



### RME PHIL. ELECTRICAL CODE EXAM

#### PART 1

1. Wirings allowed to be installed outside buildings are enumerated below EXCEPT one. Which one is this?
  - A. Type MC cable
  - B. Flat conductor cable
  - C. Rigid metal conduit
  - D. Open wires on insulators
2. In all cases where there are energized parts on the front of the switchboards or motor control centers, the working space in front of such equipment shall NOT be less than a minimum distance. What is this distance?
  - A. 2,000 mm
  - B. 500 mm
  - C. 1,500 mm
  - D. 1,000 mm
3. The inner strand of ACSR is made of
  - A. brass
  - B. steel
  - C. copper
  - D. lead
4. Branch lighting circuit shall be protected by overcurrent devices not rated more than
  - A. 40 A
  - B. 50 A
  - C. 20 A
  - D. 30 A
5. The grounding electrode for grounding communications systems may be connected to the nearest accessible location on any of the following EXCEPT one. Which one is this?
  - A. Buried interior PVC water piping system
  - B. Grounding electrode conductor
  - C. Building structure of a concrete building
  - D. Grounding terminal of service equipment if provided by the utility company
6. Consist of a group of wire twisted to form a metallic string
  - A. Duplex wire
  - B. Loomex wire
  - C. Solid wire
  - D. Stranded wire
7. For a motor starter to be in sight of the controlled motor, it must NOT be more than \_\_\_ meters away.
  - A. 20
  - B. 10
  - C. 25
  - D. 15
8. In rigid metal wiring conduit, conduits shall be supported at least every
  - A. 2,000 mm
  - B. 2,500 mm
  - C. 3,500 mm
  - D. 3,000 mm
9. Where the conduits enter a switchboard at the bottom, a sufficient space shall be provided to permit installation of the conductors in the enclosure. The minimum spacing between the bottom of the enclosure and the non-insulated bus bar shall be \_\_\_\_.
  - A. 155 mm
  - B. 300 mm
  - C. 255 mm
  - D. 200 mm
10. Vertical clearances of all service drop conductors above roofs shall not be less than one of the following
  - A. 2,000 mm
  - B. 2,750 mm
  - C. 3,000 mm
  - D. 2,500 mm
11. When wiring a raceway at least a certain length of free conductors shall be left at each outlet. What is the minimum length?
  - A. 75 mm
  - B. 100 mm
  - C. 150 mm
  - D. 200 mm
12. An exposed wiring support system using a messenger wire to support insulated conductors.
  - A. Metal clad wiring
  - B. Concealed knob and tube wiring
  - C. Messenger cable wiring
  - D. Messenger supported wiring
13. The name of the circuit breaker is taken from the medium or the manner of distinguishing arc produced when the circuit breaker's contacts open. Which of the following that uses dry and compressed air to extinguish the arc.
  - A. Air Circuit Breaker
  - B. Air blast type Circuit Breaker
  - C. Gas type Circuit Breaker
  - D. Vacuum type Circuit Breaker
14. Which of the following wires has 75-ohm impedance?
  - A. Foam-filled twin lead
  - B. Coaxial
  - C. Flat twin lead
  - D. None of these
15. The term given to an insulated stranded wire.
  - A. Durability
  - B. Cord
  - C. Length
  - D. Volume
16. In which method of starting a motor is the starting current a minimum?
  - A. star-delta
  - B. starter-rotor starter
  - C. direct on line
  - D. autotransformer
17. The Philippine Electrical Code, Part 1 does not cover wiring of equipment installed within or to or from one of the following. Which one is this?
  - A. Trailers
  - B. Mobile homes
  - C. Water crafts
  - D. Airplanes
18. A convenience outlet circuit consisting of 8 outlets connected across a 220-V supply considering 180 W per outlet, what is the maximum circuit current?
  - A. 4.56 A
  - B. 6.54 A
  - C. 8 A
  - D. None of these



19. A protective device for limiting surge voltages by discharging or by passing surge current
- Arrester
  - Circuit breaker
  - Lightning rod
  - Thermocouple
20. Which component of a DC motor is used to control the speed?
- Carbon brush assembly
  - Armature winding
  - Commutator
  - Field winding
21. A power plant that utilizes wood (such as ipil-ipil) as its fuel.
- Hydro power plant
  - Geothermal power plant
  - Diesel power plant
  - Dendro power plant
22. A repulsion motor equipped with one of the following. Which one is this?
- A set of slip rings
  - A commutator
  - Both commutator and slip ring
  - Neither a commutator nor a slip ring
23. Communication conductors shall have a vertical clearance of NOT less than \_\_\_\_ from all points of roofs above, which they pass.
- 2,500 mm
  - 2,000 mm
  - 2,400 mm
  - 2,200 mm
24. A luminous discharge due to ionization of the air surrounding a conductor caused by a voltage gradient exceeding a certain critical value.
- Corona
  - Skin effect
  - Johnson's effect
  - Surge
25. Branch circuit that supplies a number of outlets for lighting and appliance
- Multi-purpose branch circuit
  - Special branch circuit
  - Individual branch circuit
  - General purpose branch circuit
26. A frequency meter is connected as a potential device, which is connected across the line because of one of the following reasons. Which one is this?
- A transformer maybe used for different voltages
  - The reading will be independent of the varying current
  - Only the voltage has frequency
  - It is safer than a series device
27. Non-metallic boxes not over \_\_\_\_ cu. cm shall be permitted only on non-metallic wiring method
- 1,725
  - 1,520
  - 1,700
  - 1,640
28. According to its make, conduits maybe classified as
- rigid metal
  - rigid non-metal
  - flexible metal
  - all of these
29. Hazardous location in which flammable gases or vapors are present in the air in quantities sufficient to produce explosives or ignitable mixtures.
- Class IV
  - Class III
  - Class II
  - Class I
30. What is the maximum allowable voltage drop from the distribution panel to the farthest load?
- 10 %
  - 5 %
  - 3 %
  - 2 %
31. Overcurrent in transformers affect all of the following EXCEPT
- breather effectiveness
  - mechanical stress
  - life insulation
  - rise in temperature
32. Bonding jumpers, which connect communications, cable grounding conductors and the grounding electrode of the building shall NOT be smaller than what copper size?
- 5.5 mm<sup>2</sup>
  - 8.0 mm<sup>2</sup>
  - 14 mm<sup>2</sup>
  - 3.5 mm<sup>2</sup>
33. In hospitals, the general lighting load required shall be \_\_\_\_.
- 24 VA/m<sup>2</sup>
  - 12 VA/m<sup>2</sup>
  - 16 VA/m<sup>2</sup>
  - 28 VA/m<sup>2</sup>
34. In every drawing, the title block shall be a standard strip, which shall contain the name of the project, owner, title of the sheet, scale used, name and signature of the PEE. How wide is this strip?
- 35 mm
  - 30 mm
  - 40 mm
  - 45 mm
35. Intermittent operation in which the load conditions is regularly recurrent.
- Varying duty
  - Intermittent duty
  - Periodic duty
  - Short time duty
36. Rod electrodes of steel or iron shall be at least \_\_\_\_ in diameter.
- 10 mm
  - 12 mm
  - 14 mm
  - 16 mm
37. The minimum size of conductors to be used for lighting purposes is
- 1.5 mm<sup>2</sup>
  - 1.25 mm<sup>2</sup>
  - 1.75 mm<sup>2</sup>
  - 2.0 mm<sup>2</sup>
38. The minimum clearance of service drops over sidewalks.
- 8 ft
  - 14 ft
  - 10 ft
  - 12 ft
39. The overall covering of type NM (non-metallic sheathed) shall be



- A. flame retardant and moisture resistant  
B. flame retardant and fungus resistant  
C. flame retardant and corrosion resistant  
D. none of these
40. An assembly of two pieces of insulating material provided with grooves for holding one or more conductors at a definite spacing from the surface wired over and from each other, and with holes for fastening in position.  
A. Cleat  
B. Split knob  
C. Spool insulator  
D. Gutter
41. Type TC (power and control tray) cable shall be permitted to be used in any of the following EXCEPT one. Which one is this?  
A. in raceway  
B. in cable trays in hazardous (classified) locations  
C. for power, lighting, control, signal and communication circuits  
D. where exposed to direct rays of the sun
42. A phase converter is usually employed to convert single-phase to three-phase power supply so that three-phase motors may be used. For this service, the PEC specifies that the single-phase conductors shall have an ampacity of NOT less than \_\_\_ of the full load current rating of motor or load being served where the input and the output voltages are identical.  
A. 173 %  
B. 240 %  
C. 216 %  
D. 350 %
43. The smallest electrical trade size for rigid non-metallic conduit is \_\_\_\_\_.  
A. 15 mm  
B. 12 mm  
C. 25 mm  
D. 20 mm
44. The branch circuit rating shall NOT be less than \_\_\_\_ of the non-continuous load.  
A. 80%  
B. 100%  
C. 115%  
D. 125%
45. The total load on overcurrent device located in a panelboard shall NOT exceed a certain percentage of its rating. What is this percentage?  
A. 125%  
B. 100%  
C. 90%  
D. 80%
46. The use of non-metal raceway is NOT permitted in all those mentioned below EXCEPT one. Which one is this?  
A. Dry locations  
B. Where the voltage is over 300 V  
C. Where concealed  
D. Where subject to severe physical damage
47. What is the lowest dielectric strength of transformer oil, which is acceptable to PEC?  
A. 25,000 volts  
B. 22,000 volts  
C. 20,000 volts  
D. 17,500 volts
48. In any watercraft, receptacle outlets operating at \_\_\_\_ volts or more shall have a grounding pole.  
A. 50 V  
B. 60 V  
C. 100 V  
D. 120 V
49. Wireways shall be supported at intervals NOT to exceed  
A. 2000 mm  
B. 1800 mm  
C. 1500 mm  
D. 1200 mm
50. The maximum setting of the ground fault protection of equipment shall be \_\_\_\_\_.  
A. 1,800 mm  
B. 1,500 mm  
C. 1,400 mm  
D. 1,200 mm
51. Flat conductor cable (FCC) system shall NOT be used in the locations enumerated below EXCEPT one. Which one is this?  
A. Damp locations  
B. Locations where subject to corrosive vapors  
C. Outdoors  
D. Residential buildings
52. A run conduit between outlets, between fittings, between outlet and fitting shall not contain more than the equivalent of \_\_\_\_ quarterbends.  
A. 2  
B. 3  
C. 4  
D. 5
53. This is a single conductor or multi-conductor assembly provided with or without an overall covering, primary used for service.  
A. Clad cable  
B. Flat conductor cable  
C. Service Entrance cable  
D. Tray cable
54. Flexible cords used in locations where there is a lot flying flint or fibers shall comply with the following EXCEPT one. Which one is this?  
A. It shall approved for use in locations which are vapor filled  
B. It shall contain in addition to the conductors, a grounding conductor  
C. It shall be of type approved for extra hard usage  
D. It shall be provided with suitable seal to prevent the entrance of dust
55. A point at which the load of a given area is assumed to be concentrated.  
A. Switchboard  
B. Outlet  
C. Panel board  
D. Load center
56. The multiplying factor for determining the size of branch circuit protection for non-time delay fuse is  
A. 150 %  
B. 175 %  
C. 250 %  
D. 300 %
57. For banks, the general lighting load shall be computed at \_\_\_\_ per square meters of the floor area.  
A. 20  
B. 24  
C. 28  
D. 30
58. In dwelling units, the computed lighting and small appliance load above 120,000 volt-amperes shall be computed at what demand



- A. 20 %  
B. 25 %  
C. 35 %  
D. 45 %
59. Which of the following statements is NOT one of the primary objective of the Philippine Electrical Code?  
A. To establish electrical work standards  
B. To establish basic material qualities  
C. To ensure safety in using electricity  
D. None of these
60. The Code has been approved and adopted by the board and PRC. What does the acronym PRC stands for?  
A. Philippine Registration Commission  
B. Professional Regulation Commission  
C. Philippine Regulation Commission  
D. Professional Registration Commission
61. Are sheet metal troughs with hinged or removable covers for housing and protecting electric wires and cables which conductors are laid in place after this object has been installed as a complete system.  
A. Wireways  
B. Busways  
C. Cable trays  
D. Non-metallic extensions
62. Which of the following is not a standard content of an electrical plan?  
A. Location plan  
B. Legend and general notes  
C. Schedule of maintenance  
D. Specifications
63. When installing cables or raceway type wiring method parallel to the framing members such as joists, rafters or studs, the cable or raceway shall be installed and supported so that the nearest outside surface of the cable or raceway is NOT less than a certain distance from the nearest edge of the framing member. What is this distance?  
A. 10 mm  
B. 20 mm  
C. 30 mm  
D. 50 mm
64. Which of the following is NOT a standard ampere rating of a fuse?  
A. 45 A  
B. 55 A  
C. 60 A  
D. 125 A
65. The minimum size of wire used in electrical wiring is the former number 14 AWG. Under the metric system shown in the PEC, the diameter is  
A. 1.6 mm  
B. 2.0 mm  
C. 2.6 mm  
D. 3.2 mm
66. Motor A has a full load current of 8 A and motor B, 10 A. What is the ampacity of the feeder conductor supplying these two motors?  
A. 9 A  
B. 18 A  
C. 20.5 A  
D. 24.2 A
67. Each transformer up to 600 V nominal shall be protected by an individual overcurrent device on the primary side at not more than a certain percentage of the rated primary current of the transformer. What is this maximum percentage?  
A. 100 %  
B. 110 %  
C. 125 %  
D. 140 %
68. For grounding electrode to which portable or mobile equipment system neutral impedance is connected, shall be isolated from the ground by at least a certain distance from any other system or equipment grounding electrode. What is this distance?  
A. 3,000 mm  
B. 4,000 mm  
C. 5,000 mm  
D. 6,000 mm
69. Which of the following metals is the best conductor of electricity?  
A. Aluminum  
B. Copper  
C. Iron  
D. Steel
70. Most wires used in residential house wiring are insulated by  
A. Asbestos  
B. Cotton  
C. Thermoplastic  
D. Varnish cambric
71. Which of the raceway methods is NOT allowed to be used in a hazardous location?  
A. Rigid metal conduit  
B. Liquid-tight flexible metal conduit  
C. Rigid non-metallic conduit  
D. None of these
72. Locations which are hazardous because of the presence of fibers or flyngs  
A. Class I  
B. Class II  
C. Class III  
D. Class IV
73. The branch circuit conductors that supply one or more units of data processing system shall have an ampacity NOT less than \_\_\_\_\_percent of the total connected load.  
A. 100  
B. 125  
C. 150  
D. 200
74. Explosion hazards exist due to the presence of the following materials EXCEPT one. Which one is this?  
A. Combustible dust  
B. Carbon dioxide gas  
C. Flammable vapors  
D. Flammable liquids
75. Some of the principal factors that affect the operating temperature of a cable are the following EXCEPT one. Which one is this?  
A. Ambient temperature  
B. Load current  
C. Ventilation  
D. Voltage
76. What is the temperature rating of THHN insulation?  
A. 60 ° C  
B. 75 ° C  
C. 85 ° C  
D. 90 ° C
77. No motor circuit in any watercraft shall have conductors less than.  
A. 1.25 mm<sup>2</sup>  
B. 2.00 mm<sup>2</sup>  
C. 3.50 mm<sup>2</sup>  
D. 5.50 mm<sup>2</sup>
78. Transformers that contain liquid that will burn shall be installed only in approved vaults and shall also comply



- with the following conditions EXCEPT one. Which one is this?
- A. Ample ventilation shall be provided for the continuous removal of flammable gases
  - B. Vent openings shall lead to a safe locations outside the building
  - C. All vent ducts and openings shall be of sufficient areas to reliable explosion pressures within the vault
  - D. There shall be a robust door between the vault and any non-hazardous location
79. The surface nonmetallic raceway may NOT be used in the following locations EXCEPT one. Which one is this?
- A. In dry locations
  - B. Where concealed
  - C. Where subject to severe physical damage
  - D. In hoist-ways
80. What locations do NOT allow the installation of PVC rigid conduits?
- A. Hazardous locations
  - B. Corrosive locations
  - C. Wet locations
  - D. In concealed locations
81. A short length of a conductor used to make a connection between terminals or around a break in a circuit.
- A. Guy
  - B. Jumper
  - C. Tie wire
  - D. Bonding conductor
82. A storage battery supplying emergency lighting and power shall maintain no less than 87.5 % of full voltage at total load for a period of at least
- A. 1.0 hour
  - B. 1.5 hours
  - C. 2.0 hours
  - D. 2.5 hours
83. The minimum size of a copper equipment grounding conductor required for equipment connected to a 40 ampere circuit
- A. 5.5 sq. mm
  - B. 8.0 sq. mm
  - C. 14 sq. mm
  - D. 22 sq. mm
84. The length of free conductors at outlets and switch point for splices and connections of fixture and devices must be at least
- A. 80 mm
  - B. 100 mm
  - C. 120 mm
  - D. 150 mm
85. In concealed knob and tube wiring, the clearance to be maintained between conductors is
- A. 45 mm
  - B. 50 mm
  - C. 66 mm
  - D. 76 mm
86. Supports of AC cable should have intervals not exceeding
- A. 1000 mm
  - B. 1300 mm
  - C. 1500 mm
  - D. 1400 mm
87. In rigid metal wiring, the minimum electrical trade size of conduit is
- A. 15 mm
  - B. 20 mm
  - C. 25 mm
  - D. 32 mm
88. The lowest standard size of disconnect is \_\_\_\_.
- A. 20 A
  - B. 30 A
  - C. 60 A
  - D. 15 A
89. The primary winding of a step down transformer shall be protected on the primary side by an overcurrent device rated NOT more than a certain percentage of the primary current. Which is this percentage?
- A. 100%
  - B. 125%
  - C. 80%
  - D. 150%
90. For a two-wire FCC cable system with grounding, the grounding conductor shall be \_\_\_\_ conductor.
- A. the middle
  - B. the rightmost
  - C. the leftmost
  - D. any
91. Where passing through wood cross members in plastered partitions, conductors in concealed knob and tube wiring shall be protected by insulating tubes extending Not less than \_\_\_\_ beyond the wood member.
- A. 80 mm
  - B. 70 mm
  - C. 76 mm
  - D. 64 mm
92. Before an ammeter is disconnected from an energized current transformer circuit, one of the procedures should be followed. Which one is this?
- A. Primary winding should be shorted
  - B. Secondary winding should be shorted
  - C. Secondary winding should be opened
  - D. Primary winding should be opened
93. Power conductors on poles, below communication conductors shall maintain a spacing distance of \_\_\_\_.
- A. 760 mm
  - B. 600 mm
  - C. 800 mm
  - D. 540 mm
94. Whose signatures are needed in the application form for an electrical permit?
- A. owner or authorized representative
  - B. PEE who signed and sealed the electrical plan
  - C. electrical practitioner in-charge of the installation
  - D. all of these
95. In the installation of power resistors, a thermal barrier shall be required if the space between the resistors and any combustible material is less than \_\_\_\_ mm. What is this minimum clearance?
- A. 150 mm
  - B. 300 mm
  - C. 200 mm
  - D. 250 mm
96. Splices and taps shall be made only in \_\_\_\_.
- A. pull boxes
  - B. panel boards
  - C. cut-out boxes
  - D. junction boxes
97. In estimating the loading of a branch circuit, what loading shall be used for each receptacle?
- A. 160 volt-ampere
  - B. 120 volt-ampere
  - C. 180 volt-ampere
  - D. 150 volt-ampere
98. Nails used as a fastening means, shall be permitted to pass through the interior of the enclosure if located within \_\_\_\_ of the back or ends of the enclosure.



- A. 6.4 mm
  - B. 8.0 mm
  - C. 6.0 mm
  - D. 7.5 mm
99. What is the minimum insulation resistance of a building's electrical wiring for circuits using 2.0 mm<sup>2</sup> or 3.5 mm<sup>2</sup> conductors?
- A. 500,000 ohms
  - B. 250,000 ohms
  - C. 1,000,000 ohms
  - D. 750,000 ohms
100. For underground feeder and branch circuits, what type of conductors shall be used?
- A. Type MI
  - B. Type UF
  - C. Type USE
  - D. Type XHHW
8. How many 20 A branch circuit shall be provided for all receptacle outlets for the small appliance load?
- A. One or more
  - B. At least two
  - C. Only one
  - D. None of these
9. For a one family dwelling unit having an initial load of 10 KVA or more, the minimum service entrance capacity shall be \_\_\_\_\_
- A. 30 A
  - B. 60 A
  - C. 90 A
  - D. 100 A
10. Conductors supplying one or more motor-compressors with or without additional loads shall have an ampacity not less than the sum of the rated load plus \_\_\_\_\_ percent of the highest motor-compressor rating in the group.
- A. 15
  - B. 20
  - C. 25
  - D. 30

## PART 2

1. A building or other structure shall be supplied by only one service drop EXCEPT for
- A. fire pumps
  - B. emergency electrical system
  - C. multiple occupancy building
  - D. all of these
2. This type of cable is a fabricated assembly of insulated conductors enclosed in a flexible metal sheath.
- A. Armored cable
  - B. Ground wire
  - C. Integrated gas spacer cable
  - D. Medium voltage cable
3. There are situations where deviations from the code requirements are necessary. Before such deviations are made, there must be a written permission from one of the following entities. Which one is this?
- A. Philippine Regulation Board
  - B. IEEE code Committee
  - C. Code Enforcing Authority
  - D. Board of Electrical Engineering
4. The following are common splicing rules EXCEPT one. Which one is this?
- A. Wires of the same size should be spliced together in one
  - B. A splice must provide a path for the current to pass through
  - C. A joint must be mechanically as strong as the wire itself
  - D. All splices must be mechanically and electrically secured by means of a solder
5. Communication wires and cables shall be separated at LEAST a certain minimum distance from service drops of electric light and power conductors, which are not installed in a raceway or in cable. What is this minimum distance?
- A. 300 mm
  - B. 200 mm
  - C. 175 mm
  - D. 150 mm
6. The rating of the overcurrent device shall not be less than the non-continuous load plus a percentage of the continuous load.
- A. 80%
  - B. 100%
  - C. 125%
  - D. 140%
7. Hazardous locations in which easily ignitable fibers or material producing combustible flyings are handled, manufactured or used
- A. Class I, Division 1
  - B. Class I, Division 2
  - C. Class III, Division 1
  - D. Class III, Division 2
11. Insulated ground conductor of 14 mm<sup>2</sup> or smaller shall be identified by a continuous white outer finish along its entire length or another color which is
- A. Green
  - B. Natural gray
  - C. Striped green
  - D. Striped white
12. The system neutral conductor shall not be connected to ground EXCEPT
- A. When the generator frame is not grounded
  - B. Through the grounding impedance
  - C. Through a grounding transformer
  - D. When a ground fault is very common
13. Non-metallic sheathed cable shall be supported within \_\_\_\_\_ from every cabinet.
- A. 150 mm
  - B. 200 mm
  - C. 250 mm
  - D. 300 mm
14. What is the nominal voltage specified by the Philippine Electrical Code for residential homes?
- A. 220 volts AC
  - B. 225 volts AC
  - C. 230 volts AC
  - D. 240 volts AC
15. When thermal overload relay are used for the protection of a three-phase induction motor, their primary purpose is to protect the motor in case of
- A. Short circuit between lines
  - B. Reversal of phase sequence
  - C. High voltage
  - D. Sustained overload
16. Which of the following conductors is NOT applicable on wet locations?
- A. Type THHN
  - B. Type THW
  - C. Type RHW
  - D. Type THWN
17. Temporary electrical power and lighting installations shall be permitted for a period not to exceed \_\_\_\_\_ for Christmas decorative lighting, carnivals and similar purposes.



- A. 60 days  
B. 90 days  
C. 100 days  
D. 120 days
18. According to PEC, the minimum insulation level for neutral conductors of residential installations, which have solidly grounded system, shall NOT less than this voltage, which one is this?  
a. 300 volts  
b. 600 volts  
c. 750 volts  
d. 1,000 volts
19. Open conductors on insulators shall be separated at least \_\_\_\_ from metal raceways, piping or other conducting materials.  
a. 40 mm  
b. 50 mm  
c. 60 mm  
d. 70 mm
20. What is the insulation resistance acceptable by the Philippine Electrical Code for 600-V circuits consisting of 2.0 mm<sup>2</sup> conductor?  
a. 250,000 ohms  
b. 500,000 ohms  
c. 750,000 ohms  
d. 1,000,000 ohms
21. Smallest size of EMT (electrical metallic tubing)  
a. 10 mm  
b. 12 mm  
c. 15 mm  
d. 20 mm
22. It is known in the field as PVC.  
a. Rigid metal conduit  
b. Flexible non-metallic conduit  
c. Rigid non-metallic conduit  
d. Cable tray
23. Concealed knob and tube wiring shall be supported within \_\_\_\_ of each side of each tap or splice.  
a. 125 mm  
b. 150 mm  
c. 200 mm  
d. 100 mm
24. The use of non-metallic raceway shall be permitted in \_\_\_\_  
A. Wet locations only  
B. Dry locations only  
C. Both A and B  
D. Neither A nor B
25. Metal clad cables shall be permitted for installations in the following locations EXCEPT one. Which one is this  
A. Signal circuits  
B. Branch circuits  
C. Direct burial in the earth  
D. Aerial cable
26. Rigid metal conduit and intermediate metal conduit when used underground shall have a minimum burial of \_\_\_\_.  
A. 100 mm  
B. 150 mm  
C. 200 mm  
D. 250 mm
27. An enclosed channel designed expressly for holding wires, cables or busbars with additional functions as permitted.  
A. Cage  
B. Cabinet  
C. Junction box  
D. Raceway
28. Driven rods maybe used as a grounding electrodes provided the driven depth shall NOT be less than  
A. 2,000 mm  
B. 2,040 mm  
C. 2,450 mm  
D. 2,540 mm
29. The Philippine Electrical Code is also known as the  
A. R.A. 185  
B. R.A. 184  
C. R.A. 7920  
D. R.A 7980
30. The lighting for a dwelling unit expressed in watts per square meter shall be  
A. 8 watts  
B. 16 watts  
C. 24 watts  
D. 40 watts
31. For the kitchen small appliance load in dwelling occupancies, the code requires not less than  
A. Two 20 A circuit  
B. One 15 A circuit  
C. Two 15 A circuit  
D. One 20 A circuit
32. To provide for small appliance load in dwelling units, the feeder should be computed at  
A. 1500 watts  
B. 3000 watts  
C. 2400 watts  
D. 3600 watts
33. The service of feeder capacity necessary to provide for six 5 KW household electric clothes dryer is  
A. 18 KW  
B. 24 KW  
C. 27,500 KW  
D. 19.5 KW
34. When using optional calculation method for dwelling unit service, all other loads above the initial 10 KW is to be assessed at  
A. 30 %  
B. 40 %  
C. 50 %  
D. 60 %
35. For service drop conductors not exceeding 600 volts, its minimum clearance over commercial areas, parking lots subject to truck traffic is  
A. 3100 mm  
B. 3700 mm  
C. 4600 mm  
D. 5500 mm
36. Conductors must have a clearance from windows, porches, fire escapes of not less than  
A. 600 mm  
B. 700 mm  
C. 800 mm  
D. 1000 mm
37. Service conductors passing over roofs must have a clearance over roof of not less than  
A. 1000 mm  
B. 1500 mm  
C. 2000 mm  
D. 2500 mm
38. When a voltage between service conductors does not exceed 300 volts and the roof has a slope of not less than 100 mm to 300 mm, the clearance can be reduced to  
A. 500 mm  
B. 600 mm  
C. 900 mm  
D. 1000 mm
39. Services using copper conductors shall have sufficient capacity and shall not be smaller than



- A. 5.5 sq. mm  
B. 8.0 sq. mm  
C. 14 sq. mm  
D. 22 sq. mm
40. The minimum diameter of a steel ground electrode is  
A. 10 mm  
B. 12 mm  
C. 14 mm  
D. 16 mm
41. Code requires that the minimum area exposed surface offered by a plate electrode shall be  
A. 1/8 sq. m  
B. 1/4 sq. m  
C. 3/8 sq. m  
D. 1/2 sq. m
42. A single grounding electrode is permitted when the resistance to ground does not exceed  
A. 5 ohms  
B. 10 ohms  
C. 15 ohms  
D. 25 ohms
43. Branch circuit conductors supplying a single motor shall have an ampacity NOT less than \_\_\_\_ percent of the motor's full load current rating.  
A. 115  
B. 120  
C. 125  
D. 130
44. In indoor wet locations, the entire wiring system including all boxes, fittings, control boards and panel boards shall be installed on walls with a minimum clearance. What is this clearance?  
A. 10 mm  
B. 5 mm  
C. 20 mm  
D. 15 mm
45. Type NM cables shall NOT be installed \_\_\_\_.  
A. where exposed to corrosive material  
B. where embedded in concrete  
C. in a shallow chase in masonry, concrete or adobe  
D. all of these
46. Dry type transformers installed indoors and rated 112.5 kVA or less shall have a separation of at least \_\_\_\_ from combustible material.  
A. 500 mm  
B. 400 mm  
C. 300 mm  
D. 200 mm
47. A factory assembly of two or more insulated conductors in an extruded core of moisture resistant, flame retardant non-metallic material covered with an overlapping spiral metal tape and wire shield and jacketed with an extruded moisture, flame oil, corrosion, fungus and sunlight resistant non-metallic material.  
A. type SNM cable  
B. type NM cable  
C. type SE cable  
D. type AC cable
48. Branch circuit conductors supplying a single motor-compressor shall have an ampacity not less than \_\_\_\_ of either the motor-compressor rated load or the branch circuit selection current, whichever is larger.  
A. 100 %  
B. 115 %  
C. 125 %  
D. 130 %
49. What size of branch circuit is required to supply a fixed lighting load of 21.5 A used at continuous duty?  
A. 20 A  
B. 25 A  
C. 30 A  
D. 40 A
50. Potential transformers installed indoors or enclosed shall be protected with \_\_\_\_ fuses.  
A. Primary  
B. Secondary  
C. Both A and B  
D. Neither A nor B
51. Conductors in open wiring on insulators shall be rigidly supported within \_\_\_\_ from a tap or splice.  
A. 200 mm  
B. 100 mm  
C. 150 mm  
D. 250 m
52. Connection between conductive or inductive metal object in an element of a lightning protection system to accomplish electrical continuity.  
A. Bonding  
B. Interlink  
C. Connectors  
D. Counterpoise
53. The grounding electrode conductor shall be \_\_\_\_.  
A. Copper  
B. Copper-clad aluminum  
C. Aluminum  
D. All of these
54. A surge of unidirectional polarity.  
A. Skin effect  
B. Corona  
C. Flashover  
D. Impulse
55. The electrical plans for residential house include the following items EXCEPT one. Which one is this?  
A. Substation plan  
B. Location plan  
C. Floor plan showing the location of service  
D. Layout or wiring plan for general lighting and receptacle outlet
56. The minimum size of branch circuit capacity to supply laundry receptacle outlets shall be \_\_\_\_.  
A. 15 A  
B. 20 A  
C. 25 A  
D. 30 A
57. The usual function of a disconnect switches in high voltage circuits is to  
A. Isolate from energized buses, equipment which are not in service  
B. Open or closed the circuit under load  
C. Open the circuit in the event of an overload  
D. Maintain continuity of service
58. An assembly of a flexible cord with an attachment plug on one end and a cord connected on the other  
A. Extension cord  
B. Fixture cord  
C. Appliance cord  
D. None of these
59. What is the maximum number of conductors permitted in a raceway at any cross-section, signal circuit or starter-control wires are not included?  
A. 30 conductors  
B. 25 conductors  
C. 40 conductors  
D. 50 conductors
60. Which of the following is NOT correct?  
A. Over-current device shall be located where they will not be exposed to physical damage  
B. Over-current device shall be readily accessible





- C. Over-current devices may be located inside clothes closets
- D. In a multi-family dwelling, each occupant shall have readily access to all over-current devices protecting his occupancy.
61. The disconnecting means for motor circuits rated 600 volts or less shall have an ampere rating in terms of the full load current of
- 110 percent
  - 115 percent
  - 125 percent
  - 130 percent
62. Persons applying for examination and for a certificate of registration as professional electrical engineer must at least have an age of
- 23
  - 24
  - 25
  - 28
63. The keystone of professional conduct
- Honesty
  - Dignity
  - Integrity
  - Responsibility
64. An act which is known as the " Electrical Engineering Law "
- R.A. 184
  - R.A. 148
  - R.A. 7902
  - R.A. 7920
65. A generic name for an artificial source of light
- Sun
  - Moon
  - Lamp
  - Electricity
66. A device used for bending conduits
- Bender
  - Pipe wrench
  - Plier
  - Hickey
67. Sizes of building wires manufactured in the Philippines are standardized in square millimeters. What is the area of copper conductor, which is next larger than 8 square millimeters?
- 9 mm<sup>2</sup>
  - 10 mm<sup>2</sup>
  - 12 mm<sup>2</sup>
  - 14 mm<sup>2</sup>
68. Branch circuits to receptacles under raised floors in computer rooms shall be wired with
- AC cable
  - EMT
  - IMC
  - All of these
69. As a general rule, floating buildings shall be supplied by \_\_\_\_ set(s) of feeder conductors from their service equipment.
- One
  - Two
  - Three
  - All of these
70. Which of the following electric wires has the highest ampacity?
- 5.5 mm<sup>2</sup>
  - 8.0 mm<sup>2</sup>
  - 30 mm<sup>2</sup>
  - 50 mm<sup>2</sup>
71. A 15-A or a 20-A branch circuit shall be permitted to supply lighting units and other utilization devices. The rating of any one cord and plug connected appliance shall NOT exceed a certain percentage of the branch circuit rating. What is this percentage?
- 60 %
  - 70 %
  - 80 %
  - 90 %
72. Storage batteries used, as source of power for emergency system shall maintain a voltage applied to the load without falling below a certain percentage of normal value. What is this percentage?
- 84.2 %
  - 87.5 %
  - 93.7 %
  - 95.3 %
73. The overload relay used to protect each motor-compressor set shall be selected to trip at NOT more than \_\_\_\_ of the motor-compressor rated load current.
- 125 %
  - 130 %
  - 140 %
  - 150 %
74. The largest size of electric metallic tubing is
- 75 mm
  - 100 mm
  - 125 mm
  - 150 mm
75. Lamp protection shall be provided by elevation of at least \_\_\_\_ meters from the normal working surface.
- 1
  - 2
  - 2.5
  - 3
76. To provide for small appliance load in a dwelling unit, the feeder should be computed at
- 1,500 watts
  - 2,400 watts
  - 3,000 watts
  - 3,600 watts
77. The circuit conductors between the service entrance equipment or isolated generating plant and the branch circuit overload device or devices
- Feeder
  - Motor controller
  - Overcurrent protector
  - Disconnecting switch
78. What is the temperature rating of THW insulation?
- 60 °C
  - 75 °C
  - 85 °C
  - 90 °C
79. In damp or wet locations, boxes and fittings should be properly placed or insulated to prevent
- Dust from entering the box or fitting
  - Water from entering the box or fitting
  - Wiring exposure
  - Grounding
80. Concealed knob and tube wiring conductors shall be rigidly supported on knobs not more than a certain minimum distance apart. What is this distance?
- 1,500 mm
  - 1,300 mm
  - 2,000 mm
  - 2,500 mm
81. In rigid metal wiring, conduits shall be supported at least every
- 2000 mm
  - 2500 mm
  - 3000 mm
  - 3500 mm
82. The largest size of electrical metallic tubing is



- A. 75 mm  
B. 100 mm  
C. 125 mm  
D. 150 mm
83. The code specifies that one equipment is "in sight from" another equipment if it is visible and at a distance of  
A. Not more than 15 meters  
B. Not less than 15 meters  
C. Not more than 20 meters  
D. Not less than 20 meters
84. A motor shall be marked with this information  
A. Maker's name  
B. Rated volts, amperes and speed  
C. Rated frequency  
D. All of the above
85. Hazardous location because of the presence of combustible dust.  
A. Class I  
B. Class II  
C. Class III  
D. Class VI
86. Branch circuit conductors supplying a single motor shall have an ampacity in terms of full load current of not less than  
A. 100 %  
B. 115 %  
C. 125 %  
D. 130 %
87. This device includes any switch or device used to start and stop the motor  
A. Relay  
B. Rheostat  
C. Circuit Breaker  
D. Controller
88. Location under class III that are hazardous because of the presence of  
A. Compressed gases in containers  
B. Pulverized sugar  
C. Magnesium  
D. Textile mills
89. Gas manufacturing plant where flammable gases may escape is considered as  
A. Class I, Division 1 area  
B. Class I, Division 2 area  
C. Class II, Division 1 area  
D. Class II, Division 2 area
90. A storage battery supplying lighting and power shall maintain not less than 87.5 percent of full load voltage at total load for a period of at least  
A. 2.5 hrs  
B. 2.0 hrs  
C. 1.5 hrs  
D. 1.0 hrs
91. The calling which requires the passing of an appropriate government board examination  
A. Practice  
B. Profession  
C. Vocation  
D. Engineering
92. To cut rigid metal conduits, an electrician should do one of the following. Which one is this?  
A. Order it cut to size from the supplier  
B. Use a three-wheel pipe cutter  
C. Use a cold chisel and ream the ends  
D. Use a hack saw and ream the ends
93. A factory assembly of parallel conductors formed integrally with an insulating material web specifically designed for field installation in metal surface raceway.  
A. type FC  
B. type MI  
C. type TC  
D. type FCC
94. Snap switches shall not be grouped or ganged in enclosure unless they can be so arranged that the voltage between adjacent switches does NOT exceed \_\_\_\_.  
A. 250 V  
B. 300 V  
C. 150 V  
D. 100 V
95. Wiring located above heated ceilings shall be spaced not less than \_\_\_\_ above the heated ceiling and shall be considered as operating at an ambient of 50 °C.  
A. 100 mm  
B. 50 mm  
C. 75 mm  
D. 40 mm
96. Are rectangular sheet metal enclosures equipped with removable covers providing access to conductors inside.  
A. Metal clad cable  
B. Multiple cable conductors  
C. Busways  
D. Wireways
97. Each unit length of heating cable shall have a permanent legible marking of each non-heating lead located within \_\_\_\_ of the terminal end.  
A. 75 mm  
B. 70 mm  
C. 80 mm  
D. 85 mm
98. Metal faceplates of receptacles shall be of ferrous metal not less than \_\_\_\_ in thickness or of non-ferrous metal not less than \_\_\_\_ in thickness.  
A. 0.76mm, 1.0mm  
B. 0.76mm, 1.2mm  
C. 0.64mm, 1.0mm  
D. 0.64mm, 1.2mm
99. Surface mounted incandescent fixture shall be permitted to be installed in clothes closets provided there is minimum clearance of \_\_\_\_ between the fixture and the nearest point of the storage area.  
A. 150 mm  
B. 200 mm  
C. 250 mm  
D. 300 mm
100. Thermal insulation shall not be installed within \_\_\_\_ of the recessed fixture enclosure.  
A. 40 mm  
B. 35 mm  
C. 38 mm  
D. 42 mm



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