ONTARIO POWER GENERATION (OPG) ORANGE 1 PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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

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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.

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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!

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Questions

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1. After radiopharmaceutical treatment, which actions are prohibited?

A. Enter Radiological Zones

B. Be Assigned Work

C. Participate In The Dosimetry Program

D. All Of The Above

2. Which department is responsible for monitoring radiation levels and ensuring regulatory compliance?

A. Security

B. Radiation Protection Department

C. Maintenance

D. HR

3. With medical treatment, what is the max survivable dose?

A. 200 rem

B. 1000 rem

C. 500 rem

D. 2000 rem

4. What is fixed surface contamination?

A. It is airborne.

B. It spreads easily.

C. It is adhered to the surface, making it difficult to remove.

D. It does not bond to surfaces.

5. Which dosimeters are worn on the trunk within 15 cm of each other when performing radiation work or entering a radiation work area, and by pregnant workers entering zone 2, 3 or unzoned areas?

A. OSL And Film Badge

B. Ring Badge And EPD

C. EPD And Film Badge

D. TLD And EPD

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6. A transformer has primary turns Np and secondary turns Ns. If the input voltage is 480 V and the turns ratio Ns/Np = 0.5, what is the output voltage?

A. 480 V

B. 960 V

C. 240 V

D. 120 V

7. Which statement best describes the Seebeck effect used in thermocouples?

A. The Seebeck effect generates a voltage in response to temperature differences.

B. Humidity changes affect readings.

C. Pressure variations change the output.

D. Magnetic fields induce voltage in thermocouples.

8. In a DC circuit with V = 12 V and R = 4 Ω, what is the current I?

A. 12 A

B. 3 A

C. 4 A

D. 1 A

9. What is the purpose of an alarm trip in a control system?

A. To automatically stop or isolate equipment when a parameter exceeds safe limits

B. To log data for later review

C. To adjust control setpoints automatically

D. To display a warning without stopping equipment

10. Which statement regarding ionizing radiation is true?

A. It always causes immediate symptoms.

B. It can cause health effects that appear later.

C. It cannot penetrate clothing.

D. It is identical to non-ionizing radiation.

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Answers

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

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Explanations

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1. After radiopharmaceutical treatment, which actions are prohibited?

A. Enter Radiological Zones

B. Be Assigned Work

C. Participate In The Dosimetry Program

D. All Of The Above

After radiopharmaceutical treatment, you can still be radioactive for a period, so safety rules restrict several activities to protect yourself and others. Entering radiological zones is not allowed because you could spread contamination or receive more exposure, and these zones are controlled for safety. Being assigned work is restricted for the same reason—tasks that involve handling radioactive materials or operating related procedures could increase exposure to you or to coworkers. Participating in the dosimetry program is also restricted during the treatment period because your exposure status is still evolving and needs special management; normal dosimetry processes aren't appropriate until you're cleared. For these reasons, all of the listed actions are prohibited.

2. Which department is responsible for monitoring radiation levels and ensuring regulatory compliance?

A. Security

B. Radiation Protection Department

C. Maintenance

D. HR

Radiation safety oversight and regulatory compliance are handled by the Radiation Protection Department. This team is responsible for keeping radiation exposure within approved limits by monitoring levels in work areas and for individuals, maintaining dosimetry programs, and conducting regular surveys. They also develop and enforce the procedures, train staff, and ensure proper reporting to regulatory authorities, so the facility stays compliant with safety rules and guidelines. The other departments—Security focuses on access control and safeguarding assets, Maintenance keeps equipment running, and HR handles personnel matters—do not specifically manage the ongoing monitoring of radiation or the regulatory compliance program. That dedicated responsibility belongs to the Radiation Protection Department.

3. With medical treatment, what is the max survivable dose?

A. 200 rem

B. 1000 rem

C. 500 rem

D. 2000 rem

Medical treatment can extend survivable radiation exposure beyond what would be fatal without care, mainly by supporting the bone marrow and immune system and treating infections and organ damage. For gamma-type radiation, 1 Gy is equivalent to 100 rem, and survival becomes possible only with aggressive, comprehensive medical support. Around 1000 rem (10 Gy) is often cited as the upper range that can still be survived with intensive medical treatment, though outcomes vary and the risk remains very high. Doses much higher, like about 2000 rem (20 Gy), are extremely unlikely to be survivable even with the best care. Doses in the few hundred rem range are survivable with supportive treatment, but the question asks for the maximum survivable amount, which points to the higher end.

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4. What is fixed surface contamination?

A. It is airborne.

B. It spreads easily.

C. It is adhered to the surface, making it difficult to remove.

D. It does not bond to surfaces.

Fixed surface contamination means contamination that remains firmly attached to a surface, making it resistant to removal by ordinary cleaning. Because it adheres to the material, it often requires more intensive or specialized decontamination methods to lift it off. This distinguishes it from contaminants that are airborne or loosely attached and can spread or be wiped away more easily. In short, the defining feature is the strong adhesion to the surface, which makes removal difficult.

5. Which dosimeters are worn on the trunk within 15 cm of each other when performing radiation work or entering a radiation work area, and by pregnant workers entering zone 2, 3 or unzoned areas?

A. OSL And Film Badge

B. Ring Badge And EPD

C. EPD And Film Badge

D. TLD And EPD

The key idea is how dosimeters are arranged to monitor exposure for workers in radiation areas, with extra care for pregnant workers. Two dosimeters are worn on the trunk within about 15 cm of each other so they sample the same body region and can be cross-checked. The best match for this setup is a thermoluminescent dosimeter (TLD) and an electronic personal dosimeter (EPD). The TLD provides the integrated, long-term dose over a monitoring period, while the EPD gives real-time readings of dose rate and current dose. This combination on the same trunk area is especially useful for pregnant workers entering Zone 2, Zone 3, or unzoned areas because it ensures immediate awareness of any exposure risk (via the EPD) while preserving an accurate cumulative dose record (via the TLD). Other options don't fit the trunk-within-15-cm requirement as neatly. A ring badge is worn on the finger, not the trunk, so it doesn't meet the placement rule. Other pairings mix devices (like film, OSL) that are less standard for paired trunk monitoring with immediate readout, whereas TLD plus EPD directly satisfies both the placement rule and the need for simultaneous real-time and cumulative dose information.

6. A transformer has primary turns Np and secondary turns Ns. If the input voltage is 480 V and the turns ratio Ns/Np = 0.5, what is the output voltage?

A. 480 V

B. 960 V

C. 240 V

D. 120 V

Voltage in the secondary is scaled from the primary by the turns ratio: Vs = Vp × (Ns/Np). Here, the input (primary) voltage is 480 V and the turns ratio Ns/Np is 0.5, so the output voltage is 480 × 0.5 = 240 V. Since the secondary has fewer turns than the primary, this is a step-down transformation. The other voltages would require different turns ratios (1:1 for 480 V, 2:1 to get 960 V, 1:4 to get 120 V, etc.), so 240 V is the correct result.

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7. Which statement best describes the Seebeck effect used in thermocouples?

A. The Seebeck effect generates a voltage in response to temperature differences.

B. Humidity changes affect readings.

C. Pressure variations change the output.

D. Magnetic fields induce voltage in thermocouples.

The Seebeck effect is the generation of an electromotive force when there is a temperature difference across two dissimilar conductors. In a thermocouple, two different metals are joined to form a hot junction and a separate reference junction. Because each metal has a temperature-dependent Seebeck coefficient, the difference between those coefficients produces a net voltage that is proportional to the temperature difference between the junctions. This voltage is what the thermocouple measures and converts into a temperature reading. Humidity, pressure, or magnetic fields don't create this thermoelectric voltage in a thermocouple, so they don't describe how the Seebeck effect works.

8. In a DC circuit with V = 12 V and R = 4 Ω, what is the current I?

A. 12 A

B. 3 A

C. 4 A

D. 1 A

Current in a DC circuit is found using Ohm's law: I = V / R. With a 12 V supply and 4 Ω of resistance, the current is 12 divided by 4, which equals 3 A. This reflects how voltage pushes charges and how resistance slows them down. If you changed the resistance while keeping voltage fixed, the current would change inversely; if you increased the voltage, the current would increase proportionally. The other numbers would require different voltage or resistance values (for example, 12 A would need 1 Ω, 4 A would need 16 V, and 1 A would need 4 V).

9. What is the purpose of an alarm trip in a control system?

A. To automatically stop or isolate equipment when a parameter exceeds safe limits

B. To log data for later review

C. To adjust control setpoints automatically

D. To display a warning without stopping equipment

In a control system, alarms protect people and equipment by responding to conditions that go beyond safe bounds. An alarm trip is a protective action that automatically stops or isolates equipment when a parameter exceeds safe limits. This rapid shutdown or isolation helps prevent damage from overheat, overpressure, vibration, or other hazardous states and reduces the risk of further incidents. This is different from logging data, which only records what happened without changing the process; from automatically adjusting setpoints, which is an attempt to steer the process back within range but may not be sufficient to prevent damage or danger; and from displaying a warning, which alerts operators but doesn't halt operation. The trip's purpose is to provide an automatic, fail-safe response that halts or separates equipment to keep the system safe.

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10. Which statement regarding ionizing radiation is true?

A. It always causes immediate symptoms.

B. It can cause health effects that appear later.

C. It cannot penetrate clothing.

D. It is identical to non-ionizing radiation.

Ionizing radiation has enough energy to remove electrons from atoms, which can damage DNA and cellular components. A key point is that health effects from exposure can show up long after the event, with cancers and other late effects potentially appearing years later—the risk tends to accumulate with dose even at low levels. So the statement that health effects can appear later is the true one. It isn't correct to claim there are always immediate symptoms, since many exposures are initially asymptomatic. It's also false to say it cannot penetrate clothing; many forms of ionizing radiation, like X-rays and gamma rays, can pass through clothing (though shielding can reduce the dose). Finally, it's not identical to non-ionizing radiation—ionizing radiation has enough energy to ionize atoms, which non-ionizing radiation does not.

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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://opgorange1.examzify.com

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

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