Ontario Power Generation (OPG) Orange 1 Practice Test (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. Which two dosimeters are specified for use in the described policy?

A. TLD And EPD

B. TLD And OSL

C. OSL And Film Badge

D. Ring Badge And TLD

2. What is the maximum radiation exposure to an unborn child?

A. 10 rem

B. 1 rem

C. 100 rem

D. 0 rem

3. 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

4. What is the unit used to measure radiation?

A. rem or mrem, 1 rem = 1000 mrem.

B. Gy.

C. Sv.

D. Ci.

5. Who must approve a pregnant worker entering radiological zones?

A. HR

B. RHP or delegate

C. Health Physics

D. Supervisor

6. When transferring materials from a higher zone to a lower zone, what must be done to ensure contamination control?

A. All materials must be checked for contamination

B. Only some items require checking

C. No checks are required

D. Checks are needed only if an alarm occurs

7. What PPE must be worn in a rubber area or during contact contamination work?

A. A full face shield is required in all zones.

B. Cotton coveralls.

C. A plastic suit must be worn when entering a rubber area or when doing contact contamination work.

D. No special clothing is required.

8. Beta external hazard characteristics include which of the following?

A. Cannot Penetrate Skin

B. Can Penetrate Skin, Affects Eyes, Skin, and Extremities

C. Only External Hazard to Eyes

D. External Hazard But Does Not Affect Skin

9. ALARA stands for?

A. As Low As Reasonably Achievable

B. As Low As Reasonably Acceptable

C. As Low As Reasonably Adequate

D. As Light As Reasonably Achieved

10. Tritium solid waste is placed in which container?

A. Waste bag or sealed white pail

B. Reusable tote

C. Open bucket

D. Glass jar

Answers

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

Explanations

1. Which two dosimeters are specified for use in the described policy?

A. TLD And EPD

B. TLD And OSL

C. OSL And Film Badge

D. Ring Badge And TLD

The main idea is that the policy requires two dosimeter types to cover both cumulative dose tracking and real-time exposure awareness. The two specified are thermoluminescent dosimeters (TLD) and electronic personal dosimeters (EPD). TLDs measure the total radiation dose over a monitoring period and store energy in a crystal, which is read after the period to give an accurate, archival record of occupational exposure. They're reliable for documenting the dose an individual has received over time and are useful for regulatory compliance and dose history. EPDs provide immediate dose readings and can alert you with alarms when exposure levels are rising, enabling real-time decision-making to reduce exposure during tasks. Using both together ensures you have a precise record of accumulated dose (from the TLD) while also having live feedback to manage current exposure (from the EPD). The other options don't align with this policy because they pair dosimeters that aren't specified together for this purpose.

2. What is the maximum radiation exposure to an unborn child?

A. 10 rem

B. 1 rem

C. 100 rem

D. 0 rem

The main idea here is fetal dose limits in radiological safety. When a worker is pregnant, the dose that the unborn child can receive is treated separately from the worker's own dose, and steps are taken to keep that fetal dose as low as reasonably achievable. In this context, the maximum permitted dose to the fetus over the entire pregnancy is set as 10 rem. That means, through shielding, reassignment, and careful operation in radiation areas, efforts are made to ensure the fetus does not accumulate more than 10 rem (100 mSv) during the pregnancy. Understanding this helps you see why 10 rem is presented as the upper bound. It's higher than what you'd aim for day to day, but it's the limit that, if reached, would require additional protective actions to stay within the allowed exposure. The idea is to minimize exposure as much as possible, keeping the actual fetal dose well below this limit whenever feasible. The other numbers are either lower than the cap or much higher than the stated limit, which is why they aren't used as the maximum in this scenario.

3. 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.

4. What is the unit used to measure radiation?

A. rem or mrem, 1 rem = 1000 mrem.

B. Gy.

C. Sv.

D. Ci.

The idea here is dose equivalent—the measure that reflects the radiation's effect on a person. Historically, this is expressed in rem (roentgen equivalent man) or its subunit milliRem. That's why rem or mrem is the best fit for "the unit used to measure radiation" in this context. Key relationships to keep in mind: 1 rem equals 1000 mrem, and in SI terms, 1 sievert (Sv) equals 100 rem (so 1 mSv equals 100 mrem). Gy is the absorbed dose (energy per mass, not adjusted for biological effect), while Ci is a unit of radioactivity (how much radioactive material is present). Sv is also a unit for dose equivalent, but rem/mrem is the traditional unit referenced in many practical safety contexts.

5. Who must approve a pregnant worker entering radiological zones?

A. HR

B. RHP or delegate

C. Health Physics

D. Supervisor

Pregnant workers entering radiological zones must be approved by the Radiation Health Professional (RHP) or their delegate because protecting the fetus requires specialized radiological risk assessment and control. The RHP assesses potential doses in the planned work, ensures monitoring and shielding are adequate, applies ALARA principles, and can authorize or restrict access with appropriate protections. HR handles personnel issues, and while Health Physics is the broader field, the specific approval to enter controlled areas during pregnancy rests with the RHP or their delegated authority, who has the training and authority to balance operational needs with fetal dose safety. The supervisor can implement the approved plan, but the final authorization comes from the RHP or delegate.

6. When transferring materials from a higher zone to a lower zone, what must be done to ensure contamination control?

A. All materials must be checked for contamination

B. Only some items require checking

C. No checks are required

D. Checks are needed only if an alarm occurs

When moving materials from a higher contamination zone to a lower one, every item must be checked for surface contamination. This prevents any hidden contamination on items from being carried into a less restricted area, which could spread contamination and compromise the safety of personnel and facilities in the lower zone. A typical check involves a wipe test or a surface survey with calibrated equipment to verify that the item's surface activity meets the release criteria for the destination zone. If an item fails, it must be decontaminated or handled according to procedures before transfer. Relying on visual inspection or waiting for an alarm could miss low-level contamination, leading to cross-contamination.

7. What PPE must be worn in a rubber area or during contact contamination work?

A. A full face shield is required in all zones.

B. Cotton coveralls.

C. A plastic suit must be worn when entering a rubber area or when doing contact contamination work.

D. No special clothing is required.

Protection against contamination hinges on using a barrier garment that seals out contaminants from skin and clothing. In a rubber area or during contact contamination work, a plastic suit provides that impermeable barrier, protecting you from both splash and particulate contamination and helping prevent transfer to other surfaces when you doff it. Cotton coveralls aren't sufficient because they're not impermeable and can allow contaminants to pass through or cling to fabric. A full face shield isn't the baseline protection for this scenario; it protects the face but doesn't offer the same barrier to skin and clothing as the plastic suit. No special clothing would leave skin and street clothes exposed to contamination. Usually the plastic suit is worn with gloves and boot covers, and sometimes a hood or additional respiratory protection may be required depending on the procedure. The key point is that entering a rubber area or performing contact contamination work requires a plastic suit to provide the necessary barrier.

8. Beta external hazard characteristics include which of the following?

A. Cannot Penetrate Skin

B. Can Penetrate Skin, Affects Eyes, Skin, and Extremities

C. Only External Hazard to Eyes

D. External Hazard But Does Not Affect Skin

Beta radiation as an external hazard can penetrate the outer layer of skin to a shallow depth, meaning exposure can affect skin and, at higher energies, tissues just beneath the surface. It can also impact the eyes, especially with direct exposure to the eye tissues, and prolonged or localized exposure to exposed skin on the hands, arms, or other extremities can produce skin effects. So, an external beta hazard is characterized by its ability to penetrate skin and affect skin, eyes, and extremities. Statements claiming it cannot penetrate skin, or that it affects only the eyes, or that it does not affect skin, don't accurately describe external beta hazards.

9. ALARA stands for?

A. As Low As Reasonably Achievable

B. As Low As Reasonably Acceptable

C. As Low As Reasonably Adequate

D. As Light As Reasonably Achieved

ALARA stands for As Low As Reasonably Achievable. The idea is to keep radiation exposure as low as possible while considering what is practically achievable in terms of cost, effort, and overall benefit to safety. It isn't about eliminating exposure to zero, but about continually applying protective measures—like shielding, time management, maintaining distance, and proper procedures—to reduce dose to a level that is feasible and justified. The other phrasings don't capture that balance between reducing dose and applying practical limits, which is why this wording is the correct one.

10. Tritium solid waste is placed in which container?

A. Waste bag or sealed white pail

B. Reusable tote

C. Open bucket

D. Glass jar

Tritium solid waste is handled with containment that prevents leakage and keeps the waste traceable. A waste bag is suitable for small amounts, while a sealed white pail provides a stronger, leak-tight container for larger amounts. These options are designed for regulated waste, easy labeling, and safe transport within the facility. Other containers lack a secure lid or are not appropriate for regulated radioactive waste; an open bucket risks leakage and contamination, a glass jar can break, and a reusable tote isn't the approved sealed containment for this waste stream. So the proper choice is a waste bag or sealed white pail.

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!