

# RED SEAL STUDY GUIDE POWERLINE TECHNICIAN YEAR 4

**25 EXAM PREP QUESTIONS  
WITH ANSWERS**



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UNITY CREST SOLUTIONS INC.

# INTRODUCTION

## **Introducing the Red Seal Study Guide – Powerline Technician.**

Ready to dive into the world of Powerline Technician? Meet your ultimate companion – the Red Seal Study Guide for Powerline Technician. This practical booklet is your go-to practice tool to conquer your Powerline Technician exam.

Presented in an easy Q&A format, this guide lets you preview the kinds of questions you'll tackle on the real exam day. Consider it a sneak peek into what's coming your way!

Inside its pages, you'll find a treasure trove of Powerline Technician essentials. It's more than just answering questions – it's about truly grasping the basics of Powerline Technician in a way that sticks. Whether you're starting fresh or aiming to refine your skills, this guide has got you covered.

So, get set to challenge yourself, learn in a breeze, and build up your Powerline Technician expertise. With the Red Seal Study Guide, you're all set to take that significant stride toward becoming a certified Powerline Technician.

Ready to get started? For more information, tips, and resources, head over to [www.RedSealStudyGuide.ca](http://www.RedSealStudyGuide.ca)  
Powerline Technician success starts here – dive in!



# DISCLAIMER



## **Study Guide Disclaimer: Important Notice**

The Red Seal Study Guide – Powerline Technician is a reference tool meant to enhance your exam preparation. It offers insights into potential question formats. However, it's vital to know that this guide should complement, not replace, official government-issued study materials.

For comprehensive readiness, we recommend using both this guide and official resources provided by relevant authorities. Please note that this guide covers exams across Canadian provinces, but slight content variations might exist.

For your best chance at success, ensure a well-rounded preparation approach that includes official materials.

Good luck on your path to becoming a certified Powerline Technician!

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head over to [www.RedSealStudyGuide.ca](http://www.RedSealStudyGuide.ca)  
Let's craft your future together!



**1. If you install a backup power source, what gadget switches from normal power to backup power?**

- A: Three-phase switch
- B: Single-pole switch
- C: 1-pole 2-throw switch
- D: Transfer switch

**2. Which soil has the lowest capillary rise?**

- A: Medium sand
- B: Fine gravel
- C: Clay
- D: Coarse sand

**3. What is the relationship between full wave rectifier input AC voltage (VAC) and output DC voltage (VDC)?**

- A:  $V_{dc} = 0.9 V_{ac}$
- B:  $0.45 V_{ac}$
- C:  $0.637 V_{ac}$
- D:  $0.707 V_{ac}$

**4. Which operation is difficult on mild steel?**

- A: Cutting
- B: Drilling
- C: Hardening
- D: Punching

**5. Which cable is best for most installations?**

- A: SOW
- B: NMD 90
- C: SJOOW
- D: Teck-90

See answers on the next page.



1. ☐ A ☐ B ☐ C ☒ D

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2. ☐ A ☒ B ☐ C ☐ D

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**6. What is the minimum copper conductor size for a 6V emergency lighting system with 4 A and 15m lengths?**

- A: #8 AWG
- B: #14 AWG
- C: #10 AWG
- D: #12 AWG

**7. Which can reduce the cold flow on a conductor?**

- A: Reduced pressure and big compression fittings
- B: Antioxidant on conductor
- C: Cathode protection
- D: Tiny compression fittings, high pressure

**8. The strength at which steel fails under repeated applications of load, is known as**

- A: Impact strength
- B: Fatigue strength
- C: Yield strength
- D: Tensile strength

**9. According to the rule of thumb, once a tangent structure has gone past\_\_\_\_\_ from vertical it Must be straightened before a PLT climbs it:**

- A: 30 inches
- B: 24 inches
- C: 18 inches
- D: 36 inches

**10. A triangle with a base of 2.6 meters and a height of 3.1 meters has an area of square meters.**

- A: 2.14
- B: 5.16
- C: 4.03
- D: 8.06

See answers on the next page.



6. ☐ A ☐ B ☒ C ☐ D

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**11. What is the minimum size of copper TW75 conductor in conduit required to supply a 50 kVA Three-phase dry type transformer, with a 600V primary and a 120V/208V secondary?**

- A: #2 AWG
- B: #6 AWG
- C: #4 AWG
- D: #3 AWG

**12. If  $V$  is the velocity of wind in km/hr, the intensity of wind pressure is directly proportional to?**

- A:  $V^4$
- B:  $V^2$
- C:  $V^3$
- D:  $V$

**13. Wind pressure intensity is directly related to wind velocity ( $V$ ) in km/hr.**

- A: Boost power factor
- B: Reduce excess voltage
- C: Oscillations
- D: Confine the carrier signals in the line

**14. What is the typical rule for setting a pole's depth?**

- A: 8% + 2 ft
- B: 7% + 2 feet
- C: 9% + 2 feet
- D: 10% + 2 feet

**15. How are underground cables classified by insulation?**

- A: Single-core cable
- B: Super-tension cable
- C: Cable XLPE
- D: Low-tension cable

See answers on the next page.



11. ☐ A ☒ B ☐ C ☐ D

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**16. The plastic beading I-section beam form factor is approximately**

- A: 1.7
- B: 2.34
- C: 1.50
- D: 1.14

**17. What must be considered when replacing transmission line dampers?**

- A: Operating voltage, conductor weight, insulator rating
- B: Heavy conductor, line current, hot stick
- C: Operating voltage, line current, and conductor sag
- D: Heavy conductor, tall construction, hot stick

**18. When installing a device box in a concrete wall, what is the maximum distance the box May be recessed?**

- A: 2mm
- B: 6mm
- C: 3mm
- D: 1mm

**19. What is a 5: 1 95% efficient 500-watt step-down transformer's watt output?**

- A: 2500
- B: 475
- C: 150
- D: 200

**20. Use rigid PVC conduit only in areas with ambient temperatures no higher than?**

- A: 45 degrees
- B: 75 degrees
- C: 60 degrees
- D: 80 degrees

See answers on the next page.



16. ☐ A ☐ B ☐ C ☒ D

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**21. Control system Laplace transform analysis is impossible.**

- A: Invariant system time
- B: Linear systems
- C: System discrete time
- D: Continuous-time instability

**22. Circuit breaker ratings are usually based on**

- A: Equivalent fault current
- B: Inter-line fault current
- C: One-line ground fault current
- D: Double-line ground fault current

**23. Which basic electrical meter has a permanent magnet, moving coil, and pointer for indication?**

- A: Electronic
- B: A permanent magnet
- C: A moving vane
- D: Magnet type variable

**24. What is the recommended minimum clearance distance for powerline technicians when working near live electrical equipment?**

- A: 450mm
- B: 500mm
- C: 800mm
- D: 750mm

**25. Low-tension cables are generally used up to?**

- A: 1000 KV
- B: 200 KV
- C: 700 KV
- D: 600 KV



21. ☐ A ☐ B ☒ C ☐ D

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