BICSI OSP DESIGN PRACTICE TEST (SAMPLE)

STUDY GUIDE

Prepare with structure. Pass with confidence

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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. Temperature change effect on fiber can be as high as how many dB per kilometer?

A. 0.5 dB per km

B. 0.2 dB per km

C. 10 dB per km

D. 2 dB per km

2. Bonding and grounding may be required at junctions of aerial cable less than ___m in short underground or direct buried plastic-sheathed cable dips in aerial runs.

A. 15 m

B. 42.7 m (140 ft)

C. 100 m (328 ft)

D. 5 m (16 ft)

3. Pole grading is based on which of the following factors?

A. Importance of services

B. Size

C. Loading capabilities

D. Strength

4. The transverse load per meter for unbalanced drop is expressed in which units?

A. kilograms and pounds-force

B. Newtons only

C. Pounds-force only

D. Kilograms only

5. Which of the following is a common anchor and guy configuration?

A. Deadend

B. Push brace

C. Corner

D. Sidewalk

6. Power conduit on a pole should be how many degrees of telco?

A. 90 degrees

B. 120 degrees

C. 180 degrees

D. 150 degrees

7. BTR stands for which concept?

A. Bottom Tension Ratio

B. Bridge Tension Ratio

C. Brother Tension Range

D. Back Tension Ratio

8. What gauge is typically used for UV resistant RUS cable?

A. 18 AWG

B. 19-24 AWG (usually 22 AWG)

C. 20-22 AWG

D. 26 AWG

9. If lead height is between 1/2 and 3/4 and only two or 3 spans are involved, head guys for cable should be one strand larger.

A. One strand larger

B. Equal size

C. Two strands larger

D. One strand smaller

10. Which access configurations are listed for the pedestal type described?

A. Front access only

B. Front access only or front and back

C. Front and back

D. Bottom access

Answers

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

Explanations

1. Temperature change effect on fiber can be as high as how many dB per kilometer?

A. 0.5 dB per km

B. 0.2 dB per km

C. 10 dB per km

D. 2 dB per km

Temperature changes cause the fiber to expand and contract and can impose mechanical stresses on the cable jacket. Those motions create microbends and occasional macrobends, which scatter light and add attenuation along the fiber length. In outside plant design, a conservative worst-case value for temperature-induced loss is about 2 dB per kilometer, which is notably higher than the fiber's normal intrinsic attenuation (roughly 0.2–0.5 dB/km in the C-band). The smaller values shown are closer to intrinsic attenuation or are unrealistically large for temperature effects, so 2 dB/km represents the worst-case impact you'd plan for to ensure a reliable link over long distances. Real numbers vary with installation and environment, but the 2 dB/km figure is used as a design margin for temperature-related losses.

2. Bonding and grounding may be required at junctions of aerial cable less than ___m in short underground or direct buried plastic-sheathed cable dips in aerial runs.

A. 15 m

B. 42.7 m (140 ft)

C. 100 m (328 ft)

D. 5 m (16 ft)

Bonding and grounding at where aerial cable becomes underground is about keeping the metal parts at a common potential and giving fault and surge currents a low-impedance path. When an aerial run dips into underground for a short distance, if that dip is within 42.7 meters (about 140 feet), you should bond and ground at that junction. Keeping the transition bonded ensures there's no significant voltage difference between the aerial and buried sections during faults or lightning, which protects people and equipment and helps clear faults quickly. If the dip is longer than that distance, the rule doesn't require a bond at the junction, since the short, direct bonding path isn't as practical or needed for a long transition. Therefore, the specified distance is 42.7 m (140 ft).

3. Pole grading is based on which of the following factors?

A. Importance of services

B. Size

C. Loading capabilities

D. Strength

Pole grading is about the loads the pole must carry. It defines the allowable loads the pole can safely resist, including dead weight from conductors and hardware and live loads from wind, ice, and other conditions. By specifying a higher grade, you ensure the pole has enough stiffness and strength to handle bending, buckling, and lateral forces under expected conditions. Size or material strength alone isn't what determines the grade—the grade is chosen to match the actual loading capabilities the installation will experience. The importance of the services being carried isn't a mechanical criterion, since what matters is how much load the pole must support.

4. The transverse load per meter for unbalanced drop is expressed in which units?

A. kilograms and pounds-force

B. Newtons only

C. Pounds-force only

D. Kilograms only

A transverse load per meter is a distributed load expressed as force per unit length. In SI, that's newtons per meter (N/m); in imperial units, pounds-force per meter (lbf/m) or per foot (lbf/ft). The option that includes both kilograms (a mass unit) and pounds-force (a force unit) is the best fit among the given choices because it recognizes that loads per length are tied to both mass and the resulting weight (force) per length. The other options give only mass or only force, or omit the per-length aspect, making them less appropriate for a transverse load per meter.

5. Which of the following is a common anchor and guy configuration?

A. Deadend

B. Push brace

C. Corner

D. Sidewalk

In anchor-and-guy setups, the goal is to keep the pole stable under tension by using a ground anchor, a tension member (the guy wire), and some form of bracing or support to transfer load efficiently. A push brace configuration uses a brace that is pressed against a nearby structure to resist the horizontal thrust generated by the guy. This creates a strong, triangular load path: the anchor to the ground, the brace pushing against the structure, and the guy taking the tension from the pole. It's popular because it's practical to install where there's a sturdy nearby structure, it shares load effectively, and it doesn't require extensive or difficult ground anchors. The other options describe either a termination of the line (dead-end), a directional change in the run (corner), or a location rather than a configuration (sidewalk), so they don't represent the common anchor-and-guy setup as directly as the push brace does.

6. Power conduit on a pole should be how many degrees of telco?

A. 90 degrees

B. 120 degrees

C. 180 degrees

D. 150 degrees

The key idea is keeping power and telecommunications hardware physically separated around the pole to maximize clearance and ease of maintenance. Placing the telco conduit directly opposite the power conduit (180 degrees apart) gives the greatest angular separation around the pole, reducing the chance of interference, crowding, or accidental contact with both systems during installation or service work. If the telco conduit were at 90, 120, or 150 degrees, it would sit closer to the power hardware on the pole. That tighter arrangement increases the potential for mechanical conflicts, complicates routing, and can make maintenance more hazardous or less reliable. So, the best practice is 180 degrees.

7. BTR stands for which concept?

A. Bottom Tension Ratio

B. Bridge Tension Ratio

C. Brother Tension Range

D. Back Tension Ratio

Back Tension Ratio is the measure used to describe the tension on the trailing end of a cable after a pulling operation and how that tension relates to the pulling force or the cable's rated limits. This concept is essential because it helps ensure that the act of pulling the cable doesn't overstress the cable once it's in place, especially at entry points, around bends, or near terminations. By monitoring and controlling this ratio, field crews can adjust pulling speed, use lubrication, add slack, or alter routing to keep the back tension within safe bounds, protecting the cable's integrity and the reliability of the installed link. The other listed terms aren't standard terms used in outside plant tension calculations, so they don't describe this commonly used safety and integrity-check metric.

8. What gauge is typically used for UV resistant RUS cable?

A. 18 AWG

B. 19-24 AWG (usually 22 AWG)

C. 20-22 AWG

D. 26 AWG

Conductor size for outdoor, UV-resistant RUS cables is chosen to balance flexibility, install ease, and the needed current/signal capacity. The typical choice is around 22 AWG, with specs often noting a range of 19–24 AWG and saying it's usually 22 AWG. This size provides enough conductor cross-section to carry the required current and keep losses reasonable, while remaining small and flexible enough for outdoor splice points, terminations, and routing along poles or through conduits. Using a thicker conductor, like 18 AWG, would add unnecessary weight, stiffness, and cost for most outdoor telecom drops. A much thinner conductor, such as 26 AWG, would have limited current capacity and reduced mechanical strength, which isn't desirable in UV-exposed outdoor environments. So 22 AWG is the practical, standard choice for UV resistant RUS cable.

9. If lead height is between 1/2 and 3/4 and only two or 3 spans are involved, head guys for cable should be one strand larger.

A. One strand larger

B. Equal size

C. Two strands larger

D. One strand smaller

When you're designing a guyed cable, the forces in each guy depend on the geometry of the run. The head guy carries a larger share of the horizontal tension when the lead height sits in the mid-range (about half to three-quarters of the span) and the installation uses only two or three spans. In that setup, the load path concentrates more force into the head guy, so giving it a bit more strength helps keep the tension within safe limits and maintains balanced loading across the spans. Increasing the head guy by one strand provides the needed extra capacity without overdoing it. Using equal size would underprotect the head guy, while making it two strands larger adds unnecessary stiffness and cost; making it smaller would reduce strength and risk overloading the support.

10. Which access configurations are listed for the pedestal type described?

A. Front access only

B. Front access only or front and back

C. Front and back

D. Bottom access

Access configurations describe how maintenance access is provided to the pedestal's internal components. Pedestals are typically designed so you can reach the terminations from the front, and some models also offer back access to simplify cable routing behind the unit or when the pedestal sits near a wall. If the pedestal type described lists either front access only or front and back access, that matches the practical options offered by that model: you can work from the front, or from both the front and back depending on installation needs. Bottom access isn't a common or listed option for pedestals, so it isn't appropriate here.

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://bicsiospdesign.examzify.com

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