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INTRODUCTION

Understanding the Code Tables is very important to the reader of the book preparing to take an electrical exam. During my journey traveling 21 states, 84 cities preparing electricians for their license exam, I've experienced the weakness the student had in applying the Code Tables. Some have missed passing the exam by one or two points merely by being unfamiliar with the Code Tables and how they are applied.

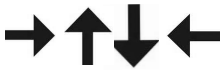
Definition of Table. A systematic arrangement of data usually in rows and columns for ready reference.

Yes, some exam questions are difficult even to the experienced Code person. I know in my preparation for the exam years ago I missed the tough ones also. But, the key to passing the exam is miss the tough ones in class or in your homework, not the day of the exam. I've always felt the advantage I had was when I missed one I said to myself, "you got me on that one, but you won't ever get me again on that one."

My experience in preparing over 20,000 for the exam over the years is I have found several students continue to miss the same question over and over. I've given them the question in the afternoon of class and explained the Code reference and answer, and for homework that evening I've included the same question and they missed it again even though approximately five hours earlier the answer was explained to them. This has to be corrected in order to pass the electrical exam.



**LOOK FOR
KEY WORDS**

In this book I show the Table and place arrows  in the Tables and notes and mark the key words that will take you to the correct answer.

Two Questions From Chapter Three Tables - Part II

1. An MV-90 thermoplastic insulated conductor with a outer covering of armor in a wet location would have a maximum operating temperature of ____ degrees C.

- (a) 60°C (b) 75°C **(c) 90°C** (d) 105°C

Table 315.10(A)

Conductor Application and Insulation Rated 2001 Volts and Higher					
Trade Name	Type Letter	Maximum Operating Temperature	Application Provision	Insulation	Outer Covering
Medium voltage solid dielectric	MV-90 MV-105*	90°C 105°C	Dry or wet locations	Thermoplastic or thermosetting	Jacket, sheath, or armor

*Where design conditions require maximum conductor temperatures above 90°C.

2. The thickness of insulation for nonshielded #4 AWG RHW solid dielectric SBR insulated conductors rated 600 volts is ____ mils.

- (a) 60 (b) 70 (c) 80 **(d) 95**

Table 310.4(2)

**Thickness of Insulation for Nonshielded
Types RHH and RHW Solid Dielectric Insulated Conductors
Rated 2000 Volts**

Conductor Size (AWG or kcmil)	Column A ¹		Column B ²	
	mm	mils	mm	mils
14-10	2.03	80	1.52	60
8	2.03	80	1.78	70
6-2	2.41	95	1.78	70
1-2/0	2.79	110	2.29	90
3/0-4/0	2.79	110	2.29	90
213-500	3.18	125	2.67	105
501-1000	3.56	140	3.05	120
1001-2000	3.56	140	3.56	140



**LOOK FOR
KEY WORDS**

¹Column A insulations are limited to natural SBR, and butyl rubbers.
²Column B insulations are materials such as cross-linked polyethylene, ethylene propylene rubber, and composites thereof.

What's the solution? I've thought long and hard on this and it prompted me to write this book on the Code Tables which has caused difficulty to many.

Have you ever heard the expression, "I can explain it to you, but I can't understand it for you." So my task in writing this book is to get you to understand the question and the Code Table and notes, and be able to successfully answer the question correctly in the limited amount of time allowed.

When completing this book you will be questioned over 425 times on the Tables of the Code book.

On the following pages are 12 of the tougher Code Table exam questions. I want you to take your Code book today and answer these 12 questions. Keep track of your time, after 36 minutes stop and record how many you have answered. Remember, the exam is time based. You have to learn you can't spend over 3 minutes a question or you're in trouble. You have to learn when to skip a question and continue on to another one.

There is no answer section for these 12 questions. This is the format I have put in place, as you work through this book each one of these 12 questions will be explained in detail and you will be questioned on the same 12 questions two more times in this book and given the answers.

So to start, take you Code book and set your watch and in 36 minutes record your success. Then after finishing this book, go back to these same 12 questions, take your Code book, set your watch and now in 36 minutes record your success.

This is how you pass the electrical exam!

CODE TABLE QUESTIONS ASKED ON ELECTRICAL EXAMS

Open book 12 Questions Time Limit 36 Minutes

(3 Minutes per Question)



1. Auxiliary leads for such items as brakes, thermostats, space heaters, and exciting fields shall be neglected if their current-carrying area does not exceed ____ percent of the current-carrying area of the machine power leads.

(a) 10% (b) 12% (c) 20% (d) 25%

2. Where the secondary resistor is separate from the controller, the ampacity of the conductors between controller and medium intermittent duty resistor shall not be less than ____ percent of ampacity of conductor of full-load secondary current.

(a) 55% (b) 65% (c) 75% (d) 85%

3. The ampacity of a #12 THW conductor used with a 15-minute motor on a monorail hoist installed in a raceway containing a total of four current-carrying conductors would be ____ amps.

(a) 20 amps (b) 30 amps (c) 33 amps (d) 36.96 amps

4. When calculating the conductor fill for strut-type channel raceway with internal joiners, the raceway shall be permitted to be filled to ____ percent of the cross-sectional area.

(a) 20% (b) 25% (c) 30% (d) 40%

5. A steel cable tray of .79 square inches is used as an equipment ground conductor. The maximum rating of the circuit breaker permitted for this application is ____ amps.

(a) 1000 amps (b) 600 amps (c) 200 amps (d) 400 amps

6. A #250 kcmil conductor leaves through the wall opposite its removable and lay-in wire terminal intended for only one wire. The minimum bending space would be ____.

(a) 4" (b) 4 1/2" (c) 5" (d) 6 1/2"

(continued)

7. 2" rigid metal conduit shall be supported every ____ feet.

(a) 10' (b) 12' (c) 14' (d) 16'

8. What is the Code requirement for the minimum feeder demand on the following restaurant kitchen equipment?

1 - 16 kw range

1 - 2 kw potato peeler

1 - 3 kw deep fat fryer

(a) 21 kW (b) 18.9 kw (c) 19 kw (d) 18.5 kW

9. A 3/8" flexible fixture "whip" with external connectors may contain one bare #12 grounding conductor plus ____ #12 THHN circuit conductors.

(a) 2 (b) 3 (c) 4 (d) 6

10. A 4-conductor, #12 Type SO flexible cord is used on a single-phase, 120/240 volt circuit. One conductor is a grounded neutral and one of the conductors is the equipment grounding. The allowable ampacity of the cord is ____ amperes.

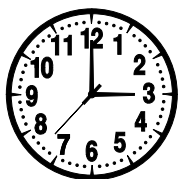
(a) 15 amps (b) 20 amps (c) 25 amps (d) 30 amps

11. #12 aluminum conductors completely enclosed in the motor control enclosure shall be permitted to be protected with an overcurrent device where the rating is not more than ____ amperes.

(a) 20 amps (b) 80 amps (c) 100 amps (d) 125 amps

12. A motor controller enclosure with incidental contact with the enclosed equipment, for indoor use wherever atmospheric conditions are normal is ____.

(a) NEMA type 1 (b) NEMA type 3R (c) NEMA type 6X (d) NEMA type 13K



After 36 minutes STOP and you'll realize how fast the time goes! You'll find the answers later as you complete the book.

Then after finishing this book, go back to these same 12 questions, take your Code book, set your watch and now in 36 minutes record your success.

This is how you pass the electrical exam!

Table 300.1(C) Metric Designators and Trade Sizes

Metric Designator	Trade Size	INCHES
12	3/8	
16	1/2	
21	3/4	
27	1	
35	1 1/4	
41	1 1/2	
53	2	
63	2 1/2	
78	3	
91	3 1/2	
103	4	
129	5	
155	6	



You may want to write "inches" as these are the dimensions the Table is referring to. Before the days of metric being added to the Code the EMT stated: "The maximum size of tubing shall be the 4-inch electrical trade size."

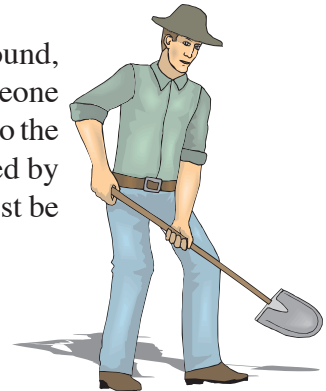
Today the Code states: "The maximum size of EMT shall be metric designator 103 (trade size 4). Meaning 4".

Note: The metric designators and trade sizes are for identification purposes only and are not actual dimensions.

TABLE 300.5(A) Minimum Cover Requirements

Underground Installations.

When conduit or cable listed for direct burial are installed underground, they must be buried to a depth so that it is unlikely to be damaged by someone digging in the area at a later date. The depth requirements vary according to the type of raceway or cable. Rigid non-metallic conduit will not be damaged by someone trenching with a shovel but UF cable might be, so UF cable must be buried deeper than PVC conduit.



The minimum cover requirements of Table 300.5(A) must be met for underground wiring installations. **Table 300.5(A)** lists five different wiring methods and the minimum cover requirements for each one in several different locations. The general rule for direct burial cables or conductors is 24 inches and for rigid metal or intermediate metal conduit is 6 inches. This table also lists some special problems that may be encountered such as in solid rock, if rigid metal conduit is installed with a minimum of 2 inches of concrete, the minimum cover requirement is reduced from 6 inches to 2 inches.

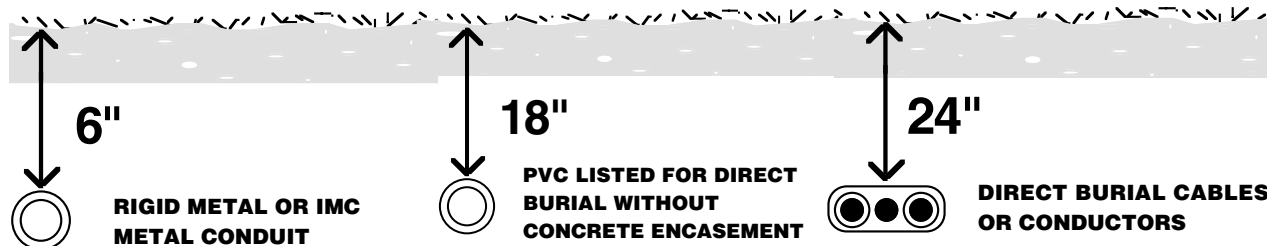



TABLE 300.5(A) Minimum Cover Requirements

Minimum Cover Requirements, 0 to 1000 Volts, Nominal, Burial in Millimeters (Inches)

 Location of Wiring Method or Circuit	Type of Wiring Method or Circuit									
	↓ Column 1 Direct Burial Cables or Conductors		↓ Column 2 Rigid Metal Conduit or Intermediate Metal Conduit		↓ Column 3 Nonmetallic Raceways Listed for Direct Burial Without Concrete Encasement or Other Approved Raceways		↓ Column 4 Residential Branch Circuits Rated 120 Volts or Less with GFCI Protection and Maximum Overcurrent Protection of 20 Amperes		↓ Column 5 Circuits for Control of Irrigation and Landscape Lighting Limited to Not More Than 30 Volts and Installed with Type UF or in Other Identified Cable or Raceway	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
All locations not specified below	600	24	150	6	450	18	300	12	150	6
In trench below 50 mm (2 in.) thick concrete or equivalent	450	18	150	6	300	12	150	6	150	6
Under a building	0 0 (in raceway or Type MC or Type MI cable identified for direct burial)		0 0		0 0		0 0 (in raceway or Type MC or Type MI cable identified for direct burial)		0 0 (in raceway or Type MC or Type MI cable identified for direct burial)	
Under minimum of 102 mm (4 in.) thick concrete exterior slab with no vehicular traffic and the slab extending not less than 152 mm (6 in.) beyond the underground installation	450 18		100 4		100 4		150 6 (direct burial)		150 6 (direct burial)	
							100 4 (in raceway)		100 4 (in raceway)	
Under streets, highways, roads, alleys, driveways, and parking lots	600	24	600	24	600	24	600	24	600	24
One- and two-family dwelling driveways and outdoor parking areas, and used only for dwelling-related purposes	450	18	450	18	450	18	300	12	450	18
In or under airport runways, including adjacent areas where trespassing prohibited	450	18	450	18	450	18	450	18	450	18

Notes:

- Cover is defined as the shortest distance in millimeters (inches) measured between a point on the top surface of any direct-buried conductor, cable, conduit, or other raceway and the top surface of finished grade, concrete, or similar cover.
- Raceways approved for burial only where concrete encased shall require concrete envelope not less than 50 mm (2 in.) thick.
- Lesser depths shall be permitted where cables and conductors rise for terminations or splices or where access is otherwise required.
- Where one of the wiring method types listed in Columns 1 through 3 is used for one of the circuit types in Columns 4 and 5, the shallowest depth of burial shall be permitted.
- Where solid rock prevents compliance with the cover depths specified in this table, the wiring shall be installed in metal or nonmetallic raceway permitted for direct burial. The raceways shall be covered by a minimum of 50 mm (2 in.) of concrete extending down to rock.

QUESTIONS FROM TABLE 300.5(A)

1. _____ is defined as the shortest distance measured between a point on the top surface of any direct buried conductor, cable, conduit, or other raceway and the top surface of finished grade.

(a) Depth (b) Cover (c) Gap (d) Soil

2. Rigid conduit buried in an area subject to heavy vehicular traffic shall have a minimum cover of _____ inches.

(a) 6" (b) 12" (c) 18" (d) 24"

3. Cables buried directly in earth for residential branch circuits rated 120 volts or less with GFCI protection and maximum protection of 20 amps shall be permitted with a minimum cover of _____.

(a) 6" (b) 12" (c) 18" (d) 24"

4. An office building has a 24 volt branch circuit installed for landscape lighting around the front of the building. The circuit was installed in UF cable which requires a minimum burial depth of _____ inches for this circuit.

(a) 6" (b) 8" (c) 12" (d) 24"

5. Rigid schedule 80 PVC shall have a minimum burial depth of _____ inches.

(a) 6" (b) 10" (c) 18" (d) 24"

6. What is the minimum cover requirement for UF cable supplying power to a 120 volt, 15 amp GFCI protected circuit outdoors under a driveway of a one-family dwelling?

(a) 6" (b) 12" (c) 18" (d) 24"

7. UF cable installed to an outdoor post light on a residential branch circuit rated 15 amps, 115 volt would require a minimum burial depth of _____ inches.

(a) 24" (b) 18" (c) 12" (d) 6"

(continued)

QUESTIONS FROM TABLE 300.5(A)

8. Type UF cable feeder conductor, where buried in the earth and not subject to any specific locations, shall be buried a minimum of ____.

(a) 6" (b) 12" (c) 1 1/2' (d) 2'

9. An underground service installed in PVC and having a 3" concrete envelope shall be buried a minimum of ____ inches.

(a) 6" (b) 12" (c) 18" (d) 24"

Table 300.19(A) Spacings for Conductor Support

Long vertical runs of conductors should NOT be supported by the terminal to which they are connected. **Table 300.19(A)** lists the spacing for conductor supports.

Support methods and spacing for fire rated cables and conductors shall comply with the listing of the electrical circuit protective system used and in no case exceed the values in **Table 300.19(A)**.

Table 300.19(A) Spacings for Conductor Supports

Conductor Size	Support of Conductors in Vertical Raceways	Conductors			
		Aluminum or Copper-Clad Aluminum		Copper	
		m	ft	m	ft
18 AWG through 8 AWG	Not greater than	30	100	30	100
6 AWG through 1/0 AWG	Not greater than	60	200	30	100
2/0 AWG through 4/0 AWG	Not greater than	55	180	25	80
Over 4/0 AWG through 350 kcmil	Not greater than	41	135	18	60
Over 350 kcmil through 500 kcmil	Not greater than	36	120	15	50
Over 500 kcmil through 750 kcmil	Not greater than	28	95	12	40
Over 750 kcmil	Not greater than	26	85	11	35

QUESTIONS FROM TABLE 300.19(A)


1. What is the **MAXIMUM** support spacing for #4/0 copper conductors in vertical raceways?
 (a) 60' (b) 80' (c) 100' (d) 200'
2. A vertical run of #6 copper conductor must be supported at intervals not exceeding ____ feet.
 (a) 30' (b) 60' (c) 80' (d) 100'
3. What is the maximum support spacing for #250 kcmil aluminum conductors in vertical raceways?
 (a) 60' (b) 80' (c) 100' (d) 135'
4. A vertical run of #3/0 aluminum conductors must be supported at intervals not exceeding ____ feet.
 (a) 60' (b) 80' (c) 180' (d) 200'
5. A vertical run of 4" rigid conduit is installed to a height of 250 feet. The conduit contains four #500 kcmil THHN copper conductors. How many conductor supports are required?
 (a) none (b) 3 (c) 4 (d) 5

Table 305.15(A) Minimum Cover Requirement Over 1000 volts



Underground conductors shall be identified for the voltage and conditions under which they are installed. Underground cables shall meet the depth requirements of **Table 305.15(A)**.

Table 305.15(A) Minimum Cover^a Requirements

	General Conditions (not otherwise specified)						Special Conditions (use if applicable)					
	Column 1		Column 2		Column 3		Column 4		Column 5		Column 6	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
	Direct-Buried Cables ^b		RTRC, PVC, and HDPE Conduit ^c		Rigid Metal Conduit and Intermediate Metal Conduit		Raceways Under Buildings or Exterior Concrete Slabs, 100 mm (4 in.) Minimum Thickness ^d		Cables in Airport Runways or Adjacent Areas Where Trespass Is Prohibited		Areas Subject to Vehicular Traffic, Such as Thoroughfares and Commercial Parking Areas	
Circuit Voltage	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
→ Over 1000 V through 22 kV	750	30	← 150	18	150	6	100	4	450	18	600	24
→ Over 22 kV through 40 kV	900	36	600	24	← 150	6	100	4	450	18	600	24
Over 40 kV	1000	42	750	30	150	6	100	4	450	18	600	24

General Notes:

1. Lesser depths shall be permitted where cables and conductors rise for terminations or splices or where access is otherwise required.
2. Where solid rock prevents compliance with the cover depths specified in this table, the wiring shall be installed in a metal or nonmetallic raceway permitted for direct burial. The raceways shall be covered by a minimum of 50 mm (2 in.) of concrete extending down to rock.
3. In industrial establishments, where conditions of maintenance and supervision ensure that qualified persons will service the installation, the minimum cover requirements, for other than rigid metal conduit and intermediate metal conduit, shall be permitted to be reduced 150 mm (6 in.) for each 50 mm (2 in.) of concrete or equivalent placed entirely within the trench over the underground installation.

Specific Footnotes:

- ^aCover is defined as the shortest distance in millimeters (inches) measured between a point on the top surface of any direct-buried conductor, cable, conduit, or other raceway and the top surface of finished grade, concrete, or similar cover.
- ^bUnderground direct-buried cables that are not encased or protected by concrete and are buried 750 mm (30 in.) or more below grade shall have their location identified by a warning ribbon that is placed in the trench at least 300 mm (12 in.) above the cables.
- ^cListed by a qualified testing agency as suitable for direct burial without encasement. All other nonmetallic systems shall require 50 mm (2 in.) of concrete or equivalent above conduit in addition to the table depth.
- ^dThe slab shall extend a minimum of 150 mm (6 in.) beyond the underground installation, and a warning ribbon or other effective means suitable for the conditions shall be placed above the underground installation.

QUESTIONS FROM TABLE 305.15(A)

1. A buried cable, 4160v, requires a minimum depth of ____ .

- (a) 24" (b) 30" (c) 36' (d) 42"

2. Conductors installed in rigid nonmetallic conduit operating at 35 kv shall have a minimum cover of ____ .

- (a) 30" (b) 18" (c) 24" (d) 42"

Article 305
General Requirements for Wiring Methods and Materials for Systems
Rated Over 1000 Volts ac, 1500 Volts dc, Nominal

Table 305.3 Wiring Methods Permitted for

Use Above 1000 Volts ac, 1500 Volts dc	Voltage Levels	Reference
Pull and junction boxes, conduit bodies, and handhole enclosures	Over 1000	Article 314, Part IV
Metal-clad cable (Type MC)	1000-35,000	Article 330
Type P cable	1000-2000	Article 337
Intermediate metal conduit (IMC)	Over 1000	Article 342
Rigid metal conduit (RMC)	Over 1000	Article 344
Rigid polyvinyl chloride conduit (PVC)	Over 1000	Article 352
Reinforced thermosetting resin conduit (RTRC)	Over 1000	Article 355
Electrical metallic tubing (EMT)	Over 1000	Article 358
Auxiliary gutters	Over 1000	Article 366
Busway	Over 1000	Article 368 Part IV
Cablebus	1000-35,000	Article 370
Cable trays	1000-35,000	Article 392
Messenger-supported wiring	1000-35,000	Article 396
Outdoor overhead conductors	Over 1000	Article 395
Insulated bus pipe (IBP)	1000-35,000	Article 369

Table 305.15(A) Minimum Cover Requirements

Circuit Voltage	General Conditions (not otherwise specified)			Special Conditions (use if applicable)		
	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
	Direct-Buried Cables mm in.	EMT, RTRC, PVC, and HDPE mm in.	RMC, IMC mm in.	Raceways Under Buildings or Exterior Concrete slabs, 4" Minimum Thickness mm in.	Cables in Airport Runways or Adjacent Areas Where Trespass is Prohibited mm in.	Areas Subject to Vehicular Traffic, Such as Thoroughfares and Commercial Parking Areas mm in.
Over 1000 V ac 1500 V dc through 22 kV	750 30	450 18	150 6	100 4	450 18	600 24
Over 22 kV through 40 kV	900 36	600 24	150 6	100 4	450 18	600 24
Over 40 kV	1000 42	750 30	150 6	100 4	450 18	600 24

CODE TABLES EXAM #7**25 OPEN BOOK QUESTIONS TIME LIMIT ONE HOUR and 15 MINUTES****•Circle your choice of answer and write the Code Table where it was found.**

1. In an industrial commercial (loft) building, where the actual number of general purpose receptacle outlets are unknown, an additional load of ____ volt-amps per square foot shall be included in the load calculation.

(a) 1/2 va (b) 1 va (c) 1 1/2 va (d) none of these

2. A communication riser cable (CMR) has a permitted substitution ____.

(a) CMG (b) CM (c) CMX (d) CMP

3. What is the area of square inch for a #14 RHH with an outer covering?

(a) .0209 sq.in. (b) .0293 sq.in. (c) .0135 sq.in. (d) .0206 sq.in.

4. What is the service conductor demand load for the following 20 outlets at a marina?

17 - 30 amp receptacles 3 - 50 amp receptacles

(a) 660 amps (b) 528 amps (c) 462 amps (d) 396 amps

5. Silicone rubber insulated fixture wire SF-1 should be limited to use where the voltage does not exceed ____ .

(a) 500 volts (b) 300 volts (c) 200 volts (d) 100 volts

6. Open individual service conductors in wet locations, maximum 600 volts, supported every 9 feet should have a minimum clearance between conductors of ____.

(a) 2 1/2" (b) 3" (c) 6" (d) 12"

7. The ampacity of a single #12 fixture wire is ____ .

(a) 20 amps (b) 25 amps (c) 23 amps (d) 35 amps

8. The rated full load current for a DC motor, 7 1/2 hp, 500v would be ____ .

- (a) 11 amps (b) 13 amps (c) 13.6 amps (d) 80 amps**

9. A stage set lighting load of 50,000 va will be allowed a feeder demand factor of ____.

- (a) 50% (b) 60% (c) 75% (d) 100%**

10. The allowable ampacity of a listed extra-hard usage #14 cord with a temperature rating of 90°C (194°F) is ____ used for border lights and based on an ambient temperature of 30°C, 86°F and the cable is not in direct contact with equipment containing heat-producing elements.

- (a) 14 amps (b) 25 amps (c) 28 amps (d) 20 amps**

11. Types TPT, and TST shall be permitted in lengths not exceeding ____ when attached directly, or by means of a special type of plug, to a portable appliance rated at 50 watts or less.

- (a) 8' (b) 10' (c) 15' (d) can't be used at all**

12. The ampacity of a single insulated #1/0 THHN copper conductor in free air is ____ .

- (a) 165 amps (b) 185 amps (c) 260 amps (d) 310 amps**

13. Cable Type CMUC can be installed in ____ applications.

- (a) a fabricated duct (b) vertical runs**
(c) one family dwelling (d) plenum communications raceways

14. The maximum number of #14 THHN conductors permitted in a 3/8" LFMC with outside fittings is ____.

- (a) 2 (b) 3 (c) 4 (d) 6**

15. A 1200 volt transformer has a circuit breaker installed on the primary side. The circuit breaker shall be set or rated at no more than ____ of the primary current rating of the transformer in a supervised location.

- (a) 250% (b) 300% (c) 400% (d) 600%**

16. A 3 foot piece of liquidtight flexible metal conduit is installed in a service entrance raceway which contains 4 pieces of #500 kcmil copper for a 400 amp, 480v wye service. A bonding jumper will be installed on the outside of this liquidtight flexible metal conduit. What is the minimum size of this bonding jumper?

(a) #1 copper (b) #2 copper (c) #3 copper (d) #1/0 copper

17. Type Class 2 plenum cable has a marking ____.

(a) CL3 (b) CL3P (c) CL2 (d) CL2P

18. A conductor at a terminal which leaves a cabinet, the minimum wire bending space at the terminal shall be ____ if the conductor size is #2 and it does not enter the enclosure through the wall opposite.

(a) 2" (b) 2 1/2" (c) 3 1/2" (d) 4"

19. A power-limited fire alarm cable (FPLP) has a permitted substitution ____.

(a) CMP (b) FPLP (c) CMG (d) CM

20. Two conductors in a rigid PVC schedule 40 conduit, what is the percent of allowable fill?

(a) 31% (b) 40% (c) 53% (d) 80%

21. An underground service installed in PVC and having a 3" concrete envelope shall be buried a minimum of ____.

(a) 6" (b) 12" (c) 18" (d) 24"

22. For cables that have elliptical cross section, the cross-sectional area calculation shall be based on using ____ of the ellipse as a circle diameter.

(a) half (b) the radius (c) the major diameter (d) the circumference

23. The approximate area square inch of a #2 THW compact aluminum conductor is ____.

(a) .1473 sq.in. (b) .1194 sq.in. (c) .1182 sq.in. (d) .1017 sq.in.

24. Type MTW insulation would be used for ____.

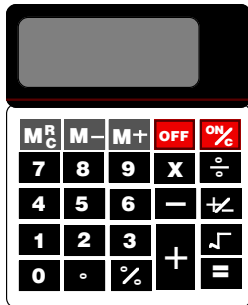
- (a) switchboards only (b) machine tool wiring
(c) feeders only (d) fixtures

25. What is the maximum feeder demand for 35 - 8 kW ranges in an apartment complex?

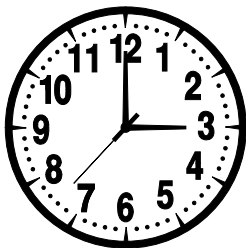
- (a) 280 kW (b) 67.2 kW (c) 61.6 kW (d) 50 kW

After completing this practice exam turn to the answer sheets in the back of this book and grade yourself. 75% is a passing score.

To find your percentage simply divide the number of correct answers by the number of questions.



EXAMPLE: 19 correct answers divided by 25 questions would equal 76%.



Most exams allow 3 minutes per question. Keep your time on each practice exam to note your improvement in answering a question from the Tables.