

RED SEAL STUDY GUIDE INDUSTRIAL ELECTRICIAN YEAR 2

SAMPLE
25 EXAM PREP QUESTIONS
WITH ANSWERS



APPRENTICES | INSTRUCTORS | INSTITUTES

RedSealStudyGuide.ca

UNITY CREST SOLUTIONS INC.

INTRODUCTION

Introducing the Red Seal Study Guide – Industrial Electrician.

Ready to dive into the world of Industrial Electrician? Meet your ultimate companion – the Red Seal Study Guide for Industrial Electrician. This practical booklet is your go-to practice tool to conquer your Industrial Electrician 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 Industrial Electrician essentials. It's more than just answering questions – it's about truly grasping the basics of Industrial Electrician 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 Industrial Electrician expertise. With the Red Seal Study Guide, you're all set to take that significant stride toward becoming a certified Industrial Electrician.

Ready to get started? For more information, tips, and resources, head over to www.RedSealStudyGuide.ca
Industrial Electrician success starts here – dive in!



DISCLAIMER

Study Guide Disclaimer: Important Notice

The Red Seal Study Guide – Industrial Electrician 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 Industrial Electrician!

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Let's craft your future together!



1. A synchronous motor has 125 volts of excitation and 10 amps of rotor current. What is motor resistance?

- A: 13.4 ohms
- B: 11.5
- C: 10.1
- D: 12.5

2. What is the minimum gauge fire alarm conduit conductor?

- A: 20
- B: 18
- C: 16
- D: 22

3. High-voltage service Conductors must have a minimum mechanical strength of # AWG hard-drawn copper.

- A: 6
- B: 10
- C: 8
- D: 4

4. Class 1 aerial circuits must conform to Rules.

- A: 12-300 to 12-318
- B: 26-200 to 26-800
- C: 8-100 to 8-112
- D: 16-004 to 16-008

5. Which reverses the DC motor field and armature current?

- A: Stopping the motor
- B: Rotation unchanging
- C: Rotation slide reversed more
- D: Reversal of rotation

See answers on the next page.



1. ☐ A ☐ B ☐ C ☒ D

Note: _____

2. ☐ A ☐ B ☒ C ☐ D

Note: _____

3. ☒ A ☐ B ☐ C ☐ D

Note: _____

4. ☒ A ☐ B ☐ C ☐ D

Note: _____

5. ☐ A ☐ B ☐ C ☒ D

Note: _____



6. Fire alarm system conductors in combustible buildings do not need metal raceways.

A: True

B: False

7. Aluminum has a _____ higher conductivity than copper.

A: 60.2%

B: 60.6%

C: 60%

D: 60.4%

8. What is the average LED light's minimum voltage?

A: 5V 1.6V

B: 2V 12V

C: 174V

D: 1.6 V

9. What is the minimal depth for burying an NMWU cable under a driveway in a residential home? Protection is adequate.

A: (800mm)

B: (500mm)

C: (750mm)

D: (450mm)

10. What is the minimum concrete slab thickness for heating panels in a concrete driveway?

A: (250mm)

B: (150mm)

C: (50mm)

D: (160mm)

See answers on the next page.



6. ☒ A ☐ B

Note: _____

7. ☐ A ☒ B ☐ C ☐ D

Note: _____

8. ☐ A ☐ B ☐ C ☒ D

Note: _____

9. ☐ A ☐ B ☒ C ☐ D

Note: _____

10. ☐ A ☒ B ☐ C ☐ D

Note: _____



11. Can solar panels in an array be connected using extra-hard-use flexible cords?

A: True

B: False

12. What is 29 in binary?

A: 0100 1101

B: 0001 1101

C: 1001 0001

D: 0011 0001

13. 31V–750V is low voltage.

A: True

B: False

14. Minimum AWG single conductor aluminum sheath or mineral insulated cable size for services:

A: #0

B: #4

C: #8

D: #2

15. A three-phase delta load with an open winding is single-phasing. What proportion of its load was delivered?

A: 72.3%

B: 66.7%

C: 50.0%

D: 33.3%

See answers on the next page.



11. ☒ A ☐ B

Note: _____

12. ☐ A ☒ B ☐ C ☐ D

Note: _____

13. ☒ A ☐ B

Note: _____

14. ☐ A ☒ B ☐ C ☐ D

Note: _____

15. ☐ A ☒ B ☐ C ☐ D

Note: _____



16. Since 1 inch = 25.4 mm, convert: 8.6 yards = cm

- A: 786.4 mm
- B: 21.19 mm
- C: 121.9 mm
- D: 78.64 mm

17. What is the best “circuit breaker” for super high voltage A.C. systems?

- A: Bulk oil-based circuit breaker
- B: A vacuum circuit breaker
- C: Air blast circuit breaker
- D: Hexafluoro Sulphur circuit breaker

18. Which law states that all voltage decreases in a closed circuit equal zero?

- A: Coulomb’s law
- B: Kirchhoff’s first law
- C: Ohm’s law
- D: Kirchhoff’s second law

19. The maximum plug fuse size for conduit-enclosed circuits for the 15 A motor should be:

- A: 30 A
- B: 20 A
- C: 15 A
- D: 25 A

20. What happens to current when voltage doubles and resistance halves?

- A: Double
- B: Stays the same
- C: Decreases
- D: Quadruples

See answers on the next page.



16. ☒ A ☐ B ☐ C ☐ D

Note: _____

17. ☐ A ☐ B ☐ C ☒ D

Note: _____

18. ☐ A ☐ B ☐ C ☒ D

Note: _____

19. ☐ A ☐ B ☒ C ☐ D

Note: _____

20. ☐ A ☐ B ☐ C ☒ D

Note: _____



21. An electromagnetic relay's typically closed connections will be open:

- A: True
- B: False

22. The minimum conductor size for grounding a 200 A AC service is:

- A: #00 AWG
- B: #4 AWG
- C: #3 AWG
- D: #0 AWG

23. Which binary number below indicates 20?

- A: 010101
- B: 011100
- C: 010101
- D: 010100

24. One foot of 4-inch pipe weighs 6 kg 4 oz. How much does 10.5 feet of pipe weigh?

- A: 65 lb 10 oz
- B: 60 lb 5 oz
- C: 63 lb 10 oz
- D: 65 lb 5 oz

25. What is the maximum current rating before sheath currents derate cables?

- A: 400A
- B: 200A
- C: 300A
- D: 250A



21. ☒ A ☐ B

Note: _____

22. ☐ A ☐ B ☒ C ☐ D

Note: _____

23. ☐ A ☐ B ☐ C ☒ D

Note: _____

24. ☒ A ☐ B ☐ C ☐ D

Note: _____

25. ☐ A ☒ B ☐ C ☐ D

Note: _____



- 1). (A) (B) (C) (D)
- 2). (A) (B) (C) (D)
- 3). (A) (B) (C) (D)
- 4). (A) (B) (C) (D)
- 5). (A) (B) (C) (D)
- 6). (A) (B) (C) (D)
- 7). (A) (B) (C) (D)
- 8). (A) (B) (C) (D)
- 9). (A) (B) (C) (D)
- 10). (A) (B) (C) (D)
- 11). (A) (B) (C) (D)
- 12). (A) (B) (C) (D)
- 13). (A) (B) (C) (D)
- 14). (A) (B) (C) (D)
- 15). (A) (B) (C) (D)
- 16). (A) (B) (C) (D)
- 17). (A) (B) (C) (D)
- 18). (A) (B) (C) (D)
- 19). (A) (B) (C) (D)
- 20). (A) (B) (C) (D)
- 21). (A) (B) (C) (D)
- 22). (A) (B) (C) (D)
- 23). (A) (B) (C) (D)
- 24). (A) (B) (C) (D)
- 25). (A) (B) (C) (D)





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