

PGC POWER SUBSTATION PART 1 PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE**

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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. Which term refers to a schematic representation of equipment connections in a power system?**
 - A. Electrical Diagram
 - B. Circuit Blueprint
 - C. Power Layout
 - D. Connection Sketch
- 2. What does the term 'Flicker' typically indicate about the electrical system?**
 - A. High efficiency
 - B. Unstable voltage levels
 - C. Consistent current flow
 - D. Regular maintenance schedules
- 3. What ratio assesses the company's financial leverage through its debt compared to equity?**
 - A. Debt Ratio
 - B. Debt-Equity Ratio
 - C. Capitalization Ratio
 - D. Debt Coverage Ratio
- 4. What does the government corporation PSALM Corp. manage?**
 - A. Telecommunication networks
 - B. Transportation infrastructure
 - C. Power sector assets
 - D. Water resources
- 5. What is the formula for calculating Return on Assets (ROA)?**
 - A. Net revenue divided by total assets
 - B. Net profits after taxes divided by average total assets
 - C. Gross income divided by liabilities
 - D. Total sales divided by total equity

- 6. Which of the following ratios indicates financial health in short-term obligations?**
- A. Financial Efficiency Ratio
 - B. Financial Current Ratio
 - C. Debt-to-Equity Ratio
 - D. Return on Investment
- 7. What is the main responsibility of the System Operator in the electricity grid?**
- A. Installing electrical equipment
 - B. Monitoring customer usage
 - C. Issuing Dispatch Instructions to implement the Generation Schedule
 - D. Performing maintenance on power lines
- 8. What is a key result of RMS voltage variation exceeding one minute?**
- A. Temporary fluctuations
 - B. Long duration voltage variation
 - C. Short-term stability
 - D. Improved load performance
- 9. What entity is responsible for the physical Distribution System associated with electricity delivery?**
- A. Electricity Generation Agency
 - B. Transmission Network Provider
 - C. Distribution Utility
 - D. Energy Market Supervisor
- 10. Which ratio represents the relationship between total liabilities and total assets?**
- A. Debt Ratio
 - B. Leverage Ratio
 - C. Equity Ratio
 - D. Financial Stability Ratio

Answers

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

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Explanations

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1. Which term refers to a schematic representation of equipment connections in a power system?

- A. Electrical Diagram**
- B. Circuit Blueprint
- C. Power Layout
- D. Connection Sketch

The term that best describes a schematic representation of equipment connections in a power system is an electrical diagram. Electrical diagrams are essential for illustrating the arrangement and interconnections of different components within an electrical system, such as transformers, circuit breakers, and other apparatus. They provide a standardized way to communicate how systems are designed and how they function, ensuring clarity and understanding for engineers and technicians involved in the construction and maintenance of electrical systems. The other terms, while they may seem related, do not specifically encompass the breadth of what an electrical diagram represents. A circuit blueprint typically refers to an engineering design document that may include detailed specifications but is not exclusively focused on the schematic representation. Power layout generally pertains to the physical arrangement of components within a power system rather than the schematic connections. Connection sketch, while it suggests a form of illustration, lacks the formalized standard that an electrical diagram carries in terms of industry practices. Thus, the specificity and standardization of electrical diagrams make them the correct answer for this question.

2. What does the term 'Flicker' typically indicate about the electrical system?

- A. High efficiency
- B. Unstable voltage levels**
- C. Consistent current flow
- D. Regular maintenance schedules

The term 'Flicker' in the context of electrical systems refers to fluctuations in voltage levels that can affect the stability of the supply. This phenomenon is primarily caused by rapid changes in electrical loads, such as those experienced with large motors starting or stopping, which create temporary variations in voltage that can lead to noticeable flickering of lights and other sensitive equipment. When voltage levels are unstable, especially in the presence of high-demand loads, the electrical system struggles to maintain a consistent output, which can cause discomfort and potential operational issues for both residential and industrial users. Therefore, addressing flicker is crucial for ensuring the reliability of power delivery and the satisfaction of customers. The other options do not accurately describe what 'Flicker' signifies. High efficiency does not correlate with flicker, as flicker indicates instability rather than efficiency. Consistent current flow signifies a stable electrical system, which is contrary to the instability described by flicker. Regular maintenance schedules are essential for the overall health of any electrical system but do not directly relate to the concept of flicker.

3. What ratio assesses the company's financial leverage through its debt compared to equity?

- A. Debt Ratio
- B. Debt-Equity Ratio**
- C. Capitalization Ratio
- D. Debt Coverage Ratio

The Debt-Equity Ratio is a key financial metric that evaluates a company's financial leverage by comparing its total debt to its shareholders' equity. This ratio is crucial for understanding the level of risk associated with a firm's capital structure. A higher ratio indicates that a company is more heavily financed by debt relative to equity, which can signify potential financial instability or risk if the company struggles to meet its debt obligations. Conversely, a lower ratio suggests that the company relies more on equity financing, which can be viewed as a safer approach. This metric is particularly important for investors and creditors as it provides insight into how much debt a company is using to fuel its operations and growth compared to the equity contributed by shareholders. The alternatives each measure different aspects of financial health or capital structure. The Debt Ratio assesses total liabilities against total assets, providing a view of overall leverage but not directly comparing debt and equity. The Capitalization Ratio focuses on the proportion of debt in the overall capitalization of the firm, while the Debt Coverage Ratio evaluates the company's ability to service its debt, which is more about income than leverage. Thus, the Debt-Equity Ratio is the most relevant measure in this context.

4. What does the government corporation PSALM Corp. manage?

- A. Telecommunication networks
- B. Transportation infrastructure
- C. Power sector assets**
- D. Water resources

PSALM Corp., or the Power Sector Assets and Liabilities Management Corporation, is a government-owned and controlled corporation in the Philippines that specifically focuses on managing the assets and liabilities of the country's power sector. This includes overseeing the privatization of government-owned power generation facilities and managing the financial obligations associated with these assets. The corporation was established to ensure that the transition from government-operated power generation to a privatized sector is carried out effectively, helping to improve efficiency and attract private investments. By managing the assets of electric power producers, PSALM Corp. plays a crucial role in the overall functioning and regulation of the electricity market in the Philippines. In contrast, telecommunication networks, transportation infrastructure, and water resources fall under different government entities or sectors, focusing on various services and utilities that do not intersect with the responsibilities handled by PSALM Corp. This delineation of roles helps maintain an organized approach to governance and management in the Philippines.

5. What is the formula for calculating Return on Assets (ROA)?

- A. Net revenue divided by total assets
- B. Net profits after taxes divided by average total assets**
- C. Gross income divided by liabilities
- D. Total sales divided by total equity

The formula for calculating Return on Assets (ROA) is based on the relationship between net profits and the assets employed to generate those profits. In this context, the correct method involves dividing net profits after taxes by average total assets. This calculation provides insight into how effectively a company is utilizing its assets to produce profit. The use of average total assets is important as it ensures that any fluctuations in asset values over a reporting period are accounted for, giving a more accurate depiction of asset performance. This metric is crucial for stakeholders since it indicates the efficiency of a company's management in using its assets to generate earnings, reflecting the overall profitability and operational performance of the business. By focusing on net profits after taxes, ROA delivers a clearer view of the profitability attributable to the assets, rather than merely a gross or total income figure that might not account for expenses or taxes.

6. Which of the following ratios indicates financial health in short-term obligations?

- A. Financial Efficiency Ratio
- B. Financial Current Ratio**
- C. Debt-to-Equity Ratio
- D. Return on Investment

The financial current ratio is a critical measure of a company's liquidity and short-term financial health. It is calculated by dividing a company's current assets by its current liabilities, which provides insight into whether the company has enough assets to cover its short-term obligations. A current ratio greater than one typically indicates that a company can comfortably meet its short-term liabilities, which is an essential aspect of financial stability. In contrast, the financial efficiency ratio primarily assesses how effectively a company uses its assets to generate revenue, rather than focusing directly on its capability to meet short-term obligations. The debt-to-equity ratio measures a company's financial leverage by comparing its total debt to shareholders' equity; while it speaks to long-term financial health and risk, it does not specifically address short-term liabilities. Return on investment (ROI) evaluates the profitability of an investment relative to its cost and, like the others, does not directly relate to short-term obligation management. Thus, the financial current ratio stands out as the most relevant measure when evaluating a company's ability to manage and satisfy its short-term financial commitments.

7. What is the main responsibility of the System Operator in the electricity grid?

- A. Installing electrical equipment
- B. Monitoring customer usage
- C. Issuing Dispatch Instructions to implement the Generation Schedule**
- D. Performing maintenance on power lines

The primary responsibility of the System Operator in the electricity grid involves issuing Dispatch Instructions to implement the Generation Schedule. This is crucial because the System Operator plays a pivotal role in ensuring the reliability and stability of the electricity supply across the grid. They monitor real-time data regarding electricity demand and supply, and based on this information, they coordinate and direct the operation of generation resources to meet the anticipated load. The issuance of Dispatch Instructions is aimed at optimizing the generation output from various power plants while balancing the supply with the demand. This task requires a comprehensive understanding of the grid's operations and the capabilities of different generating units. By effectively managing these instructions, the System Operator ensures that the grid operates within its limits and that customers receive a continuous and reliable supply of electricity. In contrast, tasks such as installing electrical equipment, monitoring customer usage, and performing maintenance on power lines do not fall under the purview of the System Operator's core responsibilities. While these tasks are vital within the energy sector, they are typically handled by other specialized personnel or departments, such as installation crews or maintenance teams, allowing the System Operator to focus on grid operations and real-time decision-making.

8. What is a key result of RMS voltage variation exceeding one minute?

- A. Temporary fluctuations
- B. Long duration voltage variation**
- C. Short-term stability
- D. Improved load performance

When RMS (Root Mean Square) voltage variation exceeds one minute, it signifies a long-duration voltage variation. This type of voltage change typically implies that the electrical system is experiencing sustained deviations from the nominal voltage level, which can lead to a range of issues for both end-users and the overall power system. Long-duration voltage variation can impact equipment performance, leading to overheating, increased losses, or even damage to sensitive electronics over time. It can also impact the efficiency of motors and other devices that depend on consistent voltage levels for optimal operation. In comparison, temporary fluctuations are typically shorter in duration and may not have the same level of detrimental effects. Thus, recognizing the distinction between the duration of voltage variations is crucial for effective monitoring and management of electrical systems.

9. What entity is responsible for the physical Distribution System associated with electricity delivery?

- A. Electricity Generation Agency
- B. Transmission Network Provider
- C. Distribution Utility**
- D. Energy Market Supervisor

The Distribution Utility is the entity that is primarily responsible for the physical Distribution System associated with electricity delivery. This utility manages the infrastructure necessary for delivering electricity from the transmission system to consumers. Its responsibilities include maintaining and operating the distribution lines, substations, transformers, and related equipment that play a crucial role in stepping down voltage for safe usage in homes and businesses. The Distribution Utility also ensures reliability and quality of service for end-users, addressing outages, and providing customer service for electricity delivery issues. This entity plays a critical role in connecting consumers with the larger electricity grid, effectively acting as the last mile in the electricity supply chain. While other entities like the Electricity Generation Agency focus on producing electricity and the Transmission Network Provider is responsible for moving high-voltage electricity over long distances, they do not directly handle the final stage of electricity delivery to customers, which is the primary function of the Distribution Utility. The Energy Market Supervisor regulates market operations but does not manage the physical distribution infrastructure. Thus, the Distribution Utility stands out as the correct answer for the entity responsible for the physical Distribution System linked to electricity delivery.

10. Which ratio represents the relationship between total liabilities and total assets?

- A. Debt Ratio**
- B. Leverage Ratio
- C. Equity Ratio
- D. Financial Stability Ratio

The ratio that represents the relationship between total liabilities and total assets is known as the Debt Ratio. This financial ratio is critical in assessing a company's financial leverage and overall risk level. It is calculated by dividing total liabilities by total assets, which provides insight into the extent to which a company is financed by debt as opposed to equity. A higher debt ratio indicates greater financial risk, as it shows a larger portion of the company's assets is financed through borrowing. Conversely, a lower ratio suggests a more conservative financing approach with a greater reliance on equity, indicating stronger financial stability. Understanding the implications of the Debt Ratio helps stakeholders evaluate the company's financial health and risk profile in relation to its asset base.

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://pgcpowersubstationpt1.examzify.com>

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

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