

Wireman – Semester 4 Module 2 - Generation and transmission

Reviewed and updated on: 01st November 2019 Version 1.1

- 1 : Which principle the transformer works?
A : Self induction
B : Mutual induction
C : Fall of potential
D : Lenz law

- 2 : Which is the colour of fresh silica gel?
A : Green
B : Blue
C : Grey
D : Yellow

- 3 : Which part act as protective device in transformer?
A : Conservator tank
B : Tap changer
C : Temperature gauge
D : Buchholz relay

- 4 : Which part reduces the heat of transformer core and winding?
A : Transformer oil
B : Breather
C : Cooling tubes
D : Conservator tank

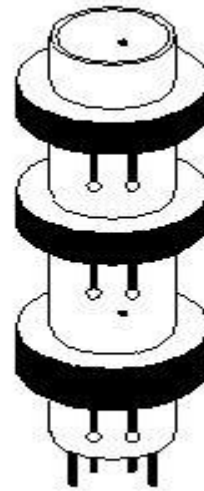
- 5 : What is the name of transformer?



- A : Audio frequency transformer
B : High frequency transformer
C : Poly phase transformer
D : Current transformer

- 6 : Which transformer, the secondary voltage is same as that of primary voltage?
A : Ignition transformer
B : Pulse transformer
C : Isolation transformer
D : Instrument transformer

- 7 : What is the name of transformer?



- A : Ring type transformer
B : Core type transformer
C : Current transformer
D : Air core transformer

- 8 : What is the emf equation of transformer?

A :

$$E = 4.44 \frac{1}{2F} N\theta_m$$

B :

$$E = 4.44 F\theta_m$$

C :

$$E = 4.44 N\theta_m$$

D :

$$E = 4.44 FN\theta_m$$

- 9 : Which is denoted by the letter q_m in the formula $4.44 FNq_m$?

- A : Maximum flux
B : No of turns in primary
C : No of turns in secondary
D : Frequency

- 10 : What is the name of transformer if the transformation ratio (K) is more than 1?

- A : Step down transformer
B : Unity ratio transformer
C : Step up transformer
D : Auto transformer

Wireman – Semester 4 Module 2 - Generation and transmission

Reviewed and updated on: 01st November 2019 Version 1.1

11 : Which is the transformation ratio?

A :

$$\frac{E_2}{E_1} = \frac{N_2}{N_1} = \frac{I_2}{I_1} = K$$

B :

$$\frac{E_2}{E_1} = \frac{N_1}{N_2} = \frac{I_1}{I_2} = K$$

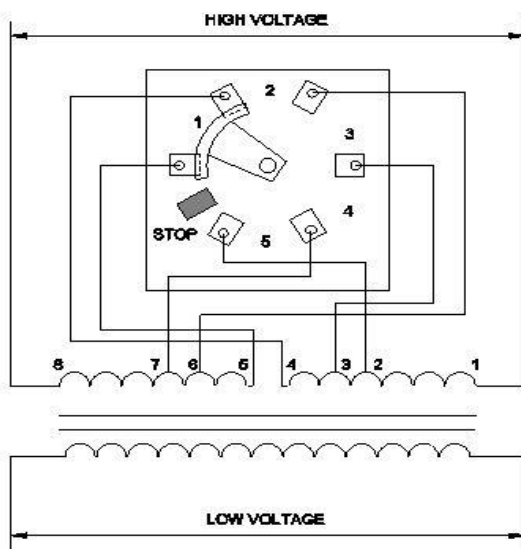
C :

$$\frac{E_2}{E_1} = \frac{N_2}{N_1} = \frac{I_1}{I_2} = K$$

D :

$$\frac{E_1}{E_2} = \frac{N_2}{N_1} = \frac{I_1}{I_2} = K$$

12 : What is the name of transformer part?



A : ON load tap changer

B : H.V. Bushing termination

C : Manual tap changer

D : L.V. Bushing termination

13 : Which factor the copper loss of a transformer depends?

A : Current

B : Voltage

C : Square of current

D : Square of voltage

14 : Which is having high efficiency?

A : Transformer

B : Alternator

C : AC motor

D : DC motor

15 : Which formula is used to calculate the efficiency of transformer?

A :

$$\eta = \frac{\text{Output power}}{\text{Input power} + \text{losses}} \times 100$$

B :

$$\eta = \frac{\text{Input power}}{\text{Output power} + \text{losses}} \times 100$$

C :

$$\eta = \frac{\text{Output power}}{\text{Output power} - \text{losses}} \times 100$$

D :

$$\eta = \frac{\text{Output power}}{\text{Output power} + \text{losses}} \times 100$$

16 : Which is the formula for percentage voltage regulation?

A :

$$\frac{V_{\text{load}} - V_{\text{no load}}}{V_{\text{load}}}$$

B :

$$\frac{V_{\text{no load}} - V_{\text{load}}}{V_{\text{load}}} \times 100$$

C :

$$\frac{V_{\text{load}}}{V_{\text{no load}} - V_{\text{load}}} \times 100$$

D :

$$\frac{V_{\text{no load}} + V_{\text{load}}}{V_{\text{load}}} \times 100$$

17 : Which material is used for transformer bushings?

A : PVC

B : Porcelain

C : Plastic

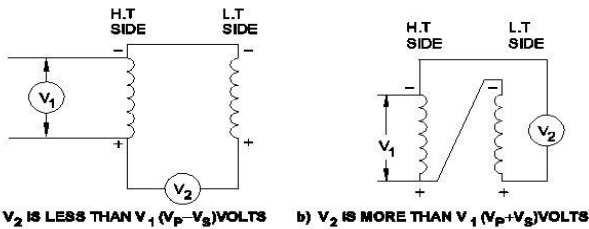
D : Bakelite

Wireman – Semester 4 Module 2 - Generation and transmission

Reviewed and updated on: 01st November 2019 Version 1.1

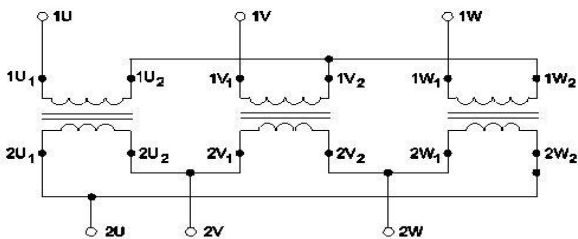
- 18** : Which principle auto transformer works?
A : Lenz's law
B : Fleming's right hand rule
C : Self induction
D : Mutual induction

19 : What is the name of test of single phase transformer?



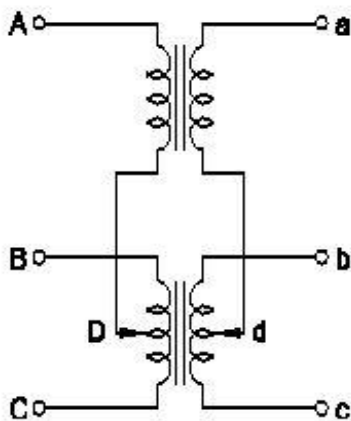
- A** : Short circuit test
B : Open circuit test
C : Polarity test
D : Continuity test

20 : What is the connection name of transformer?



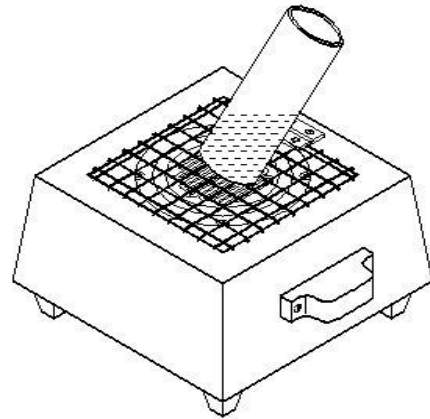
- A** : Star - star
B : Star - delta
C : Delta - delta
D : Delta - star

21 : Which is the name of connection?



- A** : Star - delta
B : Delta - delta
C : Scott connection
D : Star - star

22 : Which test of transformer oil is illustrated?



- A** : Field test of insulating oil
B : Dielectric test
C : Crackle test
D : Acidity test

23 : Where synthetic liquid transformer oil is used?

- A** : Generating station transformers
B : Primary substation transformers
C : Refineries and hazardous location
D : Secondary substation transformers

24 : Which part produces magnetic flux in a transformer?

- A** : Primary winding
B : Secondary winding
C : Tap changer
D : Core

25 : Which is the function of breather in transformer?

- A** : Observes heat
B : Indicate oil level
C : Prevents the moisture entry
D : Reduces tank pressure

26 : Why the transformer core is laminated?

- A** : To minimise the hysteresis losses
B : To minimise the eddy current loss
C : To minimise the copper loss
D : To minimise the friction loss

Wireman – Semester 4 Module 2 - Generation and transmission

Reviewed and updated on: 01st November 2019 Version 1.1

27 : Why shell type core is used for medium and high voltage transformers?

- A : To avoid leakage of flux
- B : To reduce the tank size
- C : For effective cooling
- D : To reduce copper loss

28 : Which type of transformer is used in automobiles?

- A : Instrument transformer
- B : Ignition transtor
- C : Scott connected transformer
- D : Isolation transformer

29 : Which transformer is classified based on the shape of core?

- A : Air core transformer
- B : Shell type transformer
- C : Audio frequency transformer
- D : Instrument transformer

30 : Which is the application of ring type transformer?

- A : High frequency measurement
- B : High current measurement
- C : Low frequency measurement
- D : Power distribution

31 : How the capacity of transformers are rated?

- A : KW
- B : KVA
- C : KWH
- D : MW

32 : Which part of transformer is used to compensate the voltage drop to consumer receiving from generating station?

- A : Iron core
- B : Secondary winding
- C : Primary winding
- D : Tap changer

33 : Which condition the efficiency of a transformer is maximum?

- A : Copper is loss is less than iron loss
- B : Copper loss = iron loss
- C : Copper loss is more than iron loss
- D : Copper loss is 1/2 times of iron loss

34 : Which loss is a variable loss?

- A : Copper loss

- B : Iron loss
- C : Friction loss
- D : Windage loss

35 : Which loss is determined by conducting short circuit test?

- A : Friction loss
- B : Windage loss
- C : Iron loss
- D : Copper loss

36 : Which loss is constant for no load and all load conditions?

- A : Windage loss
- B : Iron loss
- C : Copper loss
- D : Friction loss

37 : Which is the purpose of bushings in transformer?

- A : To connect primary terminals only
- B : To connect both input and output terminas
- C : To connect secondary terminals only
- D : To connect the neutral terminals

38 : Which type of test is known as DGA test in transformer bushing testing?

- A : Measurement of partial discharge
- B : Moisture analysis
- C : Dielectric gas analysis
- D : Dissolved gas analysis

39 : Which is the advatage of auto transformer over two winding transformer?

- A : Can isolate the secondary from primary
- B : Better voltage regulation
- C : Used for power distribution
- D : Can be used in EHT supply

40 : Which is the application of auto transformer?

- A : Servo line correctors
- B : For low voltage distribution
- C : To measure the voltage
- D : To measure the current

Wireman – Semester 4 Module 2 - Generation and transmission

Reviewed and updated on: 01st November 2019 Version 1.1

41 : Which is the purpose of parallel operation of transformers?

- A : To reduce the voltage drop
 - B : To increase the output voltage
 - C : To reduce the no of transformer
 - D : Provides more reliability of power
-

42 : Which condition is to be satisfied before connecting two single phase transformer in parallel?

- A : Phase sequence must be same
 - B : Type must be same
 - C : Polarity must be same
 - D : Capacity must be same
-

43 : Which is the application of scott connection?

- A : Transform 3 phase to 2 phase
 - B : To stabilize the output voltage
 - C : To get rated power output
 - D : Transform 3 phase to 6 phase
-

44 : Which type of cooling is employed for distribution transformer upto 100 KVA?

- A : Natural air method
 - B : Oil blast method
 - C : Air blast method
 - D : Forced circulation of oil
-

45 : Which is the purpose of cooling of transformer?

- A : To improve the efficiency
 - B : To protect the winding from damage
 - C : To regulate the voltage
 - D : To increase the life of transformer oil
-

46 : Which method of cooling the fans are used to blow air on the surface of transformer?

- A : Forced oil and water cooled
 - B : Air blast method
 - C : Oil and water cooled method
 - D : Oil blast method
-

47 : Which is the cause for deterioration of transformer oil?

- A : Due to over load
 - B : Insufficient cooling
 - C : Long time use
 - D : Due to atmosphere air come into contact with oil
-

Wireman – Semester 4 Module 2 - Generation and transmission

Reviewed and updated on: 01st November 2019 Version 1.1

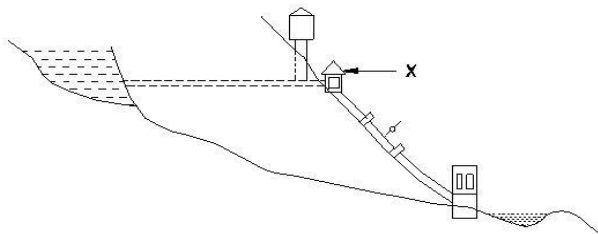
48 : Which is conventional power generation?

- A : Thermal
- B : Solar
- C : Biogas
- D : Wind energy

49 : Which fuel is used to generate heat energy in thermal power station?

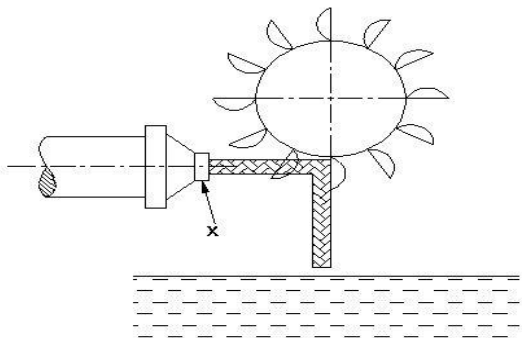
- A : Coal
- B : Wood
- C : Biogas
- D : Kerosene

50 : Which is the name of part marked as x of hydro electric plant?



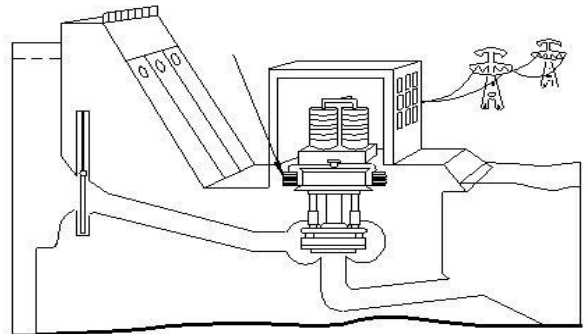
- A : Surge tank
- B : Valve house
- C : Penstock
- D : Reservoir

51 : Which is the name of part marked as x?



- A : Nozzle
- B : Pelton wheel
- C : Operating head
- D : Spear

52 : Which is the name of power station?



- A : Hydro power station
- B : Thermal power station
- C : Nuclear power station
- D : Diesel power station

53 : What is the name of part that increases the pressure of air supplied to engine to increase power in diesel power plant?

- A : Governing system
- B : Cooling system
- C : Fuel system
- D : Super charger

54 : Which device further raises the temperature of steam in thermal power station?

- A : Boiler
- B : Super heater
- C : Economiser
- D : Air preheater

55 : What is full form of PWR in nuclear power plants?

- A : Pressurized water reactor
- B : Pressurized water resource
- C : Pressurized water restore
- D : Pressurized water receiver

56 : Which material is used to make moderator in nuclear reactor?

- A : Graphite
- B : Uranium
- C : Nickel
- D : Copper

Wireman – Semester 4 Module 2 - Generation and transmission

Reviewed and updated on: 01st November 2019 Version 1.1

57 : How sun heat energy is converted into electrical energy?

- A : By solar cells
- B : By reflecting the sunlight
- C : Thermo couple method
- D : By radiation method

58 : Which converts rotor rotation into high speed and rotate the electrical generator in wind power generation?

- A : Turbine controller
- B : ISU grid
- C : Gear box
- D : Chopper

59 : Which is the voltage range of secondary distribution?

- A : 66KV
- B : 33KV
- C : 11KV
- D : 415V

60 : Which type of transmission is adopted for AC power transmission?

- A : Single phase two wire
- B : Two phase three wire
- C : Three phase three wire
- D : Three phase four wire

61 : What is the name of conductor used in overhead lines?

- A : ACSR
- B : Iron
- C : Brass
- D : Copper

62 : Which is the important property of OH line supports?

- A : High mechanical strength
- B : Withstand Heavy weight
- C : High conductivity
- D : Low specific gravity

63 : Which is the span length of steel tower?

- A : 40-50 meter
- B : 50-80 meter
- C : 60-100 meter
- D : 100-300 meter

64 : Which height the stay insulators are to be fixed?

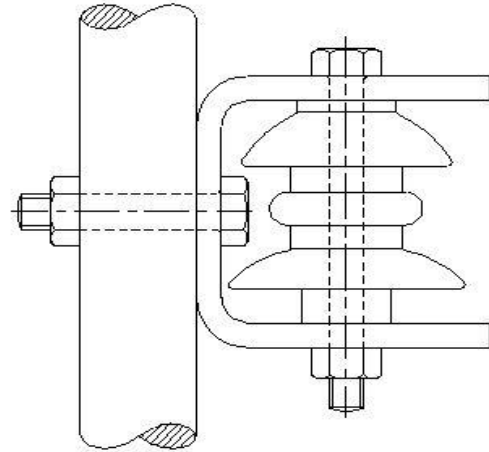
- A : Not below 1 m from ground

B : Not below 1.5 m from ground

C : Not below 2 m from ground

D : Not below 3 meters from ground

65 : Which is the name of insulator?



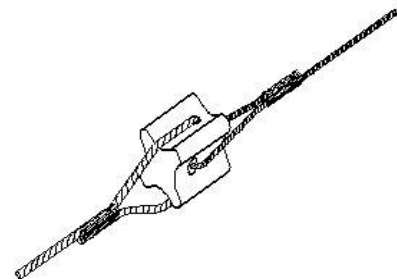
A : Suspension insulator

B : Stay insulator

C : Shackle insulator

D : Post insulator

66 : Which is the name of insulator?



A : Pin insulator

B : Stay insulator

C : Shackle insulator

D : Disc insulator

67 : Which is the clearance between live conductors in OH.LT. vertical configuration?

A : 20 cm

B : 30 cm

C : 40 cm

D : 50 cm

Wireman – Semester 4 Module 2 - Generation and transmission

Reviewed and updated on: 01st November 2019 Version 1.1

68 : What is the purpose of applying grease in binded aluminium joints in OH lines?

- A : Avoid sparking
- B : Avoid oxidation
- C : Avoid loose connection
- D : Fill the gap between turns

69 : What is minimum clearance between earth and live conductor in LT vertical configuration?

- A : 10 cm
- B : 15 cm
- C : 25 cm
- D : 30 cm

70 : Which is the conductivity of aluminium compared to copper?

- A : 30%
- B : 40%
- C : 50%
- D : 60%

71 : Which is the height of bus-bar assembly to be installed from ground?

- A : 1 m
- B : 1.5 m
- C : 2 m
- D : 2.75 m

72 : What is the name of material used for bus bar?

- A : Brass
- B : High speed steel
- C : Bronze
- D : Aluminium

73 : Which is non conventional power generation?

- A : Wind
- B : Nuclear
- C : Thermal
- D : Hydro

74 : Which is the suitable place for construction of hydro power plant?

- A : Hill area
- B : Seashore
- C : Islands
- D : Deserts

75 : Which is the main disadvantage of hydro power plant?

- A : High capital cost

B : Complicated construction

C : High maintenance cost

D : Requires long starting time

76 : Which is the advantage of diesel power plant over thermal plant?

- A : More efficient
- B : Less noise
- C : Low maintenance cost
- D : High unit capacity

77 : Which device heats the feed water on its way to boiler by deriving heat from the flue gases in thermal power plant?

- A : Super heater
- B : Economiser
- C : Air preheater
- D : Condenser

78 : Which part convert potential energy into kinetic energy in tidal power plant?

- A : Sluices
- B : Embankments
- C : Turbines
- D : Barrage

79 : Which is the disadvantage of AC electric power transmission?

- A : Skin effect
- B : More voltage fluctuation
- C : Required transformer for voltage step up/down
- D : More line loss

80 : Which is the advantage of DC electric power transmission?

- A : Required only two conductors
- B : No communication problem due to high voltae
- C : No need of transformer
- D : High voltage transmission

81 : Which is the voltage range transmitted to load center in primary transmission?

- A : 11KV
- B : 33KV
- C : 66KV
- D : 132KV

Wireman – Semester 4 Module 2 - Generation and transmission

Reviewed and updated on: 01st November 2019 Version 1.1

82 : Which is the voltage range transmitted in secondary transmission system?

- A : 11 KV
 - B : 11.5 KV
 - C : 12 KV
 - D : 66 KV
-

83 : Which is the property of conducting materials used for OH lines?

- A : High tensile strength
 - B : High specific gravity
 - C : High dielectric strength
 - D : Easy available in the market
-

84 : How many disc of suspension insulators are to be connected in series for a 66KV working voltage?

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

85 : Which insulator is used for terminating corner poles?

- A : Pin insulator
 - B : Shackle insulators
 - C : Stay insulator
 - D : Cap and pin type insulator
-

86 : Which is the size of binding wires used to bind insulator in OH lines?

- A : Not less than 1sq.mm
 - B : Not less than 1.5sq.mm
 - C : Not less than 2sq .mm
 - D : Not less than 2.5sq.mm
-

87 : Which is the minimum clearance between live wires on either side of a support in OH horizontal configuration of conductors?

- A : 10 cm
 - B : 25 cm
 - C : 30 cm
 - D : 45 cm
-

Wireman – Semester 4 Module 3 - Distribution and protection

Reviewed and updated on: 01st November 2019 Version 1.1

88 : Which distribution system is used for domestic light and appliances?

- A** : Single phase two wire
- B** : Three phase three wire
- C** : Two phase Two wire
- D** : Single Phase one wire

89 : What is a interconnected distribution system?

- A** : Distributor gets supply from one source
- B** : Distributor gets supply from two locations
- C** : Distributor gets supply direct from substation
- D** : Distributor gets supply from more than two locations

90 : What is service main?

- A** : The cable carrying supply from distributor to meter of consumer
- B** : The cable carrying supply from meter to load
- C** : The cable carrying supply from generating station to transformer
- D** : The cable carrying supply from transformer to over head line

91 : What is feeder?

- A** : The line carrying supply from generating station to distributors
- B** : The cable carrying supply from transformer to over head lines
- C** : The cable carrying supply from meter to load
- D** : The cable carrying supply from distributor to meter of consumer

92 : What is distributor?

- A** : The conductors providing supply to transmission lines.
- B** : The conductors providing supply to distribution line
- C** : The conductors providing supply to service main
- D** : The conductors providing supply to a power transformer

93 : Where steel towers are used?

- A** : Transmission lines
- B** : Primary distribution lines
- C** : Secondary distribution lines
- D** : For telephone lines

94 : Which is used to carry higher voltage for long distance transmission?

- A** : Feeder
- B** : Distributor
- C** : Service main
- D** : Service wire

95 : Which conductor is used in over head lines?

- A** : Copper conductor
- B** : Aluminium Conductor
- C** : ACSR Conductor
- D** : Steel Conductor

96 : What is distribution system?

- A** : Supply from substation to consumer
- B** : Supply from generating station to substation
- C** : Generation of power in a generating station.
- D** : Supply from generating station to transmission line

97 : How the size of feeder is decided?

- A** : On the basis of line voltage
- B** : On the Basis of current of the line
- C** : On the basis of length of line
- D** : On the basis of height of line

98 : Where underground distribution system is preferred?

- A** : Open areas
- B** : In forests
- C** : Highly populated area
- D** : Hill areas

99 : What is the advantage of underground distribution system?

- A** : High installation cost
- B** : Difficult to trace the faults
- C** : Lower life span
- D** : Good appearance

100 : Which is a part of over head line?

- A** : Lead sheath
- B** : Stay wire
- C** : Armouring
- D** : Cable trench

101 : Which is a line protecting device?

- A** : Bus bar
- B** : Isolating switch
- C** : Insulator
- D** : Circuit Breaker

Wireman – Semester 4 Module 3 - Distribution and protection

Reviewed and updated on: 01st November 2019 Version 1.1

102 : Which type of isolater consists of four arms and at the end of arm silver plated copper contacts are fixed?

- A : Single brake isolater
 - B : Double brake isolater
 - C : Pantograph isolater
 - D : Bus side isolater
-

103 : Which motor is fitted with single phasing relay?

- A : Single Phase motors
 - B : DC shunt motor
 - C : DC series motor
 - D : Three phase motors
-

104 : Which is the name of relay used to protect turbo generators from internal fault?

- A : Earth fault relay
 - B : Inverse time relay
 - C : Under voltage relay
 - D : Differential relay
-

105 : Which type of distribution is used in residential area?

- A : Single phase two wire
 - B : Three phase three wire
 - C : Two phase Two wire
 - D : Three phase four wire
-

106 : Which distribution system is energised by more than two generating station?

- A : Radial system
 - B : Ring main system
 - C : Inter connected system
 - D : DC system
-

107 : Which supply can provide supply for 3 phase as well as single phase load?

- A : Single phase two wire
 - B : Two phase two wire
 - C : Three phase three wire
 - D : Three phase four wire
-

Wireman – Semester 4 Module 4 - Substation and equipment

Reviewed and updated on: 01st November 2019 Version 1.1

108 : Which is a circuit breaker?

- A : Power factor improvement device
- B : Protect from under voltage
- C : Controlling device
- D : Protect from over voltage

109 : Which is the full form of VCB?

- A : Variable circuit breaker
- B : Voltage control breaker
- C : Vacuum circuit breaker
- D : Vacuum control breaker

110 : Which condition circuit breaker operates?

- A : Low current
- B : Over current
- C : Under voltage
- D : Over voltage

111 : Which material is used for insulating of outer body of vacuum circuit breaker?

- A : Glass or ceramic
- B : Iron
- C : Stainless steel
- D : Ebonite

112 : Which circuit breaker is used in rural area?

- A : OCB
- B : SF6
- C : vacuum circuit breaker
- D : ACB

113 : Which is circuit breaker is best suited for capacitor bank switching?

- A : Vacuum circuit breaker
- B : air blast circuit breaker
- C : SF6
- D : Oil circuit breaker

114 : Which part of the circuit breaker is helpful in breaking the circuit?

- A : Trip coil
- B : Operating rod
- C : Supporting champer
- D : Circuit breaking champer

115 : What is the full form of ACB?

- A : Automatic circuit breaker
- B : Acutal circuit breaker
- C : Alloy circuit breaker
- D : Air circuit breaker

116 : What is the medium of arc quenching in an air circuit breaker?

- A : Oil
- B : water
- C : Nitrogen
- D : Air

117 : How circuit breakers arc rated?

- A : Ampere
- B : Voltage
- C : Megawatt
- D : MVA

118 : Which type of transformer, the current transformer comes under?

- A : Idel transformer
- B : Step down transformer
- C : Step up transformer
- D : Instrument transformer

119 : What is the secondary voltage of PT?

- A : 440 V
- B : 11000 V
- C : 660 V
- D : 110 V

120 : What current the secondary of a CT is designed?

- A : 2 Amp
- B : 3 Amp
- C : 4 Amp
- D : 5 Amp

121 : What action is required before disconnecting the ammeter connected with CT?

- A : Remove the earth of CT
- B : short the secondary of CT
- C : Opened the secondary side of CT
- D : Switch OFF total supply

122 : Which is the use of lightning arrester in HT line?

- A : Protect the transformers from surge
 - B : For short circuit protection
 - C : For open circuit protection
 - D : For leakage protection
-

Wireman – Semester 4 Module 4 - Substation and equipment

Reviewed and updated on: 01st November 2019 Version 1.1

123 : What is the name of device used for protection against lightning in over head line?

- A : Air circuit breaker
- B : Oil circuit breaker
- C : Lightning arrester
- D : Isolator

124 : Which is the function of a lightning arrester?

- A : Protection from over current
- B : Protection from leakage current
- C : Protection from lower current
- D : Protection from over voltage due to lightning

125 : Which gas is used as insulator in circuit breaker?

- A : Nitrogen
- B : Oxygen
- C : Hydrogen
- D : SF6

126 : Which circuit breaker has the lowest voltage range?

- A : Air-break circuit breaker
- B : Oil circuit breaker
- C : Vacuum circuit breaker
- D : SF6 circuit breaker

127 : Which is the purpose of circuit breaker?

- A : To monitor over voltage
- B : Protection and control
- C : Protection and monitor heat
- D : Monitor under voltage

128 : Which is a part of oil circuit breaker?

- A : Insulating vessel
- B : Arc shield
- C : Arc splitters
- D : Moving Contact

129 : What is the main purpose of oil in oil circuit breaker?

- A : Provide insulation
- B : Quenching arc
- C : Providing cooling for contacts
- D : Act as lubrication

130 : What is the full name of SF6 circuit breaker?

- A : Soda flouride circuit breaker
- B : Sulphur hexaflouride circuit breaker

- C : Sodium flouride circuit breaker
- D : Sodium bicarbonate circuit breaker

131 : What is the medium of arc quenching in an oil circuit breaker ?

- A : Oil
- B : Water
- C : Nitrogen
- D : Air

132 : Why aluminium is used as busbar material?

- A : Low density
- B : Low cost
- C : Easy to fabrication
- D : Low resistance

133 : Which metal is used as contacts in substation switches?

- A : Brass
- B : Copper
- C : Silver
- D : Tungsten

134 : What is indoor sub-station?

- A : Sub-station constructed outside the building
- B : Sub-station constructed inside the building
- C : Pole mounted sub-station
- D : The substation laid under ground

135 : Which material is used for making bus bars in indoor substation?

- A : Silver
- B : Steel
- C : Copper
- D : Gold

136 : What is the purpose of Indoor sub-station?

- A : To step up voltage
- B : To step down the voltage
- C : To increase the power of transformer
- D : To regulate the voltage

137 : How many types of outdoor sub-station?

- A : One
 - B : Two
 - C : Three
 - D : Four
-

Wireman – Semester 4 Module 4 - Substation and equipment

Reviewed and updated on: 01st November 2019 Version 1.1

138 : How the busbar is rated?

- A : Voltage
 - B : Current and voltage
 - C : Watt
 - D : KVA
-

139 : Why stones are provided in sub-stations?

- A : To avoid the growing of plants and for insulation
 - B : To support the poles
 - C : To support the transformers
 - D : To avoid slippery
-

140 : How many types of outdoor sub-station?

- A : One
 - B : Two
 - C : Three
 - D : Four
-

141 : What is function of outdoor sub-station?

- A : Change AC supply into DC supply
 - B : Change DC supply into AC supply
 - C : High voltage supply step down into low voltage supply
 - D : Low voltage is stepped up into high voltage
-

142 : Which of those circuit breaker is sufficient for extra high tension line?

- A : Air blast circuit breaker
 - B : SF6 circuit breaker
 - C : Minimum oil circuit breaker
 - D : Bulk oil circuit breaker
-

143 : How many poles used in pole mounted outdoor sub-station?

- A : Three
 - B : Six
 - C : Two
 - D : Eight
-

144 : Which system pole mounted substations are used?

- A : Primary distribution
 - B : Secondary distribution
 - C : Primary transmission
 - D : Secondary transmission
-

145 : Which is the name of substation used to change the supply frequency?

- A : Converting substation
- B : Switching substation

C : Secondary substation

D : Stepup substation

Wireman – Semester 4 Module 5 - UG CABLE

Reviewed and updated on: 01st November 2019 Version 1.1

146 : Which is the outer layer of an under ground cable?

- A : Armour
- B : Lead sheath
- C : Serving
- D : Bedding

147 : Which material is used for metallic sheathing in underground cable?

- A : Copper
- B : Aluminium
- C : Nichrome
- D : Lead

148 : Which material is used for armoring of underground cable?

- A : Galvanised steel
- B : Copper
- C : Cast iron
- D : CRGO steel

149 : Which conductor material is used for under ground cable?

- A : ACSR
- B : Aluminium
- C : Steel
- D : Nichrome

150 : What is the function of armoring in under ground cable?

- A : To avoid mechanical injury to cable
- B : To prevent entry of moisture
- C : To protect the metallic sheath
- D : To provide flexibility to cable

151 : Why stranded conductors are used in underground cable?

- A : To provide flexibility
- B : To reduce conductivity
- C : To provide mechanical strength
- D : To reduce the weight

152 : Which is the property of insulating materials used in under ground cable?

- A : Hygroscopic
- B : High insulation resistance
- C : Low mechanical strength
- D : High conductivity

153 : Which type of insulation is also known as empire type?

- A : Impregnated paper

B : Varnished cambric

C : Polyvinyl Chloride

D : Rubber

154 : What is the drawback of rubber insulation used in under ground cable ?

- A : Absorbs moisture
- B : Hard
- C : Low mechanical strength
- D : High hygroscopic

155 : What is the advantage of Vulcanised Indian Rubber ?

- A : Safe temperature is high
- B : Hygroscopic
- C : Greater mechanical strength
- D : High conductivity

156 : What is the voltage rating of Super tension cables ?

- A : up to 1100 V
- B : up to 11000 V
- C : 22 kV to 33 kV
- D : beyond 132 kV

157 : What is the voltage rating of Extra super voltage cables ?

- A : beyond 132 kV
- B : up to 11000 V
- C : 22 kV to 33 kV
- D : up to 1100 V

158 : Which is the classification of underground cable according to their insulation system?

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

159 : What is the full form of MI cables ?

- A : Metal Insulated cables
- B : Mineral Insulated cables
- C : Mineral Inserted cables
- D : Metal Inserted cables

160 : How many cores are in a three and half core under ground cable ?

- A : Three
 - B : Four
 - C : Two
 - D : Five
-

Wireman – Semester 4 Module 5 - UG CABLE

Reviewed and updated on: 01st November 2019 Version 1.1

161 : Which type of cable is used if the operating voltage is greater than 66 KV ?

- A : Belted cables
- B : Screened cables
- C : H type cable
- D : Pressure cables

162 : Which are the types of pressure cables ?

- A : Oil filled and gas pressure cables
- B : Belted cables and screened cables
- C : H type and SL type cables
- D : H type and belted cables

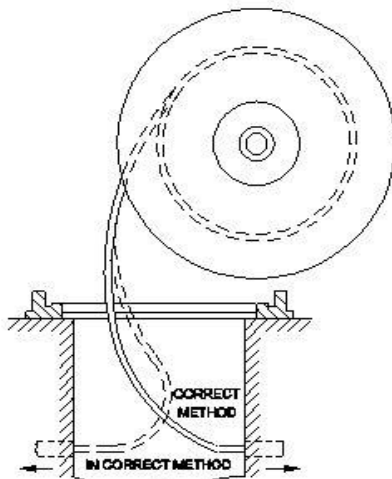
163 : Which method of laying involves digging a trench in the ground and laying cable on a bedding of sand ?

- A : Laying in ducts
- B : Laying direct in ground
- C : Laying on racks
- D : Solid system of laying

164 : Which method of cable laying is used inside buildings and industrial plants?

- A : Direct laying in ground
- B : Laying in ducts
- C : Laying on racks in air
- D : solid system of laying

165 : What is the name of the cable laying method?



- A : Laying into ducts
- B : Laying direct in ground
- C : Laying along building
- D : Laying on racks in air

166 : What is the advantage of direct laying of underground cable ?

- A : Simple and less costly
- B : Easy extension of load
- C : Alteration is easy
- D : Easy fault location

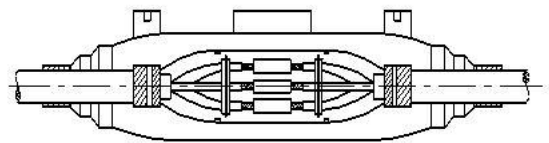
167 : Which method of cable laying, The cable is protected by sand (or) layer of bricks?

- A : Laying cables along building
- B : Laying cables direct in grounds
- C : Laying cables into ducts
- D : Laying cables on racks in air

168 : What is the full form of PILC?

- A : Paper impregnated lead sheathed cable
- B : Paper insulated lead sheathed cables
- C : Paper input lead sheathed cable
- D : Polyvinyl impregnated lead sheathed cable

169 : What is the name of the U.G. cable joint?



- A : Tee joint
- B : Straight through sleeve joint
- C : Epoxy straight joint
- D : Tri-furcating end connection

170 : What is maximum voltage grade of U.G. cable straight sleeve joints can be made?

- A : Up to 1.1 KV
- B : Up to 3.3 KV
- C : Up to 11.0 KV
- D : Above 11 KV

171 : What is the use of Tri- furcating end connections?

- A : To connect UG cables to AB switches etc.
- B : To make straight through joints of UG cable
- C : To make Tee joint of UG cable
- D : To test the UG cable

172 : Which is the property of bituminous compound used for hot pouring cable joint?

- A : Low electrical strength
- B : High electrical strength
- C : High resistance to moisture
- D : Low viscosity

Wireman – Semester 4 Module 5 - UG CABLE

Reviewed and updated on: 01st November 2019 Version 1.1

173 : Which is the common fault likely to occur in under ground cable?

- A : Open circuit fault
 - B : Ground fault
 - C : Short circuit
 - D : Leakage fault
-

174 : Which test is used for locating ground and short circuit fault in UG cable?

- A : Open circuit test
 - B : Short circuit test
 - C : Loop test
 - D : Ground test
-

175 : Which type of cable fault will occur, If the insulation between two conductors is faulty?

- A : Ground fault
 - B : Open circuit fault
 - C : Short circuit fault
 - D : Leakage current fault
-

176 : Which cable fault is caused due to the flow of current from the core to the lead sheath?

- A : Ground fault
 - B : Short circuit fault
 - C : Leakage current fault
 - D : Open circuit fault
-

Wireman – Semester 4 Module 6 - SYNCHRONISING OF ALTERNATOR

Reviewed and updated on: 01st November 2019 Version 1.1

177 : What is the necessity of synchronising of alternators?

- A : To increase the voltage
- B : To increase the voltage
- C : To meet the increased power demand
- D : To minimise the current

178 : Which is the condition for paralleling of two alternators?

- A : Frequency must be same
- B : Frequency must be same
- C : Rating must be same
- D : Phase sequence must be different

179 : What is the condition of incoming alternators voltages for synchronising of alternators?

- A : Output voltage of alternators must be different
- B : Output voltage of alternators must be different
- C : Voltage of incoming alternator must be more
- D : Incoming voltage of alternator must be less

180 : When the three lamps used in dark lamp method will light and go out simultaneously?

- A : Frequencies of machines are different
- B : Frequencies of machines are different
- C : Speed of alternators are same
- D : Output voltage of alternators are same

181 : What is the use of dark and bright lamp method?

- A : To start the alternator
- B : To start the alternator
- C : For synchronising of alternators
- D : To change the excitation

182 : Which instrument is used for parallel operation of alternators?

- A : Synchroscope
- B : Synchroscope
- C : Phase sequence meter
- D : Centre zero ammeter

183 : What is the purpose of synchroscope for synchronising of alternators?

- A : To check the voltages
- B : To check the voltages
- C : Indicate the difference in voltage and phase sequence
- D : To indicate the exact time for synchronising

184 : What basis the load is shared by the two alternators after synchronised?

- A : Sharing the load equally irrespective of KVA ratings
- B : Sharing the load equally irrespective of KVA ratings
- C : Based on the proportion of their KVA ratings
- D : Sharing the load according to their voltage ratings

Wireman – Semester 4 Module 7 - Control panel wiring and maintenance

Reviewed and updated on: 01st November 2019 Version 1.1

185 : Which colour is to be powder coated (painted) on a control panel as per IE rule?

- A : Light blue
- B : Siemens Gray
- C : Yellow
- D : Dark blue

186 : Which electrical items are to be fitted in a control panel?

- A : Switches and indicators only
- B : Bus bar only
- C : Safety equipments only
- D : Switching, control, safety and measuring devices

187 : Which duty cycle of contactor used for the application of Crane, Lift, and hoist in AC?

- A : AC 2
- B : AC 4
- C : DC 1
- D : DC 2

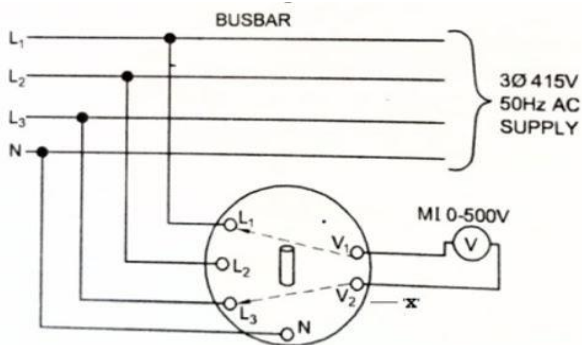
188 : Which factor is to be considered while designing the control panel dimensions?

- A : Height of panel
- B : Width of panel
- C : Length of panel
- D : Swing area of cabinet doors

189 : Which is the amount of additional load to be considered before selecting the protective accessories for a motor in control panel?

- A : 25%
- B : 50%
- C : 75%
- D : 100%

190 : What is the name of switch?



- A : Change over switch
- B : Pole changing switch
- C : Ammeter selector switch
- D : Voltmeter selector switch

191 : What type of switch unsuitable for portable (or) mobile devices?

- A : Push button switch
- B : Pole changing switch
- C : Mercury switch
- D : Limit switch

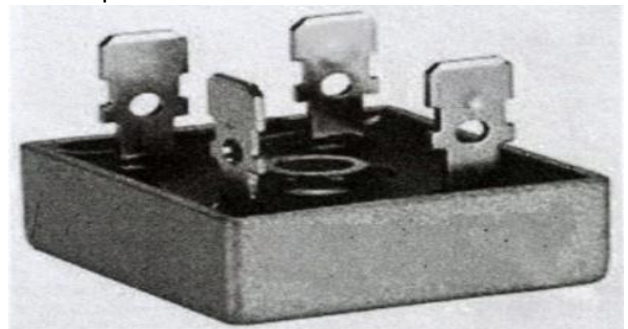
192 : which is used with ammeter to measure high current in panel board?

- A : Current Transformer
- B : Control Transformer
- C : Potential Transformer
- D : Power Transformer

193 : Which switch is used to control the distance or angles of movement of any machine part or axis or object?

- A : Mercury switch
- B : Limit switch
- C : Push button switch
- D : Selector switch

194 : What is the name of accessory used in control panel?



- A : Indication Lamp
- B : Timer
- C : Rectifier
- D : Push button switch

195 : Which accessory is used in control panel to mount MCB, Contactor etc. without using screw?

- A : Race way
- B : DIN rail
- C : Gromet
- D : PVC channel

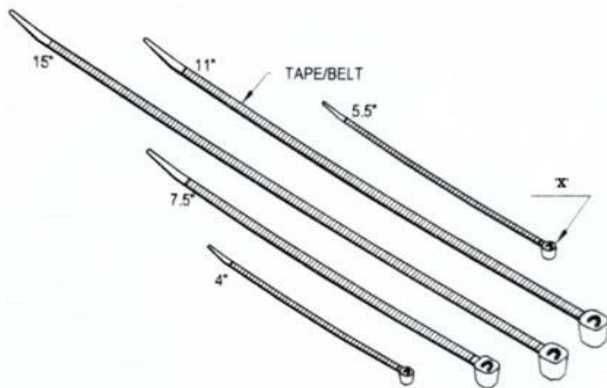
Wireman – Semester 4 Module 7 - Control panel wiring and maintenance

Reviewed and updated on: 01st November 2019 Version 1.1

196 : What is the use of wire ferrule in control panel wiring?

- A : Harnessing the cable
- B : Insulating the cable
- C : Easy identification of cable end
- D : To protect the wire from heat

197 : What is the name of part marked as X in nylon cable tie?



- A : Button
- B : Head
- C : Thimble
- D : Pawl

198 : Which accessory is used to insulate and hold the cables, if they pass through punched or drilled hole in control panel?

- A : Grommet
- B : PVC channel
- C : Wire clips
- D : Wire sleeves

199 : Which is the minimum spacing between components and raceways in panel board if system voltage is 415V?

- A : 50 mm
- B : 100mm
- C : 60 mm
- D : 75 mm

200 : Which colour of earth wire is used in control panel to earth door and cabinet?

- A : Red
- B : Yellow
- C : Blue
- D : Green yellow

201 : Which test is to be done regularly in panel board with priority?

- A : Main power contacts condition

- B : Insulation resistance and earth continuity
- C : MCB connection
- D : Filter and cooling fan

202 : Which is the advantage of periodical maintenance of control panel?

- A : Reduces power cost
- B : Assured over loading
- C : Ensure safety to the machine and operators
- D : Helps continuous operation

203 : Which type of fault will occur if the insulation of cable is damaged?

- A : Earth fault
- B : Open circuit
- C : Short circuit
- D : High value series resistance fault

204 : Which is the purpose of third terminal in insulation tester?

- A : To measure more quantity
- B : To extend the range
- C : To use as a earth tester
- D : To get accurate reading

205 : What is the name of instrument used to find out open circuit fault in control panel?

- A : Earth tester
- B : Ohm meter
- C : Megger
- D : Wheatstone bridge

206 : Why it is recommended to run power and control circuit cables separately in control panel?

- A : For easy Identification
- B : To Avoid transfer of heat from power cable to control cable
- C : To avoid leakage
- D : To avoid short circuit

207 : What is the name of fault if line is break in power cable?

- A : Open circuit
- B : Short circuit
- C : Earth fault
- D : Earth leakage

Wireman – Semester 4 Module 7 - Control panel wiring and maintenance

Reviewed and updated on: 01st November 2019 Version 1.1

208 : Which is the minimum value of insulation resistance between phase to earth terminal in electrical installation?

- A : 10 M Ω
 - B : 100 M Ω
 - C : 10 k Ω
 - D : 1 M Ω
-

209 : Which type of fault light will glow dim and motor runs slowly in a electrical installation?

- A : Open circuit
 - B : Earth leakage
 - C : High value series resistance fault
 - D : Short circuit
-

210 : What is the function of Residual Current Circuit Breaker in electrical Installation?

- A : Protect from short circuit
 - B : Protect from over current
 - C : Protect from open circuit
 - D : Protect from earth leakage
-

211 : Which helps the maintenance electrician to trouble shoot a fault in control panel in absence of operation manual?

- A : Trouble shooting flow chart
 - B : Maintenance schedule
 - C : Machine register
 - D : Machine maintenance card
-

Wireman – Semester 4 Module 8 - Estimation and costing of wiring

Reviewed and updated on: 01st November 2019 Version 1.1

212 : Which is the full form of NE code?

- A : National Energy Code
- B : National Engineering Code
- C : National Electricity Code
- D : National employment Code

213 : Which is the name for calculating the cost of material and labour of electrical installation?

- A : Estimation
- B : Layout
- C : Schedule
- D : Specifications of materials

214 : How many power socket outlet are permitted in a power sub circuit as per IE rule?

- A : 1
- B : 2
- C : 3
- D : 4

215 : Which term defines that the ratio between minimum actual load to Installed load?

- A : Depreciation Factor
- B : Demand Factor
- C : Diminishing Factor
- D : Diversity Factor

216 : Which is the number of light and fan points recommended in a sub circuit as per IE rule in domestic wiring?

- A : 12
- B : 10
- C : 8
- D : 6

217 : How much percentage of total cost is added to estimate as contingencies?

- A : 20%
- B : 15%
- C : 10%
- D : 5%

218 : Which is the recommended power for a lighting sub circuit as per IE rule in domestic wiring?

- A : 800W
- B : 1200W
- C : 2000W
- D : 3000W

219 : What is the height of horizontal run of cables as per IE code recommendation?

- A : 2.5m

- B : 3m
- C : 2m
- D : 1.5m

220 : Which is the location of distribution board in a domestic wiring installation?

- A : Near to main door
- B : Under stair case
- C : Near to load center
- D : In Portico

221 : Which is the size of G.I earth conductor to be connected in third terminal of wall sockets as per IE rule?

- A : NO.16 SWG
- B : NO.14 SWG
- C : NO.10 SWG
- D : NO.8 SWG

222 : Which connections the flexible cords is to be used?

- A : Recessed conduit wiring
- B : Pendant lamp
- C : Air conditioner
- D : Electric Iron

223 : Which is the minimum clearance must be kept between ceiling and plane of blade of a ceiling fan?

- A : 150mm
- B : 200mm
- C : 275mm
- D : 300mm

224 : Which type of light fitting should be used for outdoor lighting?

- A : Water proof lighting
- B : Direct lighting
- C : Spot light
- D : Indirect lighting

225 : Which type of switch is used, if the appliance rating is higher than 16A?

- A : 16A single pole switch
- B : 16A Two way switch
- C : 6A SP switch
- D : 32A Double pole switch

Wireman – Semester 4 Module 8 - Estimation and costing of wiring

Reviewed and updated on: 01st November 2019 Version 1.1

226 : Which pump is used to lift water from a deep bore well?

- A : Reciprocating pump
- B : Rotary pumps
- C : Centrifugal pump
- D : Submersible pump

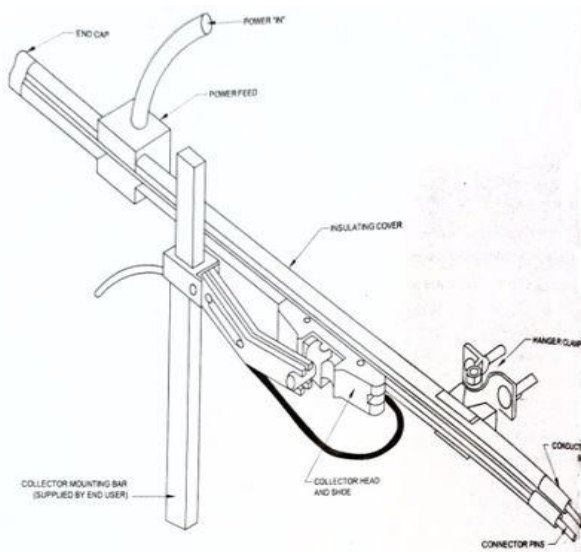
227 : Which is the cross sectional area of neutral bus bar compared to phase busbar above 200 A capacity?

- A : Half of phase busbar
- B : 2 times of phase busbar
- C : 1.5 times of phase busbar
- D : Same as phase busbar

228 : Which factor determines the size of wire used for industrial wiring?

- A : Type of wiring distance
- B : Distance from source
- C : Line voltage
- D : Load current

229 : Which type of the bus bar system is illustrated?



- A : Horizontal bus system
- B : Vertical bus system
- C : 8 bar system
- D : Bus bar trunking system

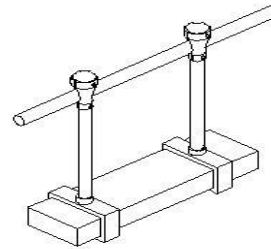
230 : Which is the distance of saddles to be fixed from the centre of bends (or) couplings in metal circuit wiring?

- A : 60cm
- B : 50cm
- C : 30cm
- D : 15cm

231 : Which is the alpha numeric rotation for apparatus AC 3 phase system?

- A : A,B,C,N
- B : X,Y,Z,N
- C : U,V,W,N
- D : A,B,C,N

232 : What is the name of distribution system used in industries?



- A : Bus bar suspended from roof
- B : Bus bar supported from ground
- C : Vertical mounted bus bar
- D : Bus duct system

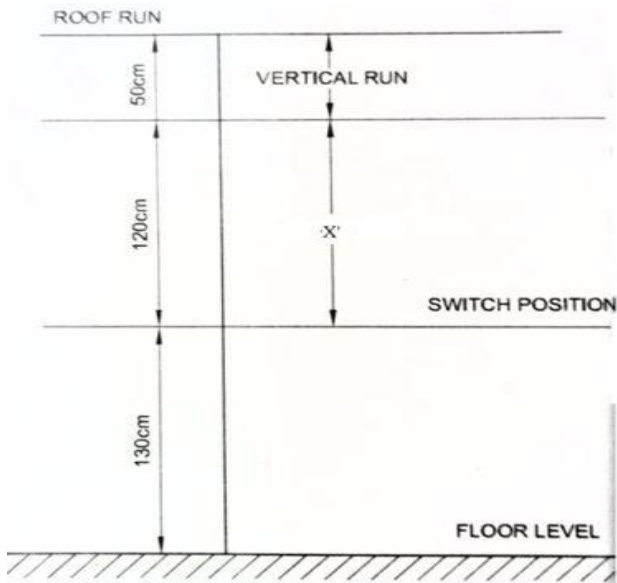
233 : Which is the minimum size of copper conductor used for power wiring in commercial wiring as per IE rule?

- A : 1 mm²
- B : 1.5 mm²
- C : 2.0 mm²
- D : 2.5 mm²

Wireman – Semester 4 Module 8 - Estimation and costing of wiring

Reviewed and updated on: 01st November 2019 Version 1.1

234 : Which is the name of position marked as x?



- A : Height
- B : Horizontal run
- C : Vertical run
- D : Down drop

235 : Which is the minimum size of PVC conduit used in government installations prescribed by CPWD?

- A : 20mm
- B : 16mm
- C : 19mm
- D : 32mm

236 : What is the first step taken during preparation of estimating the material required for any type of wiring installation?

- A : Take the lay out
- B : Purchase accessories for testing
- C : Prepare instruments for testing
- D : Purchase cables testing

237 : Which load is to be connected from stand by generator set in the event of failure of mains?

- A : Garden lighting
- B : Portico lighting
- C : Fire lift and water pumps
- D : Playing area lighting

238 : Which is the recommended height of energy meter to be installed from floor level in commercial wiring as per IE rule?

- A : Not less than 1m
- B : Not less than 1.5m

- C : Not less than 2m
- D : Not less than 2.5m

239 : Which is to be considered before the selection of conductor, protective devices and switch gear in commercial wiring?

- A : Diversity factor
- B : Type of wiring
- C : Place of wiring
- D : Climatic conditions

240 : Where the location of main switch in a domestic wiring installation?

- A : Near to load centre
- B : Near to termination of service line
- C : Out side wall of building
- D : Near main door

241 : Which cable is selected for service connection and outdoor applications?

- A : PVC insulated PVC sheathed
- B : PILC cable
- C : TRS sheathed
- D : Lead alloy sheathed

242 : Which type of wiring system used in multistoried building?

- A : Tree system
- B : Bus bar system
- C : Ring main system
- D : Distribution board system

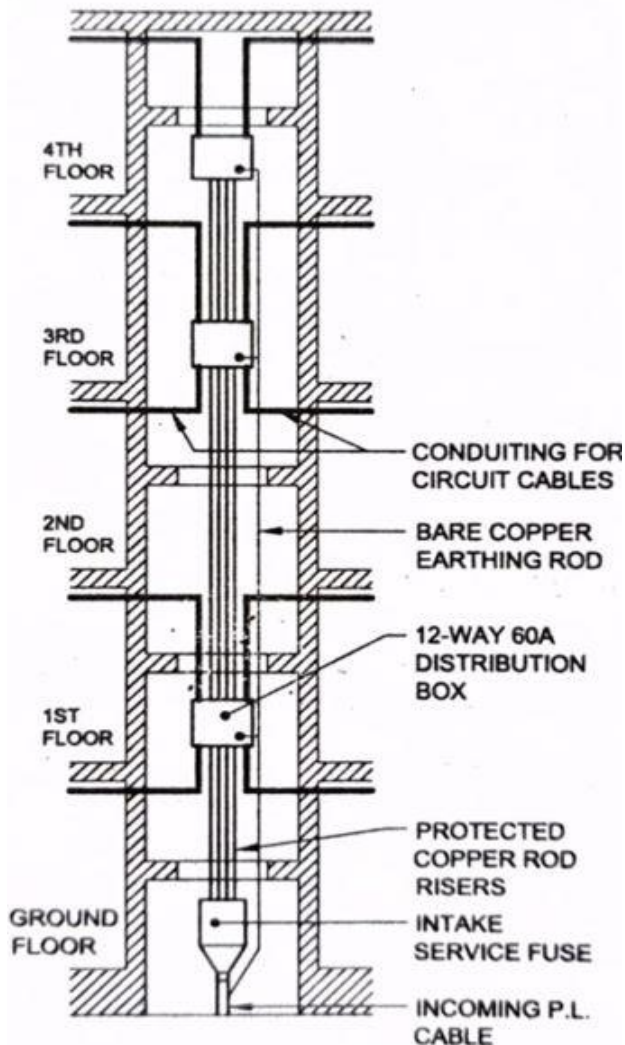
243 : Which is the number of earth leads shall be provided along with vertical runs of rising mains?

- A : 1
- B : 2
- C : 3
- D : 4

Wireman – Semester 4 Module 8 - Estimation and costing of wiring

Reviewed and updated on: 01st November 2019 Version 1.1

244 : What is the name of distribution system?



- A : Ring main system
- B : Distribution board system
- C : Rising main system
- D : Bus chamber system

245 : Which is the permissible power load in a sub circuit as per IE rule?

- A : 800 Watts
- B : 1200 Watts
- C : 2400 Watts
- D : 3000 Watts

246 : What is the formula to calculate the voltage drop in 3 phase circuits ? (If I=line current R=Resistance of one core)

- A : $\sqrt{3} IR$
- B : I^2R
- C : IR
- D : $3 IR$

247 : Which is the permissible voltage drop at the point of consumer on high and extra high voltage as per IE rule?

- A : 3%
- B : 5%
- C : 8.50%
- D : 12.50%

248 : Which is the height of distribution boards to be fixed from floor level as per IE rule?

- A : Not more than 1m
- B : Not less than 1.5m
- C : Not less than 2m
- D : Not less than 2.5m

249 : Which type of distribution is used in workshop wiring?

- A : Raising mains
- B : Bus chamber
- C : Tree system
- D : Ring main system

250 : Which is the thickness of metal conduit pipe for conduit size up to 32 mm as per IE Rule?

- A : 20 SWG
- B : 19 SWG
- C : 32 SWG
- D : 16 SWG

251 : Which helps both wireman and consumer to select the material according to commercial practice, cost and requirement?

- A : Drawing
- B : Specification of material
- C : Layout
- D : Estimation

252 : Which is the reason for using bus bar system in workshop for power distribution?

- A : Occupy less space
- B : Give neat appearance
- C : Easy addition and alterations
- D : Withstand over load

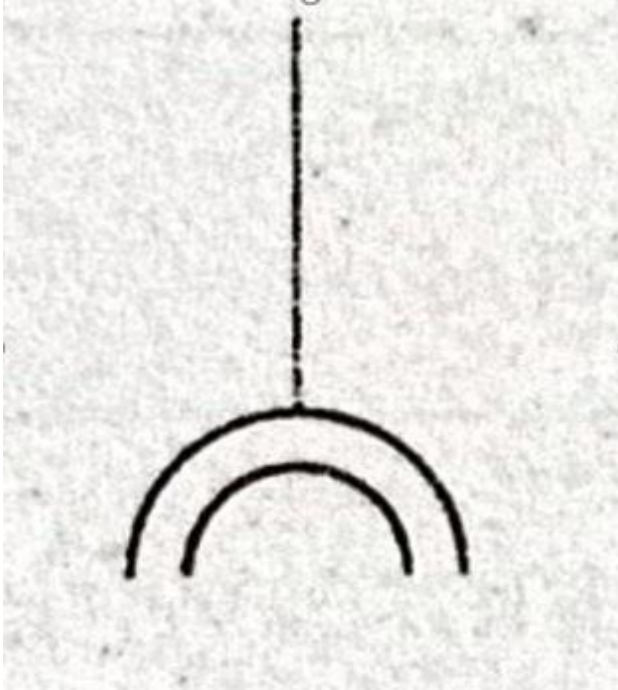
253 : Which method of wiring consumes less quantity of wire/cable?

- A : Joint box method
- B : Loop in back method
- C : Loop in using two plate ceiling rose and switch
- D : Loop in method using three plate ceiling rose

Wireman – Semester 4 Module 8 - Estimation and costing of wiring

Reviewed and updated on: 01st November 2019 Version 1.1

254 : Which accessory is represented by the BIS symbol?



- A : Combined switch and socket outlet 16A
- B : Interlocking switch and socket 6A
- C : Interlocking switch and socket 16A
- D : Socket outlet 16A

255 : Which wire is to be connected through switch as per IE rule?

- A : Phase line
- B : Neutral
- C : Earth
- D : Ground

ANSWERS :

1:B; 2:B; 3:D; 4:A; 5:C; 6:C; 7:D; 8:D; 9:A; 10:C; 11:C;
12:C; 13:C; 14:A; 15:D; 16:B; 17:B; 18:C; 19:C; 20:B;
21:C; 22:C; 23:C; 24:D; 25:C; 26:B; 27:A; 28:B; 29:B;
30:B; 31:B; 32:D; 33:B; 34:A; 35:D; 36:B; 37:B; 38:D;
39:B; 40:A; 41:D; 42:C; 43:A; 44:A; 45:B; 46:B; 47:D;
48:A; 49:A; 50:B; 51:A; 52:A; 53:D; 54:B; 55:A; 56:A;
57:A; 58:C; 59:D; 60:C; 61:A; 62:A; 63:D; 64:D; 65:C;
66:B; 67:A; 68:A; 69:D; 70:D; 71:D; 72:D; 73:A; 74:A;
75:A; 76:A; 77:B; 78:C; 79:A; 80:A; 81:D; 82:D; 83:A;
84:D; 85:B; 86:C; 87:D; 88:A; 89:D; 90:A; 91:A; 92:C;
93:A; 94:A; 95:C; 96:A; 97:B; 98:C; 99:D; 100:B;
101:D; 102:C; 103:D; 104:D; 105:D; 106:C; 107:D;
108:C; 109:C; 110:B; 111:A; 112:C; 113:A; 114:A;
115:D; 116:D; 117:D; 118:D; 119:D; 120:D; 121:B;
122:A; 123:C; 124:D; 125:D; 126:A; 127:B; 128:D;
129:B; 130:B; 131:A; 132:B; 133:C; 134:B; 135:B;

136:B; 137:B; 138:B; 139:A; 140:B; 141:C; 142:B;
143:C; 144:B; 145:A; 146:C; 147:D; 148:A; 149:B;
150:A; 151:A; 152:B; 153:B; 154:A; 155:C; 156:C;
157:A; 158:B; 159:B; 160:B; 161:D; 162:A; 163:B;
164:C; 165:A; 166:A; 167:B; 168:B; 169:B; 170:C;
171:A; 172:C; 173:B; 174:C; 175:C; 176:A; 177:C;
178:A; 179:B; 180:A; 181:C; 182:A; 183:D; 184:C;
185:B; 186:D; 187:B; 188:D; 189:A; 190:D; 191:C;
192:A; 193:B; 194:C; 195:B; 196:C; 197:D; 198:A;
199:B; 200:D; 201:B; 202:C; 203:A; 204:D; 205:C;
206:B; 207:A; 208:D; 209:C; 210:D; 211:A; 212:C;
213:A; 214:B; 215:D; 216:B; 217:D; 218:A; 219:A;
220:C; 221:B; 222:B; 223:D; 224:A; 225:D; 226:D;
227:A; 228:D; 229:C; 230:C; 231:C; 232:A; 233:D;
234:D; 235:C; 236:A; 237:C; 238:A; 239:A; 240:B;
241:A; 242:A; 243:B; 244:C; 245:D; 246;; 247:D;
248:C; 249:B; 250:D; 251:B; 252:C; 253:A; 254:D;
255:A;