planes. Surveyors use it in conjunction with other tools to facilitate tasks like triangulation and leveling of land. Its accuracy in angle measurement is far superior to other options, thereby making it the preferred choice among surveyors. While levels are used for determining horizontal planes, measuring tapes are primarily for measuring distances, and compasses are useful for providing directional orientation, none of these tools serve the primary function of measuring angles with the same precision and versatility as a theodolite.

9. What type of survey is primarily used for mapping topography?

- A. Boundary survey**
- B. Construction survey**
- C. Topographic survey**
- D. Geodetic survey**

A topographic survey is specifically designed to detail the three-dimensional features of a terrain. This type of survey measures the elevation and contour of the land, capturing variations in height and the relative position of various landforms, such as hills, valleys, and bodies of water. The primary purpose of a topographic survey is to create a detailed map that reflects these features, often incorporating both natural and artificial elements like trees, buildings, and roads. In practice, the data collected during a topographic survey is critical for various applications, including designing land development projects, environmental management, and planning recreational areas. The resulting topographic maps are used extensively in engineering, land use planning, and outdoor activities. Other survey types, such as boundary surveys, primarily focus on determining property lines and ownership limits rather than detailing the physical landscape. Construction surveys are aimed at providing the necessary data and layout for building projects and generally do not emphasize the topographical details of a site. Geodetic surveys involve measurements that account for the curvature of the earth and are more focused on establishing large-scale coordinates rather than mapping local terrain features.

10. What doctrine states that the public has certain rights in navigable waters below the high water mark?

- A. Water Resource Doctrine**
- B. Public Trust Doctrine**
- C. Environmental Protection Doctrine**
- D. Navigable Waters Act**

The correct choice is based on the Public Trust Doctrine, which establishes the principle that certain natural resources, particularly navigable waters, are preserved for public use and that the state has an obligation to protect and maintain these resources for the public's benefit. Under this doctrine, the public has rights to access and use the waters below the high water mark, which includes activities like fishing, swimming, and transportation. This legal framework ensures that these waterways remain accessible to the public and cannot be exclusively owned or privatized by individuals or corporations. The importance of the Public Trust Doctrine lies in its historical foundation rooted in the idea that certain resources are too vital to be owned privately and must be available for communal benefit. This legal principle is crucial in discussions surrounding land use, environmental conservation, and public access to water resources.

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://ncees-principlesandpracticeofsurveying.examzify.com>

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