TLE Part 3

1. Which is the kinetic energy of falling water?
A. thermo energy
B. hydrogen energy
C. solar energy
D. mechanical energy

2. Which is a solar collector that is capable of producing voltage when exposed to radiant energy (sunlight)?
A. photoelectric
B. Photovoltaic system
C. Photoemission system
D. Solar light

3. Energy derived or extracted from the internal heat of earth is called _____ energy.
A. volcanic
B. geothermal
C. thermal
D. chemical

4. Which refers to the extraction of electrons form a substance by sunlight in incident electromagnetic radiation?
A. Photoelectric effect
B. Photovoltaic effect
C. Photoemission
D. Electron microscopy

5.Which statement is true?
A. bigger size of wire has higher resistance
B. bigger size of wire has lower resistance
C. long wire has lesser resistance
D. short wire has higher resistance

6. A small light bulb with a resistance of 1000 ohms is connected across a 120-v line. What is the current through the bulb?
A. 1.2 A
B. 0.012 A
C. 0.12 A
D. 12 A

7. A 200.v lamp ha a resistance of 400 ohms. The power rating in watts of lamp is _____ .
A. 100w
B. 600w
C. 200w
D. 250w

8. If 18 resistance, each of a value of 36 ohms, are connected in parallel, then the total resistance is _____ .
A. 36 ohms
B. 2 ohms
C. 648 ohms
D. 54 ohms

9. A toaster takes 10A from a 120v line. The power used is ___ .
A. 12.w
B. 130w
C. 1200w
D. 120w

10. What is the of a 100w, 110v incandescent lamp?
A. 121 ohms
B. 115 ohms
C. 125 ohms
D. 12.1 ohms

11. How many kilowatts is the water heater if it draws a current of 10 amperes and ha resistance of 23 ohms?
A. 12 Kw
B. 2 300 Kw
C. 230 Kw
D. 2.3 Kw

12. The resistance of an electrical wire is inversely proportional to its _____.
A. length
B. cross sectional area
C. temperature

D. material

13. A fluorescent lamp unit collected to a 110v AC line takes 1.2A and requires 110w power. What is its power factor?
A. 0.9 Kw
B. 2 300 Kw
C. 230 Kw
D. 2.3 Kw

14. An electric heater uses 20kw-hr 8 hours. If the voltage across the heater is 240 volts. What is the heater resistance?
A. 2.5 ohms
B. 83.3 ohms
C. 23.04 ohms
D. 2.30 ohms

15. The resistance of a 230v incandescent lamp is 300 ohms. What current is required to operate the lamp?
A. 0.85 A
B. 0.77 A
C. 1.30 A
D. 7.74 A

16. A group of lamps operates a current of 12 A and a voltage of 120v. What is the total power of the lamps?
A. 1.44kw
B. 1.20kw
C. 1.34 kw
D. 14.4kw

17. What is the maximum load capacity of 15 A circuit breaker protecting a branch circuits that supplies a continuous load?
A. 15 A
B. 10 A
C. 12 A
D. 14 A

18. What is the horsepower rating of an electric water pump if it has a power rating of 1.75 kw?
A. 2 hp
B.2.3 Hp
C. 2.5 Hp
D. 23Hp

19. How many kilowatts does a certain appliance consumes for 5 hrs. of use if it has a power rating of 1.5Hp
A. 56. Kw
B. 7.5 Kw
C. 5.6 Kw
D. 754 hp

20. A cell supplies a load current 0.5A for a period 20 hours until its terminal voltage falls to an unacceptable level. How long can it be expected to supply a current of 100mA?
A. 50 hours
B. 100 hours
C. 60 hours
D. 70 hours

21. A battery is rated 200 Ah. If it used to supply a constant current of 8A, how long can the battery last until I become unusable?
A. 20 hours
B. 25 hours
C. 15 hours
D. 2.5 hours

22. The resistance of 500 meters of a certain wire is 125 ohms. What length of the same wire will have a resistance of 60ohms?

A. 24 meters
B. 255 meters
C. 240 meters
D. 235 metes

23. If three equal resistance are connected in parallel, the equivalent resisitance of the circuit will be ___ the value one resistor.
A. three times

B. half
C. one-third
D. the same

24. Find the cost of using a 100w , 220 V lamp for 20 hours at Php 3.00 per kW hr.
A. php 6.00
B. php. 9.00
C. php. 10.00
D. php 60. 00

25. Which box with a blank cover is inserted in one more runs in one or more runs of raceway to facilitate pulling of the conductors?
A. Blank box
B. junction box
C. terminal box
D. pull box

26. Which box with a blank cover for joining runs of conduits and providing space for connection and branching of enclosed conductors?
A. Blank box
B. Junction box
C. Terminal box
D. Pull box

27. The minimum sized of wire used in electrical wiring is the no. 14 AWG. Under the SI standard, what is the diameter of this wire?
A. 1.2 mm
B. 1.6mm
C. 1.5mm
D. 2.0mm

28. A thin walled steel raceway of circular form with a corrosion-resistant coating for protection of wires or cables is ____ .
A. rigid metal conduit
B. flexible metal pipe
C. metal moulding
D. electrical metallic Tubing

29. Armored cable is commercially known as _____ .
A. Bx cable
B. flat cable
C. metallic cable
D. duplex

30. Which type of cable is fabricated assembly of insulated conductors enclosed in a flexible metal shealth?
A. Underground cable
B. Armored cable
C. Flat cable
D. Flexible cable

31. Flat cable assembly shaller be installed for _____ .

I. concealed work only
II. exposed work only

A. I only
B. II only
C. I and II
D. Cannot be determined

32. An assembly of two pieces of material provided with grooves for holding one or more conducts at a definite spacing from the surface wired over and from each other, and with holes for fastening in position is called _____ .
A. split knob
B. cleat
C. spool insulator
D. strain insulator

33. Which is a wiring method that uses knobs , tubes and flexible non-metalic tubing for the protection and support of single insulated conductors concealed in hollow spaces of walls ceilings of buildings?
A. knob and tube wiring
B. Open wiring on insulators
C. Concealed knob and tubes

D. Open wiring with knob and tubes

34. Which terms refers so that switch or outlet body that is embedded or hidden in the wall?
A. Surface type
B. Flush type
C. Concealed type
D. Open type

35. The use of surface non-raceway is not permitted in all the following EXCEPT one. Which is the exception?
A. Dry locations
B. Where subject to severe physical damage
C. Where voltage is over 300v
D. Where concealed

36. When the entire switch or outlet body is visible and extends beyond the wall surface, the device is said to be _____ .
A. wall type
B. surface type
C. flush type
D. open type

37. What device automatically breaks the circuit the moment an overload or short circuit occurs?
A. Breaker switch
B. Overload
C. circuit breaker
D. main switch

38. Which term is used when two conductors are imbedded in one solid mass of rubber insulation?
A. two in one
B. Duplex
C. Stranded
D. Duplex

39. What type of sockets is used for outdoor or wet location wiring installation?
A. Water proof socket
B. special purpose
C. weatherproof socket
D. Outdoor socket

40. What is the smaller size of wire permitted by the code to be used in wiring installation?
A. 2.0mm
B. 3.5mm
C. 2.0mm
D. 1.25mm

41. Which of the following uses is permitted by the code to be used for surface non-metallic raceway?
A. Dry location
B. Where concealed
C. Where subject to physical damage
D. Where voltage is over 300v

42. Service entrance using copper conductors shall have sufficient capacity and shall not be smaller than _____.
A. 5.5mm
B. 3.5mm
C. 14mm
D. 8.0mm

43. If two identical lamps give normal light when connected in parallel in 230v line are reconnected in series in the same, the bulb will _____.
A. give more light
B. not light
C. give less light
D. blows out

44. When flexible metal conduit is installed as a fixed raceway, it shall be secured within _____ on each side of every outlet box.
A. 250mm
B. 300mm
C. 100mm
D. 150mm

45. A short circuit can be detected by using_____ .
A. an ohmmeter
B. a meggar
C. an oscillscope
D. an ammeter

46. The electrical plants for residential house include the following items EXCEPT one. Which one is this?
A. substation plan
B. location plan
C. floor plan showing location service
D. Layout of wiring plan for general lightning and receptacles outlets

47. If installed in raceway, conductors of size _____ and larger shall be stranded.
A. 5.5mm
B. 8.0mm
C. 14mm
D. 3.5mm

48. At least _____of free conductor shall be left each outlet, junction and switch for splices or connection of fixtures o devices.
A. 250mm
B. 175mm
C. 150mm
D. 300mm

49. A certain residential house has lightning load of 1.1 kVA and a appliance load of 10a at 220v single phase, two wires 60hz. The branch circuit fuse protection for lightning and appliances loads are _____ and_____, respective ly
A. 20A and 60A
B. 20 and 30
C. 15A and 30A
D. 15A and 20A

50. Live vegetation or trees _____ used for support of overhead conductors spans.
A. shall be
B. should be
C. shall not be
D. should not be

51. Light fixtures suspended from the ceiling by chains should wire so that the wires _____ .
A. will be grounded
B. will not touch the chains
C. will support the fixture
D. will not support fixture

52. In rigid metal conduit wiring conduit of 15-20 mm diameter shall be supported at least every _____.
A. 2 500mm
B. 3 500mm
C. 1 800mm
D. 3 000mm

53. Why do conductors need additional wiring insulators?
A. electrical wiring needs to be protected from mechanical harm
B. wires are connected by joints therefore needs reinsulations
C. wire touches wood surface therefore need protection
D. wires skin is weak

54. What is the total number of mechanical degrees that electrical pipe run maybe bent between pull points?
A. 360 degrees
B. 180 degrees
C. 120 degrees
D. 270 degrees

55. Rigid non-metallic conduit shall be supported within _____ of each box cabinet or other termination.
A. 600mm
B. 800mm
C. 900mm
D. 760mm

56. Electrical metallic tubing smaller than ___ electrical trade size shall NOT be used.
A. 12mm
B. 10mm
C. 15mm
D. 20mm

57. Type AC cable shall be secured by approved staples, straps, hanger or similar fitting at intervals NOT exceeding _____ .
A. 1 250mm
B. 1 300mm
C. 1 500mm
D. 1 000mm

58. In concealed knob and tubewiring the clearance to be maintainde between conductors is _____ .
A. 65mm
B . 45mm
C. 76mm
D. 50mm

59. Three bulbs are connected in parallel and controlled by a single switch. If one of the three 3 bulbs is busted, what will happen to the remaining bulbs.
A. Will not lit
B. Its brightness is reduced
C. its brightness increases
D. its birghtness is maintiained.

60. Which is a synchronous alternating-current machine that changes mechanical power into electrical power?
A. dynamo
B. Motor
C. Alternator
D. Lathe machine

61. The word electron was derived from the Greek word electron which means _____.
A. to rub
B. to rub
C. amber
D. friction

62. The peak to peak voltage in a 117 Vac outlet is _____.
A. 620 V
B. 165.5V
C. 331V
D. 220V

63. Which is a type of modulation where the amplitude of the carriers is change in accordance with demodulating signal?
A. FM
B. PDM
C. A,
D. PCM

64. The actual flow of current is form _____ .
A. negative to positive
B. positive to negative
C. positive to positive
D. negative to negative

65. The rate of doing work is called _____ .
A. energy
B. power
C. voltage
D. resistance

66. MilliHenry is equal to _____.
A. 10^{th} Henry
B. 100^{th} Hnery
C. 1000^{th} Henry
D. 1000000^{th} Henry

67. An inductor opposes any changes in _____ .
A. voltage
B. current
C. frequency
D. modulation

68. A circuit having two or more current paths is _____ connection.
A. parallel
B. series
C. series-parallel
D. cannot be determined

69. Which is an electrical unit of measuring a power?
A. ohms
B. non linear
C. potentiometer
D. resisitance

70. Which is an electric device that is used to limit or oppose the flow of currrent in a circuit?
A. linear
B. non linear
C. potentiometer
D. resistance

71. Which is an electronic device that is used to limit or oppose the flow of current in a circuit?
A. capacitor
B. resistor
C. diode
D. inductor

72. An instrument that is used to measure the amount of resistance in a circuit is called _____ .
A. DC voltmeter
B. ohmmeter
C. AC volmeter
D. ammeter

73. Solder is a mixture of _____ .
A. tin lead
B. zinc and lead
C. zinc and tin
D. copper and lead

74. The commonly used soldering lead is _____ .
A. 40-60
B. 60-40
C. 50-50
D. 50-40

75. A standard 220VAC has a frequency of _____ .
A. 45Hz
B. 30Hz
C. 50Hz
D. 60Hz

76. A low frequency speaker is sometimes known as _____ .
A. tweeter
B. squeaker
C. base collector
D. collector base emitter

77. The three leads of common transistor are a/an _____ .
A. collector bias emitter
B. emitter collector bias
C. base collector
D. collector base emitter

78. Connecting lead from the negative to the positive of a battery will produce a/an _____ .
A. high resistance circuit
B. low current path
C. short circuit
D. open circuit

79. What is the approximate characteristics voltage that develop across a red LED?
A. 1.7 V
B. 0.6 V
C. 3.4 V
D. 6V

80. If two resistors are places in series, the final resistance is _____ .
A. higher
B. lower

C. the same
D. cannot be determined

81. Which is TRUE of a series DC motor with no load?
A. Tendo stop or not start
B. Maybe damaged by excessive speed
C. Has reverse direction
D. becomes an AC generator

82. A fuse marked 250V, 650m can be used in circuits with an "open-fuse" supply voltage _____ .
A. 125 volts
B. 500 volts
C. 5000 volts
D. 250 volts

83. To prevent transistor from getting hot, use _____ .
A. silicon grease
B. insulator
C. heat sink
D. exhaust fan

84. To obtain a higher value of resistance, resistors are _____ .
A. reverse
B. parallel
C. forward
D. series

85. Which fuse has its internal fusible wire wrapped around an insulator?
A. a slow-blow type fuse
B. An inductive fuse
C. a capacitive
D. intended for high voltage fuse

86. Which would be considered "basic components of a power supply?
A. Zener, regulator, transformer
B. Regulate, diode, AC power, load
C. Transformer, bridge, capacitor, load
D. Filter, regulator, rectifier, transformer

87. When two capacitors the rise and fall of alternating current and voltage?
A. Graph
B. Sine wave
C. Fluctuation
D. Cycle

88. When two capacitors are connected in parallel the capacitance will _____ .
A. increase
B. since wave
C. decrease
D. increase and decrease

89. Which circuit ha the most gain?
A. common emitter
B. common collector
C. common base
D. emitter follower

90. Which rectifier circuit uses four diodes for its rectification?
A. Half-wave rectifier
B. full-wave Center Tap
C. Full-wave Bridge rectifier
D. Split type

91. When a resistor is open, the resistance _____.
A. increase
B. gets zero
C. decrease
D. is infinite

92. A low voltage power supply converts _____ .
A. Ac voltage output
B. Pulsating DC voltage
C. DC output voltage
D. AC and DC voltage outputs

93. When checking an open resistor using an ohmmeter the resistance reads _____ .
A. zero level
B. high resistance but within the tolerance
C. infinite

D. low but not zero

94. Moving one plate of a capacitor further away from the other will _____.
A. decrease capacitance
B. increase capacitance
C. decrease voltage rating
D. increasing mutual transductor

95. In checking capacitor to see if it is shorted, open or leaky, you would use the ohmmeter range.
A. lowest
B. highest
C. middle
D. You cannot check the capacitor this way

96. A schematic diagram shows the components of an electronic circuit by means of _____ .
A. a symbol
B. a construction
C. physical appearance
D. linear appearance

97. If there are only two resistors with the same values in parallel circuit, which formula ,may be used o find its total resistance?
A. Rt=R/n
B. Rt = (R1xR2)(R1+R2)
C. 1/Rt=1/R1+1/R2+ …. 1/Rn
D. Rt=(R1+R2)(R1Xr2)

98. Imagine three resistor in parallel, with the values of 22ohms, 17 ohms and 33 ohms. If a 12 V battery is connected across this combination, what is the current drawn from the battery?
A. 1.4A
B. 15mA
C. 150mA
D. 1.5A

99. Which of the following is non-polarized electronic component?
A. transistor
B. resistor
C. Diode
D. electrolytic capacitor

100. The voltage rating found in a capacitor is called _____ voltage.
A. peak reverse
B. working
C. blow-up
D. breakdown

Answer Keys:

1. b
2. b
3. b
4. a
5. b
6. c
7. a
8. b
9. c
10. a
11. d
12. b
13. b
14. c
15. b
16. a
17. c
18. b
19. c
20. b
21. b
22. c
23. c
24. a
25. d
26. b
27. b
28. d
29. a
30. b
31. b
32. b
33. c
34. c
35. a
36. b
37. a
38. d
39. c
40. a
41. a
42. d
43. c
44. b
45. a
46. a
47. b
48. c
49. d
50. c
51. d
52. d
53. a
54. a
55. c
56. c
57. b
58. c
59. d
60. c
61. b
62. d
63. c
64. a
65. d
66. c
67. b
68. a
69. c
70. a
71. b
72. b
73. a
74. b
75. d
76. c
77. d
78. c
79. c
80. a
81. b
82. a
83. c
84. d
85. d
86. b
87. b
88. a
89. a
90. c
91. d
92. b
93. c
94. a
95. b
96. a
97. b
98. a
99. b
100. b