

Wireman – Semester 1 Module 1: Safety practice and Hand tools

Reviewed and updated on: 01st November 2019 Version 1.1

1 : What is the expansion of ABC in first aid treatment?

- A** : Airway Bleeding Circulation
- B** : Airway Breathing Circulation
- C** : Airway Breathing Carefulness
- D** : Accident Breathing Carefulness

2 : Which is the colour code of warning signs?

- A** : White symbol on blue background
- B** : White symbol on green background
- C** : Red border and cross bar, black symbol on white
- D** : Yellow background with black border and symbol

3 : Which category of basic sign refers to avoid naked flame?

- A** : Warning signs
- B** : Mandatory signs
- C** : Information signs
- D** : Prohibition signs

4 : Which category, the fire due to gas and liquified gas comes under?

- A** : Class C fire
- B** : Class A fire
- C** : Class D fire
- D** : Class B fire

5 : What are the factors that must be present in combination of fire?

- A** : Fuel, heat and hydrogen
- B** : Fuel, temperature, hydrogen
- C** : Fuel, hydrogen, oxygen
- D** : Fuel, heat and oxygen

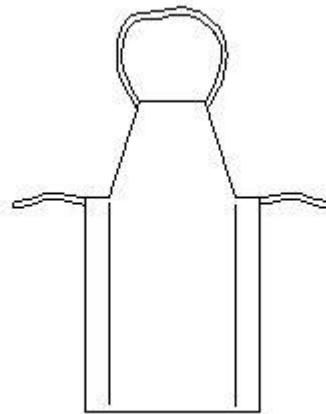
6 : What is smothering in extinguishing of fire?

- A** : Adding the fuel from fire
- B** : Removing the fuel from fire
- C** : Isolating the heat from fire
- D** : Isolating the supply of oxygen from fire

7 : Which type of fire extinguisher is used for fire on electrical equipment?

- A** : Foam extinguisher
- B** : Water filled extinguisher
- C** : Stored pressure type extinguisher
- D** : Halon extinguisher

8 : What is the name of PPE?



- A** : Apron
- B** : Leg guards
- C** : Face shield
- D** : Hand screen

9 : What is the meaning of safety?

- A** : The occupational hazards
- B** : Provide safe work environment
- C** : Giving first aid treatment to the victim
- D** : The freedom (or) protection from harm, danger etc..

10 : Which Personal Protective Equipment (PPE) is used for eye protection?

- A** : Helmet
- B** : Goggles
- C** : Nose mask
- D** : Leather aprons

11 : Which purpose leather aprons are used as personal protective equipment?

- A** : Ear protection
- B** : Eye protection
- C** : Body protection
- D** : Face protection

12 : Which concept of 5s indicates standardization?

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

13 : Which waste is used as a fuel for the Bio-gas power plant?

- A** : Chemical waste
- B** : Agricultural waste

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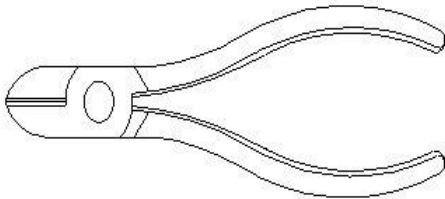
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- C** : Waste produced from the water source
D : Waste produced by the men and animal
-

14 : What is cleaning?

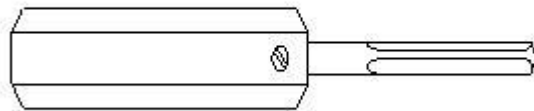
- A** : Preventing the additional matter
B : Removing unwanted matter from the environment
C : Keeping the things in systematic arrangement
D : Keeping the working place in safe situation
-

15 : What is the name of the tool?



- A** : Combination plier
B : Wire stripper
C : Crimping tool
D : Side cutter
-

16 : What is the name of the tool?



- A** : Poker

- B** : Gimlet
C : Bradawl
D : Raw plug tool
-

17 : Which screwdriver is used for driving star headed screw?

- A** : Connector screwdriver
B : Philips screw driver
C : Heavy-duty screwdriver
D : Insulated screw driver
-

18 : In which type of hazard virus will belong?

- A** : Ergonomic
B : Biological hazard
C : Physiological hazard
D : Phychological hazard
-

19 : Which one is the example for chemical hazard?

- A** : Fatigue
B : Bacteria
C : Corrosive
D : Sickness
-

20 : What is the goal of the occupational health safety?

- A** : To maintain discipline
B : To co-operate with co-workers
C : To provide a safe work environment
D : To keep the work place neat and clean
-

Wireman – Semester 1 Module 2: Wiring Joints and Soldering

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21 : Which is called valance electron in an atom?

- A : Half the total No of electron
- B : No: of electron in middle orbit
- C : No: of electron in inner most orbit
- D : No: of electron in the outer most orbit

22 : How many electrons are in a copper atom?

- A : 27
- B : 28
- C : 29
- D : 30

23 : How many number of electrons will move in one second for one ampere current through the conductor?

- A : 6.24×10^{15}
- B : 6.24×10^{16}
- C : 6.24×10^{17}
- D : 6.24×10^{18}

24 : What is the property of direct current?

- A : Magnitude and direction of current changes with time
- B : Magnitude and direction of current remains constant
- C : Direction of current changes with time
- D : Magnitude of current changes with time

25 : Which effect is produced, if the current is passed through a conductor?

- A : Thermal effect
- B : Magnetic effect
- C : Chemical effect
- D : Electrostatic effect

26 : Which effect is produced, if the current in passed through a coil?

- A : Heating effect
- B : Chemical effect
- C : Magnetic effect
- D : Ionisation effect

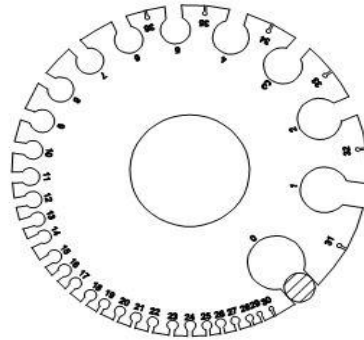
27 : Which effect of electric current is used for the treatment of mental patient?

- A : Shock effect
- B : Chemical effect
- C : Magnetic effect
- D : Ionization effect

28 : What is the name of the effect, if the current is passed through the electrolyte?

- A : Heating
- B : Chemical
- C : Magnetic
- D : Thermal

29 : What is the name of the measuring tool?



- A : Outside micrometer
- B : Inside micrometer
- C : Vernier caliper
- D : Standard wire gauge

30 : What is the expansion of SWG?

- A : standard wire gauge
- B : stranded wire gauge
- C : standard wire grade
- D : standard wire group

31 : Which conductors are used for O.H distribution lines?

- A : Insulated conductors
- B : Insulated solid conductors
- C : Bare conductors
- D : Two core cable

32 : What does 7 indicates in 7/20 cable?

- A : Insulation grade
- B : Diameter in mm
- C : No of conductor
- D : Size of conductor in gauge

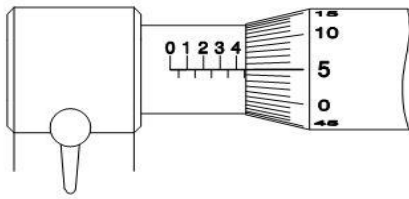
33 : Which insulating material is used for insulation tapes?

- A : Mica
- B : Fibre
- C : Plastic
- D : Leathroid

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34 : What is the reading of the micrometer?

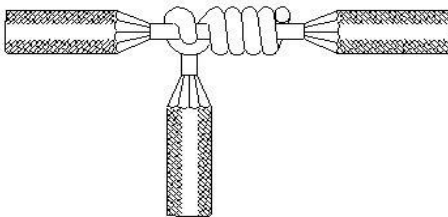


- A : 4.05 mm
- B : 4.15 mm
- C : 4.50 mm
- D : 4.55 mm

35 : What is the purpose of additional covering over the insulation of insulated conductor?

- A : To increase dielectric strength
- B : To add more mechanical strength
- C : To increase the current carrying capacity
- D : To protect the wire

36 : What is the name of the wire joint?

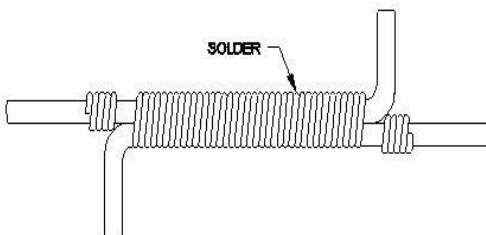


- A : Aerial tap joint
- B : T joint
- C : Knotted tap joint
- D : Plain tap joint

37 : Which joint is suitable for low current circuits only?

- A : Double cross tap joint
- B : Western union joint
- C : Scarfed joint
- D : Aerial tap joint

38 : What is the name of the wire joint?



- A : Britannia 'T' joint
- B : Western union joint

- C : Britannia straight joint
- D : Married joint

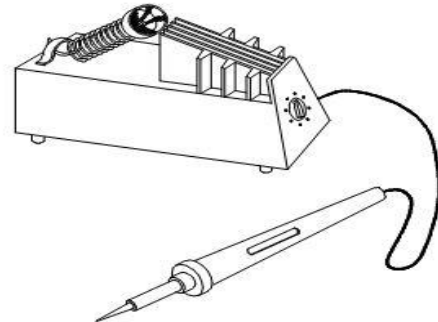
39 : Which type of tap joint is suitable for more tensile stress?

- A : Plain tap joint
- B : Aerial tap joint
- C : Knotted tap joint
- D : Duplex cross joint

40 : Which type of joint is used in overhead lines for extending the length of wire?

- A : Scarfed joint
- B : BritanniaT joint
- C : Western union joint
- D : Married joint

41 : What is the name of the soldering?



- A : DIP soldering
- B : Temperature controlled soldering
- C : Soldering with soldering gun
- D : Soldering with blow lamp

42 : Which metal is used to make soldering iron bit?

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

43 : Which soldering method is used to solder under ground cable joints?

- A : Dip soldering
- B : Soldering iron method
- C : Pot and ladle method
- D : Machine soldering method

44 : Which solder is used for soldering aluminium conductor?

- A : Fine solder
- B : Resin core solder

Wireman – Semester 1 Module 2: Wiring Joints and Soldering

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- C** : Alcap solder
D : Tinman solder

45 : Which soldering flux used for soldering electrical joints?

- A** : Rosin
B : Zinc chloride
C : Sal ammonia rosin
D : Diluted chloric acid

46 : Which metal is soldered by using zinc chloride flux as solder?

- A** : Zinc
B : Bronze
C : Gun metal
D : Galvanised iron

47 : Which is to be added to recondition the solder?

- A** : Tin
B : Zinc
C : Lead
D : Rosine

48 : Which colour band of resistor indicates the multiplier?

- A** : First band
B : Third band
C : Fourth band
D : Second band

49 : Which resistor is known as photo-Conductors?

- A** : Light dependent resistor
B : Voltage dependent resistors
C : PTC resistors
D : NTC resistors

50 : Which material is used for making wire wound resistors?

- A** : Manganin
B : Graphite
C : Tantalum
D : Carbon

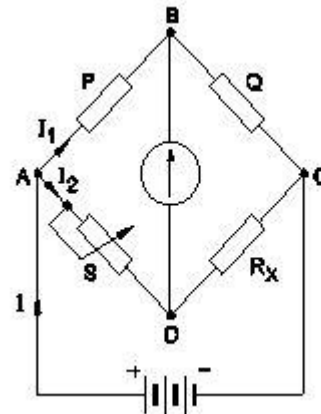
51 : Which is the example for metal film resistor?

- A** : Carbon
B : Eureka
C : Maganin
D : Michrome

52 : What is the reading of galvanometer in whetstone bridge at balanced stage?

- A** : High deflection
B : Low deflection
C : Null deflection
D : Vibrates

53 : Which formula is used to calculate the value of unknown resistance (R_x) in Wheatstone bridge?



A :

$$R_x = \frac{P}{Q} \times S$$

B :

$$R_x = \frac{S}{P} \times Q$$

C :

$$R_x = \frac{P}{S} \times Q$$

D :

$$R_x = \frac{P}{2} \times \frac{Q}{S}$$

54 : What is the condition, if zero current is flowing through the galvanometer in Wheatstone bridge?

- A** : Balanced
B : Unbalanced
C : Short-circuited
D : Open circuited

55 : Calculates the value of unknown resistance (R) is connected in a wheat stone bridge at balanced conditions, if $P = 350\Omega$, $S = 200\Omega$ and $Q = 420\Omega$?

Wireman – Semester 1 Module 2: Wiring Joints and Soldering

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- A : 480Ω
- B : 320Ω
- C : 280Ω
- D : 240Ω

Wireman – Semester 1 Module 3: Basic Electrical Practice

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56 : Which is conductor?

- A** : Wood
- B** : Zinc
- C** : Rubber
- D** : Mica

57 : What is the property of good conductor?

- A** : Must have low specific resistance
- B** : Must have high dielectric strength
- C** : Must have low tensile strength
- D** : Must have low melting point

58 : What is the advantage of stranded conductor compared to solid conductor?

- A** : More rigidity
- B** : Flexibility
- C** : High melting point
- D** : High mechanical strength

59 : What is the main property of an insulator?

- A** : Low resistance
- B** : Low melting point
- C** : High temperature co-efficient
- D** : High dielectric strength

60 : What is the voltage grading range of high voltage?

- A** : 0V - 250V
- B** : 650V - 33000V
- C** : Above 33000V
- D** : 250V - 650V

61 : Which voltage grading 1100 volt belongs?

- A** : Low Voltage (L.V)
- B** : Medium Voltage (M.V)
- C** : High Voltage (H.V)
- D** : Extra High Voltage (E.H.V)

62 : What is the voltage grade range of medium voltage?

- A** : 250V-415V
- B** : 250-650V
- C** : 1.1KV-11KV
- D** : Above 33000V

63 : Which law states the relation between the voltage current and resistance in a closed circuit at constant temperature?

- A** : Ohms law
- B** : Kirchoffs current law
- C** : Kirchoffs voltage law
- D** : Laws of resistance

64 : Which electrical quantity is inversely proportional to the current as per ohms law?

- A** : Resistance
- B** : Voltage
- C** : Power
- D** : Energy

65 : Which bulb will have lowest resistance?

- A** : 240V, 60W
- B** : 240V, 100W
- C** : 240V, 200W
- D** : 240V, 500W

66 : Calculate the value of resistance connected to the supply voltage of 100V and current through 4 A?

- A** : 0.4 ohm
- B** : 0.04 ohm
- C** : 25 ohm
- D** : 400 ohm

67 : What is the S.I unit of specific resistance?

- A** : Ohm/cm
- B** : Ohm/metre²
- C** : Ohm-metre
- D** : Micro ohm/cm²

68 : What is the specific resistance value of copper conductor?

- A** : 1.72 micro ohm/cm²
- B** : 1.72 micro ohm
- C** : 1.72 ohm /cm²
- D** : 1.72 micro ohmmeter

69 : What is the effect in resistance of the conductor, if its diameter is doubled?

- A** : Increase to two times
- B** : Increase to four times
- C** : Decrease to half the value
- D** : Decrease to ¼ th value

70 : Which is directly proportional to the resistance?

- A** : Area of cross section
- B** : Length
- C** : Resistivity
- D** : Temperature

71 : What is the total resistance (RT) if R1, R2, R3 are connected in series?

A :
 $R_T = R_1 + R_2 + R_3$

B :
 $R_T = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}}$

C :
 $R_T = R_1 R_2 R_3$

D :
 $R_T = \frac{1}{R_1 + R_2 + R_3}$

72 : What is formula to calculate electric power (P)?

A : $P = I^2 \times R$

B : $P = R/V^2$

C : $P = IR$

D : $P = I/V$

73 : What is the change in total resistance value, if additional resistor is connected in a parallel circuit?

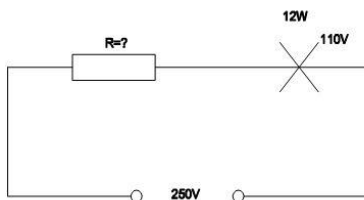
A : Decrease

B : Remains same

C : Increase 2 times

D : Increase to 1.5 times

74 : Calculate the value of series resistor?



A : 1380Ω

B : 1390Ω

C : 1400Ω

D : 1492Ω

75 : Which law states that in each closed circuit the sum of all voltage drops are equal to zero?

A : Krichoffs current Law

B : Krichoffs voltage Law

C : Law of Resistance

D : Ohm's law

76 : Which law is used to determine the equivalent resistance of the network and the current?

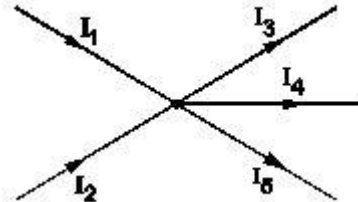
A : Ohm's law

B : Krichoffs Law

C : Laws of Resistance

D : Lenz's law

77 : Which is the correct equation based on Kirchhoff's first law?



A : $I_1 + I_3 = I_2 + I_4 + I_5$

B : $I_1 + I_2 + I_3 = I_4 + I_5$

C : $I_1 + I_2 = I_3 + I_4 + I_5$

D : $I_1 + I_2 = I_3 + I_4 + I_5 = 0$

78 : Which is the simplest method used to measure low resistance?

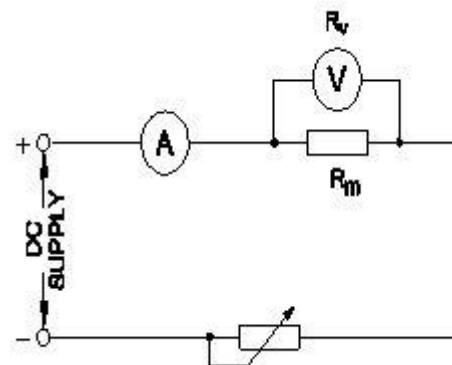
A : Voltmeter ammeter method

B : Slide wire, bridge method

C : Post office base method

D : Kelvin bridge method

79 : What is the value of voltmeter resistance (R_v) compared to resistance (R_m) to be measured?



A : Equal

B : Low

C : Very low

D : Very large

80 : Which defines that the changes in resistance in ohm per 1°C rise in temperature?

A : Thermal expansion

B : Thermal conductivity

C : Temperature coefficient

D : Thermo dynamics

Wireman – Semester 1 Module 3: Basic Electrical Practice

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81 : Which material have negative temperature coefficient?

- A** : Carbon
 - B** : Tungsten
 - C** : Nichrome
 - D** : Mangnin
-

82 : Which resistor has negative temperature co-efficient?

- A** : Sensistor
 - B** : Thermistor
 - C** : Varistor
 - D** : LDR resistor
-

Wireman – Semester 1 Module 4: Basic Wiring Practice

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- 83** : Which switch is having four terminals?
A : Single pole one way switch
B : single pole two way switches
C : Intermediate switch
D : Pull switch

- 84** : Which type of holder is used between 200W to 300W lamp?
A : Edison screw holder
B : Goliath screw holder
C : Bracket holder
D : Angle holder

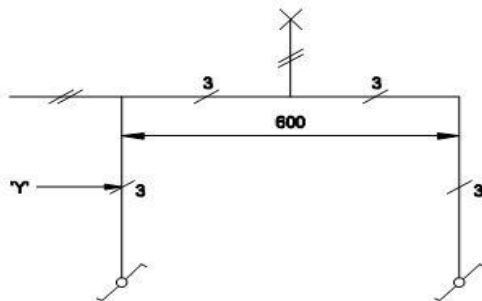
- 85** : Which switch is having a spring-loaded button?
A : Intermediate switch
B : Push button switch
C : Pull switch
D : Double pole switch

- 86** : What is the name of BIS symbol?



- A** : Lamp
B : Two way switch
C : Intermediate switch
D : Multi - position switch

- 87** : What does the symbol marked as Y indicates?



- A** : Number of switches to be connected
B : Number of wires run on the limb
C : Number clamps (or) clips to be fixed
D : Number of the battren (or) pipe to be fixed

- 88** : Which supply voltage the fire alarm circuit works?
A : 240V AC
B : 220V DC
C : 110V DC
D : 24V DC

- 89** : Which is used to sense the heat in fire alarm circuit?
A : Varistors
B : Light dependent resistor
C : Sensistors
D : Thermistors

- 90** : What is the voltage range of DC series MCB?
A : 110 volt DC
B : 200 volt DC
C : 220 volt DC
D : 230 volt DC

- 91** : Which MCBs are designated to protect circuit with inductive loads?
A : L series MCBs
B : G series MCBs
C : DC series MCBs
D : L series and DC series MCBs

- 92** : Which classification of accessories, ceiling rose belongs?
A : Outlet accessories
B : Safety accessories
C : Holding accessories
D : General accessories

- 93** : Which type of accessories, the fuse comes under?
A : Controlling accessories
B : Holding accessories
C : Safety accessories
D : Outlet accessories

- 94** : Which is the purpose of iron clad fuse cut outs used in domestic service connection?
A : To protect the line from over voltage
B : To ensure the line is not loaded beyond rated current
C : To protect the service line from short circuit
D : To protect the inmates from shock

- 95** : What is the height the switch shall be forced above the floor level as per NEC?

Wireman – Semester 1 Module 4: Basic Wiring Practice

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- A** : 1.3 m
 - B** : 1.5 m
 - C** : 2.0 m
 - D** : 2.5 m
-

96 : Which is the vertical clearance of low and medium voltage lines from buildings as per IE rules?

- A** : 1.2 m
- B** : 2.5 m
- C** : 5.8 m
- D** : 6.1 m

97 : Which is the value of insulation resistance permissible as per IE rules?

- A** : Not more than 1 M ohm
 - B** : Not more than 2 M ohm
 - C** : Not more than 3 M ohm
 - D** : Not more than 4 M ohm
-

98 : Which is the formula to express Faradays law of electrolysis?

A :

$$M = \frac{Z}{It}$$

B :

$$M = Zit$$

C :

$$M = \frac{it}{Z}$$

D :

$$M = \frac{Zt}{i}$$

99 : What is the process of chemical decomposition produced by current passed through electrolyte?

A : Electromagnetism

B : Electrolysis

C : Electrodynamics

D : Electrostatics

100 : Which is the positive (Anode) electrode in silver oxide cells?

A : zinc

B : copper

C : carbon

D : Silver oxide

101 : Which is rechargeable cell?

A : Voltaic cell

B : Carbon zinc cell

C : Lead acid cell

D : Mercury cell

102 : Which material is used as positive electrode in a dry cell?

A : Zinc

B : Carbon

C : Copper

D : Lithium

103 : Which is the negative electrode in voltaic cell?

A : Carbon

B : Copper

C : Zinc

D : Lithium

104 : Which electrolyte is used in lead acid battery?

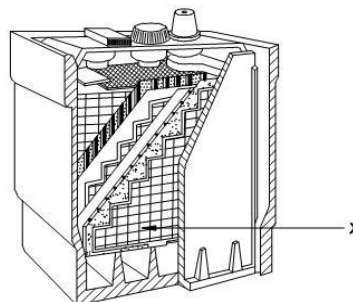
A : Diluted hydrochloric acid

B : Concentrated ammonium chloride

C : Concentrated potassium hydroxide

D : Diluted sulphuric acid

105 : What is the name of part marked as **x**?



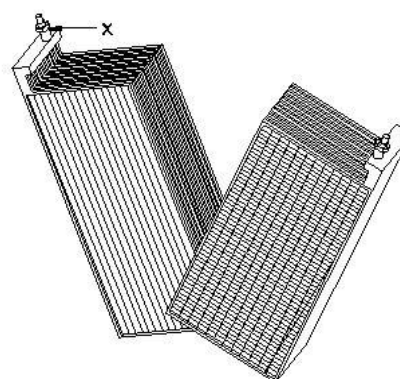
A : Container

B : Plates

C : Separators

D : Terminals

106 : What is the name of the part marked as 'x' of lead acid battery?



A : Separators

B : Container

C : Post terminal

D : Plates

107 : What is the purpose of separators provided in lead acid battery?

A : To avoid short between positive and negative plates

B : To avoid short between plates and body

C : To avoid buckling effect

D : To avoid sedimentation effect

108 : Which material the positive Faure plates are made in lead acid battery?

A : Spongy lead (Pb)

B : Lead peroxide (PbO_2)

C : Lead sulphate (PbSO_4)

D : Zinc sulphate (ZnSO_4)

109 : Which formula is used to calculate internal resistance (R_i) of a cell?

A :

$$R_i = \frac{I_L}{E - V}$$

B :

$$R_i = \frac{I_L}{V - E}$$

C :

$$R_i = \frac{V - E}{I_L}$$

D :

$$R_i = \frac{E - V}{I_L}$$

110 : Why cells are connected in series?

A : To reduce total voltage

B : To obtain higher current

C : To obtain higher voltage

D : To reduce current

111 : What is the name of the charge that given to a battery if it is in danger of becoming over discharged during working?

A : Boost charge

B : Freshening charge

C : Trickle charge

D : Initial charge

112 : Which method is used to charge the battery at very low rate and long period?

A : Rectifier method

B : Trickle charging method

C : Constant current method

D : Constant potential method

113 : Which instrument is used to measure electrolyte specific gravity?

A : Barometer

B : Hydrometer

C : Lactometer

D : Thermometer

114 : Why the vent plugs are kept open during charging of lead acid battery?

A : Check the level of electrolyte

B : Release the gas produced

C : Enter the oxygen from atmospheric air

D : Check the condition of plates

115 : Which is applied on the battery terminals to avoid corrosion?

A : Solid grease

B : Petroleum jelly

C : Lubricating oil

D : Liquid grease

116 : What happens to the terminal voltage of a cell if load is increased?

A : Decreases

B : Increases

C : Remain same

D : Falls to zero

117 : Which is the purpose of inverter?

A : Convert AC to DC

B : Convert low voltage DC to high voltage DC

C : Convert low voltage AC to high voltage AC

D : Convert DC to AC

118 : Which device converts AC to DC in inverter?

A : SCR

B : Metal rectifiers

C : Bridge rectifiers

D : Full wave rectifiers

119 : What is the full form of abbreviation of UPS?

A : Uni directional Power Supply

B : Un interrupted Power Supply

C : Uniform Power Supply

D : Un regulated Power Supply

120 : Which is used as stand by source for critical loads in absence of AC supply?

A : Inverter

B : UPS

C : Voltage Stabilizer

D : Regulated Power Supply

121 : Which converts light energy into electrical energy?

A : Thermistors

B : Sensistors

C : Photovoltaic cell

D : Light dependent resistor

Wireman – Semester 1 Module 5: Cells and Batteries

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122 : Which batteries can be kept in the AC room along with inverter?

- A** : Nickel cadmium batteries
 - B** : SMF batteries
 - C** : Tubular batteries
 - D** : Nickel iron batteries
-

123 : Which is the unit of capacity of a storage cell?

- A** : Ampere-hour (A)
 - B** : Watt
 - C** : Volt Ampere (VA)
 - D** : Ampere
-

124 : Which factor the capacity of a cell depends?

- A** : Distance between plates
 - B** : Material of positive plate
 - C** : Material of negative plate
 - D** : Size of plates
-

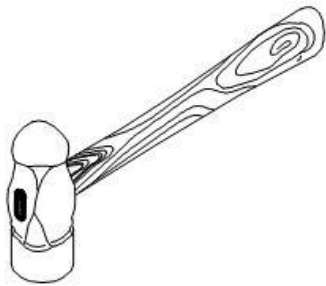
125 : Which cell has high shelf life?

- A** : Dry cell
 - B** : Leclanche cell
 - C** : Lithium cell
 - D** : Alkaline cell
-

Wireman – Semester 1 Module 6: Basic Workshop Practice

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126 : What is the name of the hammer?



- A : Claw hammer
- B : Straight pein hammer
- C : Ball pein hammer
- D : Cross pein hammer

127 : What is the size of firmer chisel?

- A : 1 mm to 30 mm
- B : 2 mm to 40 mm
- C : 3 mm to 50 mm
- D : 4 mm to 60 mm

128 : How files are specified?

- A : By length
- B : By thickness
- C : By width
- D : By total length with handle

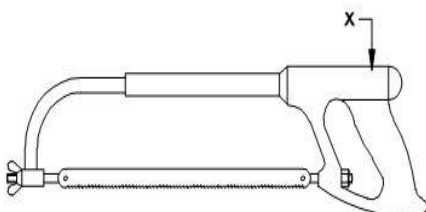
129 : What is the use of cross cut chisel?

- A : Cutting keyways
- B : Cutting curved grooves
- C : Squaring materials at corners
- D : Removing metal after chain drilling

130 : What purpose rough file is used?

- A : High degree finishing
- B : Good finishing purpose
- C : Removing less metal and good finish
- D : Removing more quantity of metal quickly

131 : What is the name of hacksaw frame part marked as X?

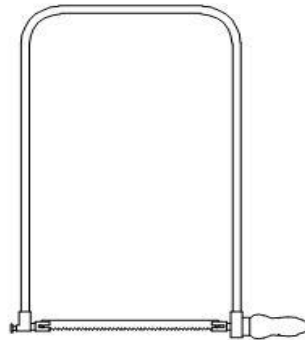


- A : Handle
- B : Frame
- C : Fixed blade holder
- D : Frame length adjustment

132 : How hacksaw blades are specified?

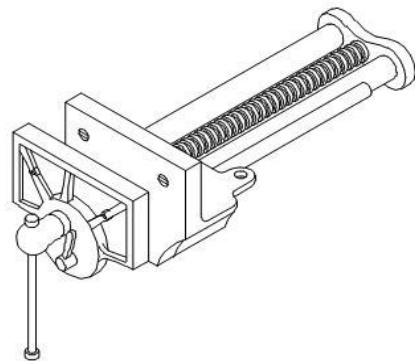
- A : Teeth per 10mm
- B : Teeth per 15mm
- C : Teeth per 20mm
- D : Teeth per 25mm

133 : What is the use of fret saw?



- A : Larger curve cutting
- B : Cutting sharp corners
- C : Internal cutting
- D : Cutting sharp and fine curves

134 : What is the name of the tool?



- A : 'G clamp
- B : Vice clamp
- C : Bench hook
- D : Carpenters vice

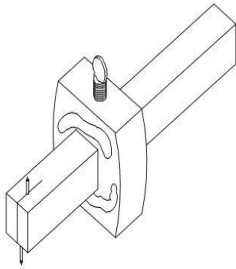
135 : What is the accuracy of the wooden folding rule?

- A : 0.05 mm
- B : 0.25 mm
- C : 0.5 mm
- D : 1 mm

136 : How nails are specified?

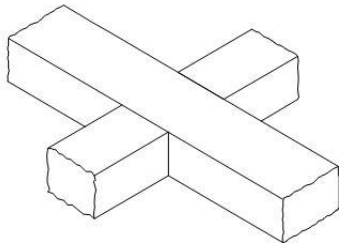
- A : By length only
- B : By type only
- C : By length and type only
- D : By length type and gauge number

137 : What is the use of the carpenter tool?



- A : Marking lines parallel to face
- B : Marking holes on wood
- C : Check the thickness of wood
- D : Check the squareness of wood

138 : Which is the name of wooden joint?

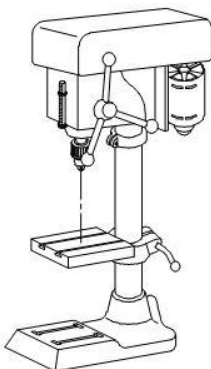


- A : End lap joint
- B : Middle lap joint
- C : Cross lap joint
- D : Corner joint

139 : Which defect in timber is caused by the growth of branches?

- A : Twisting
- B : Cracking
- C : Cupping
- D : Knot

140 : What is the name of the drilling machine?



- A : Pillar drilling machine
- B : Radial drilling machine
- C : Electric hand drilling machine
- D : Sensitive bench drilling machine

141 : Which formula is used to calculate cutting speed (CS) of a drill bit of d = dia of drill, N = spindle speed in RPM?

A :

$$CS = \frac{N\pi d}{100} \text{ m/min}$$

B :

$$CS = \frac{N\pi d}{1000} \text{ m/min}$$

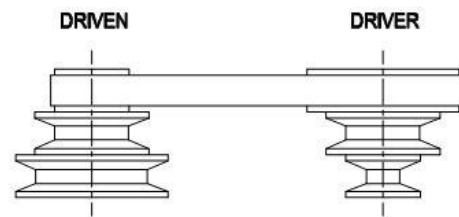
C :

$$CS = \frac{N\pi r}{1000} \text{ m/min}$$

D :

$$CS = \frac{N\pi d}{1000 \times 2} \text{ m/min}$$

142 : Which speed can be achieved by the belt arrangement in bench drilling machine?



- A : 2 times below than rated speed
- B : 3 times below than rated speed
- C : Rated speed
- D : Above rated speed

143 : What is the name of the operation needed to enable the head of the screw to fit flush with the surface of a component?

- A : Drilling
- B : Tapping
- C : Reaming
- D : Counter sinking

144 : What is the indication of the letter 'M' in thread formation M12?

- A : BSF thread
- B : BSW thread
- C : ISO inch thread
- D : ISO metric thread

145 : What is the thread angle of British standard worth (BSW) thread?

- A : 60°
B : 65°
C : 55°
D : 50°

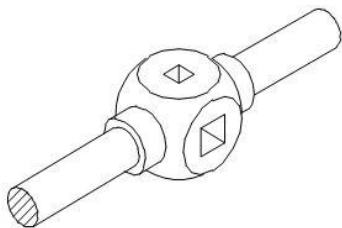
146 : How many types of threaded fastening available in ISO inch (unified) thread?

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

147 : What is the use of stock and die sets?

- A : To make internal threads in cylindrical jobs
B : To make external threads in cylindrical jobs
C : To make internal threads in square jobs
D : To make external threads in square jobs

148 : Which is the name of wrench?

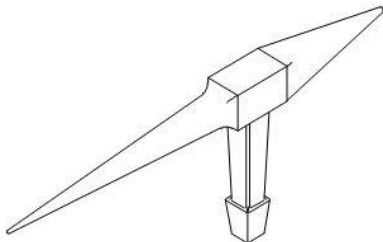


- A : T-handle tap wrench
B : Double-ended non-adjustable tap wrench
C : Solid tap wrench
D : Double ended adjustable tap wrench

149 : What is the effect on thread is the side screw in more tightened?

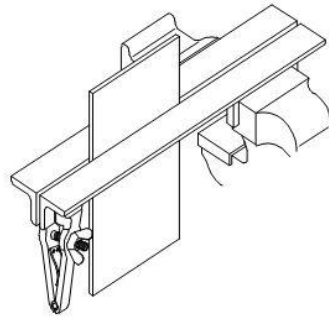
- A : No effect threads form normally
B : Threads forms unevenly
C : Both die and threads damaged
D : Pipe broken into pieces

150 : What is the name of the stake?



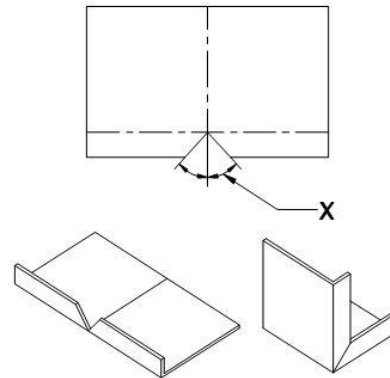
- A : Square stake
B : Hatchet stake
C : Blow-horn stake
D : Bevel-edge square stake

151 : What is the name of the tool?



- A : Stakes
B : "C" clamps
C : Folding bar
D : Angle steel

152 : What is the cutting angle of "V" notch marked as X?



- A : 30° angle to the edge of the sheet
B : 40° angle to the edge of the sheet
C : 45° angle to the edge of the sheet
D : 50° angle to the edge of the sheet

153 : What is the use of bent snips?

- A : To cut straight slot
B : To cut internal holes
C : To cut external curves
D : To cut internal curves

154 : Which notch is used, if a single hem meets at right angles?

- A : 'V' notch
B : Slant notch
C : Square notch
D : Straight notch

155 : Which type of notch is used for forming rectangular box?

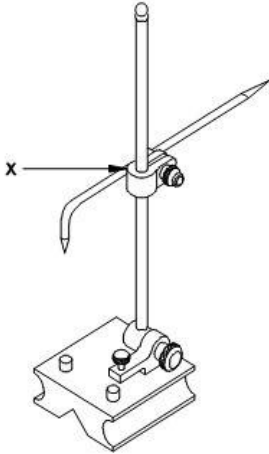
- A : 'V' notch
B : Slant notch

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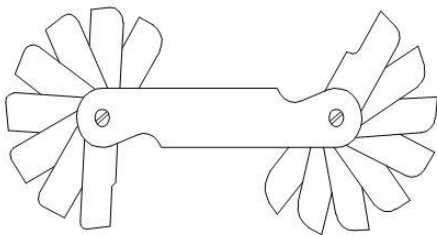
- C : Square notch
- D : Straight notch

156 : What is the name of the part marked as X in an universal surface gauge?



- A : Snug
- B : Scriber
- C : Spindle
- D : Clamping Nut

157 : What is the name of the gauge?



- A : Limit gauge
- B : Radius gauge
- C : Thread ring gauge
- D : Standard wire gauge

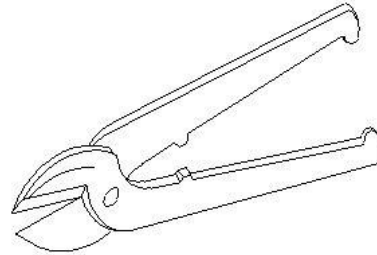
158 : How to check the radius of the parts by using radius gauge?

- A : Comparing with radius of the radius gauge
- B : Actual measuring with the help of radius

gauge

- C : Calculated with the help of the radius gauge
- D : Visually displayed in radius gauge

159 : What is the name of the tool?



- A : Bent snip
- B : Straight snip
- C : Side cutting plier
- D : Diagonal cutting plier

160 : Which is called as plate?

- A : Sheets over 2 mm thick
- B : Sheets over 3 mm thick
- C : Sheets over 4 mm thick
- D : Sheets over 5 mm thick

161 : Which type of stakes are used for riveting cone shape articles?

- A : Square stake
- B : Hatchet stake
- C : Bevel edge square stake
- D : Blow horn stake

162 : Which makes the edge smooth and stiff in small sheet metal articles?

- A : Slant notch
- B : Single hem
- C : Double hem
- D : Square notch

163 : Which is dia magnetic substance?

- A** : Iron and nickel
- B** : Aluminium
- C** : Graphite
- D** : Copper

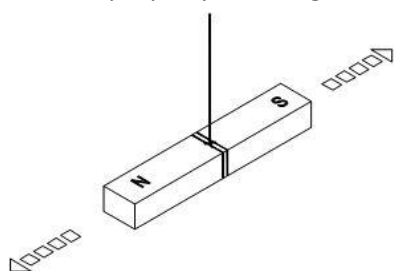
164 : What is the metal composition of Permalloy?

- A** : Iron and nickel
- B** : Iron and copper
- C** : Iron and aluminium
- D** : Iron and chromium

165 : What is the unit of permeability?

- A** : Weber/metre
- B** : No unit (mere number)
- C** : Ampere turns/web
- D** : Ampere turns/metre²

166 : Which property of a magnet is illustrated?



- A** : Induction property
- B** : Saturation property
- C** : Directive property
- D** : Poles-existing property

167 : Which factor depends on the permeability of the material?

- A** : Length
- B** : Flux density
- C** : Field intensity
- D** : Magneto motive force

168 : Which rule is used to find the direction of the self induced emf in a coil?

- A** : Clock rule
- B** : Lenz law
- C** : Ampere rule
- D** : Corkscrew rule

169 : Which rule is used for determine the direction of magnetic lines in a current carrying conductor?

- A** : Lenz law
- B** : Right hand palm rule

C : Fleming left hand rule

D : Fleming right hand rule

170 : Which rule is used to find the direction of the induced emf in a coil?

- A** : Clock rule
- B** : Lenz law
- C** : Ampere rule
- D** : Corkscrew rule

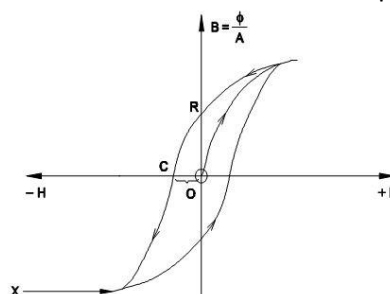
171 : Which rule is used to find the magnetic polarity of solenoid?

- A** : Lenz law
- B** : Right hand palm rule
- C** : Fleming left hand rule
- D** : Fleming right hand rule

172 : What is the purpose of corkscrew rule?

- A** : To find direction induced emf
- B** : To find direction of rotation of the conductor
- C** : To find direction of the current flowing in the conductor
- D** : To find direction of magnetic lines around the conductor

173 : What is the name of the part marked as X?



- A** : Magnetic saturation
- B** : Coercivity force
- C** : Residual magnetism
- D** : Origin point

174 : What is the name of property that the flux density always lagging behind the magnetising force?

- A** : Hysteresis
- B** : Magnetic intensity
- C** : Magnetic induction
- D** : Residual magnetism

175 : Which is determined by BH curve?

- A** : The retentiveness of the material
- B** : The field intensity of the substance

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- C** : The magnetic properties of the material
D : The pulling power of the magnetic material

176 : Which force is required to demagnetise the residual magnetism in the hysteresis loop?

- A** : Electromotive force
B : Magneto motive force
C : Counter induced emf
D : Coercive force

177 : Which is the example for inductor?

- A** : Choke
B : Transformer
C : Buzzer
D : Electric bell

178 : Which law states whenever the magnetic flux is linked with a circuit changes an emf is always induced it?

- A** : Faraday's law of electromagnetic induction
B : Lenz law
C : Fleming left hand rule
D : Corkscrew rule

179 : What is unit of inductance?

- A** : Weber
B : Henry
C : Ampere turns
D : wb/m²

180 : Which law is used to determine the induced emf in a conductor?

- A** : Fleming left hand rule
B : Fleming right hand rule
C : Lenz's law
D : Faraday's law of electromagnetic induction

181 : Which formula used to calculate the magnitude of induced emf?

A :

$$V = L \times \frac{di}{dt}$$

B :

$$V = L \times di \times dt$$

C :

$$V = L \times \frac{dt}{di}$$

D :

$$V = \left(\frac{dt}{di} \right) / L$$

182 : Which formula is used to find capacitance?

- A** : $C = QV$
B : $C = Q+V$
C : $C=V/Q$
D : $C=Q/V$

183 : What is the formula to calculate the total capacitance (C) if three capacitors (C1, C2, C3) connected in series?

A :

$$C = C1+C2+C3$$

B :

$$C = \frac{1}{C_1 + C_2 + C_3}$$

C :

$$\frac{C_1 C_2 C_3}{(C_1 C_2) + (C_2 C_3) + (C_3 C_1)}$$

D :

$$\frac{C_1 C_2 C_3}{C_1 + C_2 + C_3}$$

184 : Which factor is inversely proportional to the value of capacitance?

- A** : Dielectric strength
B : Thickness of the plate
C : Area of the plate
D : Distance between the plates

185 : Which type of capacitor is known as polarised capacitor?

- A** : Mica capacitor
B : Paper capacitor
C : Ceramic capacitor
D : Electrolytic capacitor

186 : Which material has high dielectric constant?

- A** : Air
B : Paper
C : Ceramic
D : Polyester

187 : What is the value of capacitance, if it stores 1 coulomb of charge at 1 volt?

- A** : 1 watts

Wireman – Semester 1 Module 7: Magnetism and Capacitor

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- B** : 1 ohm
- C** : 1 farad
- D** : 1 henry

188 : Which dielectric material is used in capacitor?

- A** : Empire cloth
- B** : Milinex paper
- C** : Ceramic
- D** : Insulating varnish

189 : Where the variable air capacitors are used?

- A** : Radio receivers
- B** : Oscillators
- C** : Amplifiers
- D** : RF filters

190 : Which type of capacitor is used for space requirements?

- A** : Plastic film type
 - B** : Ceramic disc type
 - C** : Electrolytic - Aluminium
 - D** : Electrolytic - Tantalum type
-

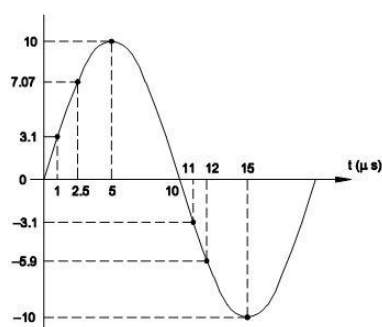
191 : What is the value of form factor?

- A : 1.23
- B : 1.11
- C : 0.81
- D : 0.707

192 : What is the RMS value of alternating voltage?

- A : $0.637 \times V_{av}$
- B : $0.707 \times V_{av}$
- C : $0.637 \times V_{max}$
- D : $0.707 \times V_{max}$

193 : What is the name of AC value is illustrated in dotted lines?



- A : Effective value
- B : Peak value
- C : Average value
- D : Instantaneous value

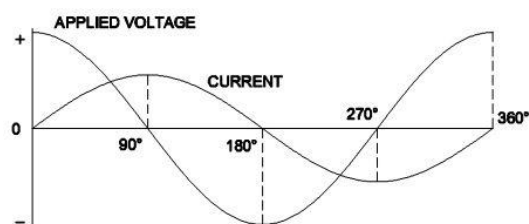
194 : Which quantity is rotating at a constant angular velocity?

- A : Scalar quantity
- B : Vector quantity
- C : Phasor quantity
- D : Algebraic quantity

195 : What is the shape of the waveform of A/C?

- A : Sine wave
- B : Square wave
- C : Sawtooth wave
- D : Pulsating wave

196 : Which AC circuit wave form is illustrated?



- A : Pure resistive circuit
- B : Pure inductive circuit
- C : Resistive and inductive circuit
- D : Inductance and capacitance circuit

197 : What is the inductive reactance of a coil having 20H inductance operating at 50 Hz supply frequency?

- A : 6252Ω
- B : 6273Ω
- C : 6284Ω
- D : 6382Ω

198 : Which formula is used to find impedance of a RLC series circuit?

A :

$$Z = \sqrt{R^2 + (L + C)^2}$$

B :

$$Z = \sqrt{X^2 + (L - C)^2}$$

C :

$$Z = \sqrt{R^2 + (X_L \pm X_C)^2}$$

D :

$$Z = \sqrt{X_C^2 + (R^2 + L^2)}$$

199 : Which formula is used to calculate power factor ($\cos\theta$) of an AC circuit?

A :

$$\cos\theta = \frac{R}{Z}$$

B :

$$\cos\theta = \frac{V}{Z}$$

C :

$$\cos\theta = \frac{V}{X_L}$$

D :

$$\cos\theta = \frac{V}{X_C}$$

200 : Which formula is used to calculate reactive power (P_r)?

- A** : $P_r = VI \cos\theta$
B : $P_r = VI \sin\theta$
C : $P_r = W\theta$
D : $P_r = VI \tan\theta$
-

201 : What is the formula for calculating admittances (Y) of a AC parallel circuit?

- A** :
 $Y = G^2 + B^2$
B :
 $Y = \sqrt{G^2 + B^2}$
C :
 $Y^2 = \sqrt{G + B}$
D :
 $Y^2 = \sqrt{G + B^2}$
-

202 : What is the reciprocal of resistance in AC parallel circuit?

- A** : Reactance
B : Admittance
C : Conductance
D : Susceptance
-

203 : What is the S.I unit of frequency?

- A** : Kilo Hertz
B : Hertz
C : Mega Hertz
D : Giga Hertz
-

204 : What is power in pure inductive AC circuit?

- A** : 0 KW
B : 1 KW
C : 2 KW
D : 5 KW
-

205 : What is inductive reactance of AC inductive circuit if the inductance value is 4H?

- A** : 1256 ohms
B : 1258 ohms
C : 1260 ohms
D : 1262 ohms
-

206 : What is the name of total opposition offered by RLC series circuit?

- A** : Inductive reactance

- B** : Capacitive reactance
C : Impedance
D : Admittance
-

207 : Which formula is used to calculate the impedance (Z) of R.L.Series circuit?

- A** :
 $Z = \sqrt{R^2 + X_L^2}$
B :
 $Z = \sqrt{R + X_L}$
C :
 $Z = \sqrt{R^2 + X_L}$
D :
 $Z = \sqrt{R + X_L}$
-

208 : What is the formula for power in AC RC series circuit?

- A** : VI
B : $VI \cos\theta$
C : $VI \sin\theta$
D : $\sqrt{3} VI$
-

209 : What is effect of current in a RC parallel circuit?

- A** : I_C Leads I_R by 90°
B : I_C Lags I_R by 90°
C : I_R Leads I_C 90°
D : I_R & I_C are in phase
-

210 : What is impedance in AC, RL series circuit if resistance is 3 ohm and inductive reactance 4 ohm?

- A** : 3 ohm
B : 5 ohm
C : 7 ohm
D : 12 ohm
-

211 : What is the relationship between line and phase current in delta connection?

- A** :
 $I_L = I_P$
B :
 $I_L = \sqrt{3} I_P$

C :

$$I_L = \frac{I_P}{\sqrt{3}}$$

D :

$$I_L = \sqrt{3} I_P$$

212 : Which formula to find phase voltage in 3 phase star connection?

A :

$$V_P = V_L$$

B :

$$V_P = \sqrt{3} V_L$$

C :

$$V_P = \frac{1}{\sqrt{3} V_L}$$

D :

$$V_P = \frac{V_L}{\sqrt{3}}$$

213 : What is the reactive power, if the active power is 4 Kw, and the apparent power is 5 Kw in a 3 phase circuit?

A : 1 Kw

B : 2 Kw

C : 3 Kw

D : 4 Kw

214 : Where the artificial neutral is required for measuring phase voltage in 3 phase circuit?

A : 3 wire star connected system

B : 4 wire star connected system

C : 3 wire delta connected system

D : 4 wire delta connected system

215 : What is the power factor, if one wattmeter reads zero and other reads some positive reading in two wattmeter method of 3 phase power measurement?

A : Unity

B : Above 0.5

C : 0.5

D : Below 0.5

216 : Which is the formula to calculate the power consumed in a balanced load in star or delta connected system?

A :

$$3 V_L I_L \cos \theta$$

B :

$$\sqrt{3} V_L I_L \cos \theta$$

C :

$$3 V_P I_P \cos \theta$$

D :

$$\sqrt{3} V_L I_L \sin \theta$$

217 : What is the name of star point in star connection system?

A : Neutral point

B : Cross point

C : Tapping point

D : Phase tapping wire

218 : What will be the neutral current in 3 phase-unbalanced circuits?

A : One

B : More than one

C : Zero

D : Not zero

219 : In a 3 balanced star connected system having a phase voltage of 240V calculate the line voltage in the circuit?

A : 400 V

B : 415 V

C : 430 V

D : 450 V

220 : Which type of the power measurement is used for balanced and unbalanced loads in 3 phase system?

A : Single wattmeter method

B : Two wattmeter method

C : Three wattmeter method

D : Voltmeter and ammeter method

Wireman – Semester 1 Module 9: Earthing

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- 221** : What is the purpose of system earthing?
A : To maintain ground at zero potential
B : To reduce the load current
C : To protect the equipment from over load
D : To reduce the losses

- 222** : Why earth resistance value required to keep very low?
A : For quick current flow
B : For easy measurement
C : For low power consumption
D : For low voltage drop

- 223** : What is the minimum length of the earth electrode pipe?
A : 1.5 metre
B : 2 metre
C : 2.25 metre
D : 2.5 metre

- 224** : What is the minimum size of the copper plate electrode?
A : 30cm to 30cm
B : 60cm X 40cm
C : 60cm X 50cm
D : 60cm X 60cm

- 225** : What will happen to the value of earth resistance, if length of the earth pipe is increased?
A : Remain same
B : Increases
C : Decreases
D : Infinity

- 226** : Which type of holder is to be earthed as per BIS?
A : Angle holder
B : Bracket holder
C : Battern lamp holder
D : Pendant lamp holder

- 227** : What is size of earth conductor used in power load?
A : 8 SWG
B : 10 SWG
C : 14 SWG
D : 20 SWG

- 228** : What is the range of good earth resistance?
A : High resistance
B : Very low resistance

- C** : Medium resistance
D : Very high resistance

- 229** : How earth resistance value maintained in summer?
A : Use new electrode
B : Use new coal and salt layer
C : Use new earth wire
D : Use water and maintain wet condition

- 230** : Which method is used to reduce earth resistance?
A : Reducing the pit depth for earthing
B : Increasing the depth of earth pit
C : Decreasing the length of the electrode
D : Connecting number of earth electrode in parallel

- 231** : Which instrument is used to measure earth resistance?
A : Megger
B : Ohm meter
C : Wheatstone bridge
D : Earth tester

- 232** : What principle earth tester works?
A : Potential dividing method
B : Fall of potential method
C : Fall of resistance method
D : Current dividing method

- 233** : What is the reason for supplying AC to the electrodes for measuring earth resistance?
A : AC is easily available
B : Protect the coils in the meter
C : Reduce the value of current in the meter
D : Avoid the effect of electrolytic Emf interference

- 234** : How many primary winding required in ELCB?
A : One primary winding
B : Two primary windings
C : Three primary windings
D : Four primary windings

- 235** : What is the purpose of the ELCB?
A : Control the fault circuit current
B : Protect the residual current
C : Protect the equipment from over load
D : Protect the circuit from short circuit

236 : Which element is used as semi conductor?
A : Silver
B : Silicon
C : Copper
D : Aluminium

237 : How many electrons in a silicon atom?
A : 7
B : 14
C : 29
D : 32

238 : How the N type semi conductor is formed?
A : Germanium with aluminium
B : Silicon with antimony
C : Silicon with iridium
D : Silicon with arsenic

239 : Which element is used as impurity to provide N type semi conductor?
A : Arsenic
B : Aluminium
C : Gallium
D : Boron

240 : How the P - type semiconductor is formed?
A : Germanium with phosphorus
B : Silicon with aluminium
C : Germanium with antimony
D : Germanium with aluminium

241 : What does the depletion region behave?
A : Conductor
B : Insulator
C : Semi conductor
D : Resistor

242 : What does letter 2N indicate in the semiconductor device?
A : The diode PN junctions
B : The number of terminals
C : The device power
D : Two junction device

243 : What is the use of LED?
A : To rectify AC to DC
B : To reduce the ripple
C : To regulate the voltage
D : To indicate light

244 : What is the function of forward biased PN junction diode?
A : Act as uni directional switch
B : Act as bi directional switch
C : Act as control switch
D : Act as limit switch

245 : What is the PIV of the diode if the AC input voltage is 24V?
A : 32 V
B : 33 V
C : 34 V
D : 36 V

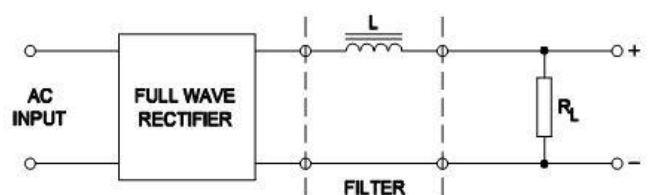
246 : What is the purpose of heat sink in electronic circuit?
A : Keep temperature desired range
B : Keep voltage desired range
C : Keep currents desired range
D : Keep resistance desired range

247 : Which material is used for making heat sink?
A : Copper
B : Aluminium
C : Iron
D : Zinc

248 : What is the expansion of PIV?
A : Peak Input Voltage
B : Positive Inverse Voltage
C : Peak Inverse Voltage
D : Phase Inverse Voltage

249 : What is the relation between input AC voltage (V_{ac}) and output DC voltage (V_{dc}) in full wave rectifier?
A : $V_{dc} = 0.45 V_{ac}$
B : $V_{dc} = 0.637 V_{ac}$
C : $V_{dc} = 0.707 V_{ac}$
D : $V_{dc} = 0.9 V_{ac}$

250 : Which type of filter?



A : PI filter

Wireman – Semester 1 Module 10: Basic Electronics

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- B** : Series Inductor filter
C : RC filter
D : Choke input LC filter
-

ANSWERS :

1:B; 2:D; 3:D; 4:A; 5:D; 6:D; 7:D; 8:A; 9:D; 10:B; 11:C;
12:D; 13:D; 14:B; 15:D; 16:D; 17:B; 18:B; 19:C; 20:C;
21:D; 22:C; 23:D; 24:B; 25:A; 26:C; 27:A; 28:B; 29:D;
30:A; 31:C; 32:C; 33:C; 34:D; 35:B; 36:C; 37:D; 38:C;
39:C; 40:C; 41:B; 42:D; 43:C; 44:C; 45:A; 46:B; 47:A;
48:B; 49:A; 50:A; 51:A; 52:C; 53:B; 54:A; 55:D; 56:B;
57:A; 58:B; 59:D; 60:B; 61:C; 62:B; 63:A; 64:A; 65:D;
66:C; 67:C; 68:A; 69:D; 70:B; 71:A; 72:A; 73:A; 74:D;
75:B; 76:B; 77:C; 78:A; 79:D; 80:C; 81:A; 82:B; 83:C;
84:A; 85:B; 86:C; 87:B; 88:D; 89:D; 90:C; 91:B; 92:D;
93:C; 94:B; 95:A; 96:B; 97:A; 98:B; 99:B; 100:A;
101:C; 102:B; 103:C; 104:D; 105:B; 106:C; 107:A;
108:B; 109:D; 110:C; 111:A; 112:B; 113:B; 114:B;
115:B; 116:A; 117:D; 118:A; 119:B; 120:B; 121:C;
122:B; 123:A; 124:D; 125:C; 126:C; 127:C; 128:A;
129:A; 130:D; 131:D; 132:D; 133:D; 134:D; 135:D;
136:D; 137:A; 138:C; 139:D; 140:D; 141:B; 142:D;
143:D; 144:D; 145:C; 146:B; 147:B; 148:C; 149:C;
150:C; 151:D; 152:C; 153:D; 154:B; 155:C; 156:A;
157:B; 158:A; 159:B; 160:D; 161:D; 162:B; 163:C;
164:A; 165:B; 166:C; 167:B; 168:B; 169:B; 170:B;
171:B; 172:D; 173:A; 174:A; 175:C; 176:D; 177:A;
178:A; 179:B; 180:D; 181:A; 182:D; 183:C; 184:D;
185:D; 186:C; 187:C; 188:C; 189:A; 190:D; 191:B;
192:D; 193:D; 194:C; 195:A; 196:B; 197:C; 198:C;
199:A; 200:B; 201:B; 202:C; 203:B; 204:A; 205:A;
206:C; 207:A; 208:B; 209:A; 210:B; 211:D; 212:D;
213:C; 214:C; 215:C; 216:B; 217:A; 218:D; 219:B;
220:B; 221:A; 222:A; 223:D; 224:D; 225:C; 226:B;
227:A; 228:B; 229:D; 230:D; 231:D; 232:B; 233:D;
234:B; 235:B; 236:B; 237:B; 238:B; 239:A; 240:B;
241:B; 242:D; 243:D; 244:A; 245:C; 246:A; 247:B;
248:C; 249:D; 250:B;

Wireman – Semester 2 Module 1 - Measuring Instrument

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1 : What is the type of scale?



- A : Coarse fine scale
- B : Extended scale
- C : Linear scale
- D : Non linear scale

2 : Which classification of instrument tangent galvanometer belongs?

- A : Secondary instrument
- B : Absolute instrument
- C : Recording instrument
- D : Integrating instrument

3 : Which electrical effect, the moving iron instrument works?

- A : Heating effect
- B : Chemical effect
- C : Magnetic effect
- D : Induction effect

4 : Which meter is used to measure only DC quantities?

- A : Moving iron repulsion type instrument
- B : Moving iron attraction type instrument
- C : Induction type instrument
- D : Moving coil instruments

5 : Which meter is used to measure the low and medium value of resistance?

- A : Shunt type ohm meter
- B : Megger
- C : Multimeter
- D : Series type ohm meter

6 : What is the disadvantage of induction type wattmeter?

- A : It is used only in AC
- B : It is used only in DC
- C : Cannot be used for higher current
- D : Cannot be used on both AC and DC

7 : Which is the advantage of dynamometer wattmeter?

- A : Uniform scale
- B : Less expensive
- C : High sensitivity
- D : Consumes less power

8 : Which factor the accuracy of ohmmeter depends?

- A : Type of scale
- B : Condition of battery
- C : Sensitivity of the meter
- D : Value of resistance to be measured

9 : What is the meter constant of an energy meter?

- A : Multiplication factor of energy meter
- B : Number of revolutions per KWh
- C : Initial reading of KWh
- D : Final reading of KWh meter

10 : Which meter is integrating type instrument?

- A : Wattmeter
- B : Ammeter
- C : Multimeter
- D : Energymeter

11 : What is the function of permanent magnet in an energy meter?

- A : Acts as a brake to the disc when the load is OFF
- B : It helps the disc to move when load is ON
- C : It reduces the friction error
- D : It gives path for the magnetic flux

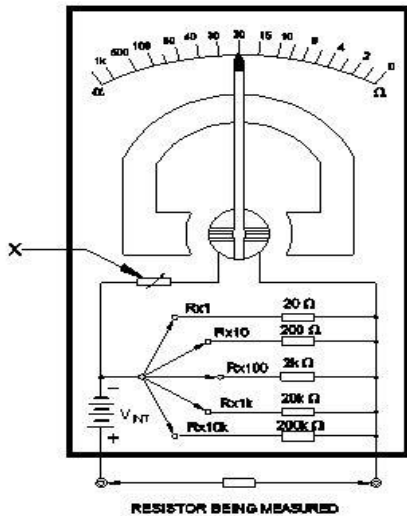
12 : Which error is caused by the braking system of energy meter?

- A : Creeping error
- B : Speed error
- C : Phase error
- D : Friction error

13 : How many segments in LCD displays in Digital Multi Meter (DMM)?

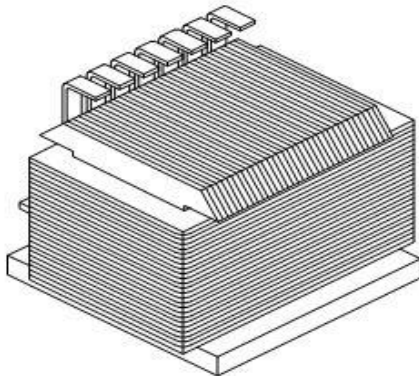
- A : 10
- B : 8
- C : 7
- D : 6

14 : What is the purpose of variable resistance marked as X of multimeter?



- A : To measure resistance accurately
- B : To adjust the pointer exactly at zero
- C : To measure DC voltage accurately
- D : To Measure AC voltage accurately

15 : What is the name of meter?



- A : Vibrating reed type frequency meter
- B : Weston type frequency meter
- C : Electro dynamo type frequency meter
- D : Ratio meter type frequency meter

16 : Which is the angle of two moving coils rigidly attached to each other of a dynamo meter type 3 phase P.F meter?

- A : 90°
- B : 120°
- C : 180°
- D : 360°

17 : Which principle the instrument transformers work?

- A : Self induction

- B : Mutual induction
- C : Fall in potential
- D : Lenz's law

18 : How the burden of current transformer is expressed?

- A : Watt
- B : Ampere hour
- C : Volt ampere
- D : Watt hour

19 : Why the pointer of a megger is in any place on the scale while it is in idle?

- A : The deflecting torque is proportional to current
- B : The deflecting torque on the meter is inversely proportional to current
- C : The instrument does not have controlling torque
- D : The deflecting torque is inversely proportional to square of the current

20 : Which principle earth tester works?

- A : Induction
- B : Magnetic attraction
- C : Magnetic deflection
- D : Fall of Potential

21 : What is the name of term that the ability of the measuring instrument to agree with itself repeatedly?

- A : Precision
- B : Sensitivity
- C : Resolution
- D : Accuracy

22 : What is the cause for creeping error in Energy meter?

- A : Change in resistance
- B : Improper power factor
- C : Rotation of disc when the load is OFF
- D : Abnormal friction of the moving system

23 : How the low range of the ammeter can be extended to higher range?

A : By connecting a shunt resistor in parallel across meter coil

B : By connecting a resistor in series with meter coil

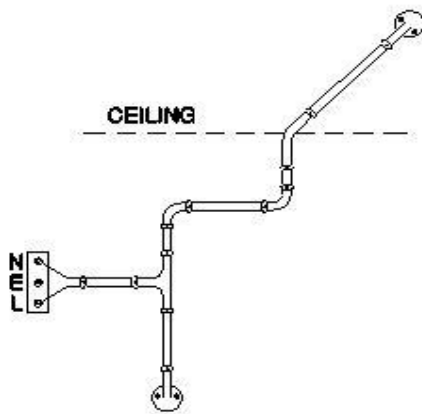
C : By connecting a resistor in series with supply

D : By connecting two resistors across with supply

Wireman – Semester 2 Module 2 - Electrical Wiring System

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24 : What is the name of wiring?



- A : CTS/TRS wiring
- B : Cleat wiring
- C : PVC casing & Capping wiring
- D : PVC conduit wiring

25 : Which diagram represents the physical position of accessories in the wiring installation?

- A : Wiring diagram
- B : Schematic diagram
- C : Installation plan
- D : Layout diagram

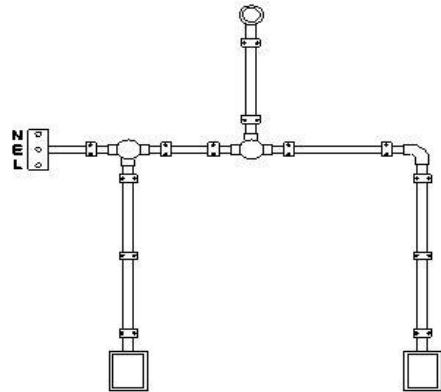
26 : Which wiring can be done either on surface (or) on concealed in the wall?

- A : Cleat wiring
- B : Batten wiring
- C : Pvc conduit wiring
- D : Pvc casing & Capping wiring

27 : What is the expansion of abbreviation TRS?

- A : Total Rubber Sheathed
- B : Tough Rubber Sheathed
- C : Tyre Round Sheathed
- D : Total rough sheathed

28 : What is the name of illustration?



- A : Layout diagram
- B : Circuit diagram
- C : Installation plan
- D : Wiring diagram

29 : How many outlet points are recommended in power sub-circuit as per BIS?

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

30 : What is maximum power recommended to the light and fan sub circuit as per IE rules?

- A : 3000 watts
- B : 1500 watts
- C : 800 watts
- D : 750 watts

31 : What is the recommended minimum height of socket outlet shall be provided in the bathroom?

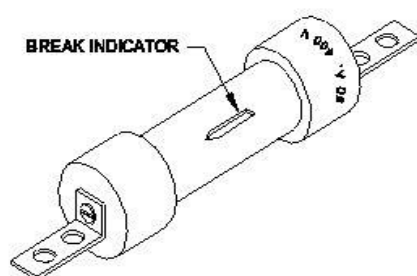
- A : 130 cm
- B : 140cm
- C : 150cm
- D : 200cm

32 : Which is represented by the BIS symbol?



- A : Fuse
- B : Link
- C : Resistor
- D : Plug and jacket

33 : What is the name of the fuse?



- A : Ferrule contact cartridge fuses
- B : High rupturing capacity fuses
- C : Diazed screw type cartridge fuses
- D : Rewirable fuses

34 : What is the name of term that the time taken by a fuse to interrupt the circuit in the event of fault?

- A : Fusing current
- B : Fusing factor
- C : Cut off factor
- D : Current rating

35 : Which is used to quench the arc quickly without any fire hazard?

- A : Dry sand
- B : Lime powder
- C : Graphite
- D : Silica

36 : Which type of fuse is used for electronic circuits?

- A : Ferrule contact cartridge fuses
- B : Re wireable type fuses

- C : HRC fuses
- D : Diazed screw type cartridge fuses

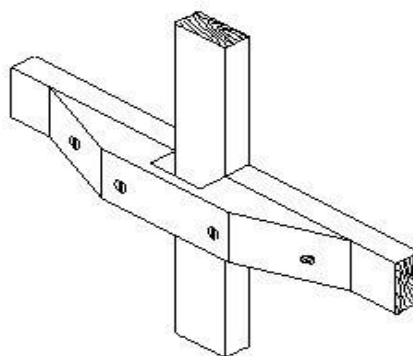
37 : Why the foot contacts of the fuse cartridges have different diameters for each rated current?

- A : To increase the current rating
- B : To increase the contact area
- C : To reduce the rating effect
- D : To prevent the insertion of wrong current rated cartridges

38 : Which is the minimum thickness of teak wood batten used for wiring?

- A : Not less than 5 mm
- B : Not less than 8 mm
- C : Not less than 10 mm
- D : Not less than 12 mm

39 : What is the name of teak wood joint?



- A : Cross joint
- B : Corner joint
- C : Cross bridge joint
- D : L Joint

40 : How the size of teak wood battens are specified?

- A : Width and length
- B : Thickness and length
- C : Width and thickness
- D : Length only

41 : Which type of joint is used to run the wires from horizontal position to the vertical position either down wards (or) upwards in T.W batten wiring?

- A : Half lap "T" joint
- B : Straight joint
- C : Corner joint
- D : L joint

Wireman – Semester 2 Module 2 - Electrical Wiring System

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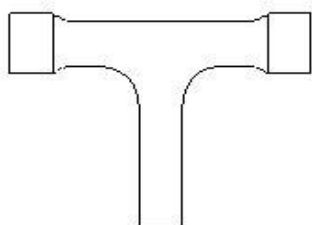
42 : What is the length of over lapping is to be provided for jointing 25 mm width batten in straight joint of T.W. batten?

- A** : 19 mm
- B** : 25 mm
- C** : 30 mm
- D** : 40 mm

43 : Which type of joint is used to extent the length of T.W batten?

- A** : Cross joint
- B** : Corner joint
- C** : Straight joint
- D** : "L" Joint

44 : What is the name of pvc conduit accessory?

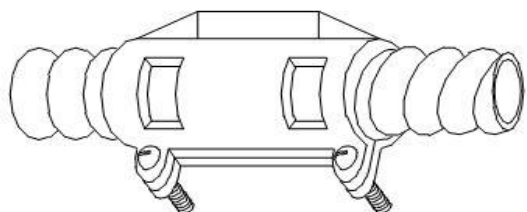


- A** : Solid elbow
- B** : Solid TEE
- C** : Solid bend
- D** : Coupler

45 : Which conduit fitting is used to join additional conduit pipe in long run of conduit wiring?

- A** : Bend
- B** : Elbow
- C** : Tee
- D** : Coupler

46 : What is the name of coupler?



- A** : Screwed coupler
- B** : Check nut running coupler
- C** : Coupling for flexible conduit
- D** : PVC conduit coupler

47 : Which type of wiring require less number of bends can be taken through shortcut route in the roof?

- A** : Battern wiring
- B** : Casing capping wiring
- C** : Surface conduit wiring
- D** : Concealed conduit wiring

48 : What is the advantage of concealed wiring?

- A** : The cost of installation is low
- B** : Easy to trace the fault
- C** : Semi skilled technician can carryout the wiring
- D** : Wiring can be done through the shortest route

49 : Which wiring has to be planned and executed only during the construction of building?

- A** : CTS wiring
- B** : Casing and capping wiring
- C** : Surface conduit wiring
- D** : Concealed wiring

50 : Which wiring is named as Wireways?

- A** : PVC conduct wiring
- B** : CTS Wiring
- C** : PVC casing and capping wiring
- D** : Metal conduct wiring

51 : How to attach the capping cover with casing (channel) after completion of wiring in PVC casing and capping system?

- A** : By wood screws
- B** : By wire nails
- C** : By fixing clamp
- D** : By sliding the capping through the grooves

52 : Which is the disadvantage of PVC casing and capping wiring?

- A** : Cost is more
- B** : Inflammable and risk of fire
- C** : Requires skilled man power
- D** : Extension not possible

53 : Which is the distance that the clips to be fixed on TW batten on horizontals run in the battern wiring?

- A** : 8 cm
- B** : 10 cm
- C** : 12 cm
- D** : 15 cm

Wireman – Semester 2 Module 2 - Electrical Wiring System

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54 : Which is the correct size of drill for making pilot holes for 6 mm diameter screw shank?

- A** : 2 mm
 - B** : 4 mm
 - C** : 6 mm
 - D** : 8 mm
-

55 : What is the depth of pilot hole for fixing wood screw in soft wood?

- A** : Equal to $\frac{1}{4}$ screw length
 - B** : Equal to $\frac{1}{2}$ screw length
 - C** : Equal to $\frac{3}{4}$ screw length
 - D** : Equal to screw length
-

Wireman – Semester 2 Module 3 - Domestic Wiring Practice

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56 : What is the name of wiring system that enables the appliances connected to the system to have the same voltage?

- A : Distribution system
- B : Tree system
- C : Ring main system
- D : Looping out from switch

57 : Which diagram indicates the Up and Down cable run and number of wires in the run?

- A : Installation plan
- B : Layout diagram
- C : Circuit diagram
- D : Wiring diagram

58 : Which type of wiring system requires special sockets or plug with fuse?

- A : Tree system
- B : Ring main system
- C : Distribution board system
- D : Looping from ceiling rose

59 : Which type of wiring system is suitable for multistorey building?

- A : Tree system
- B : Ring main system
- C : Distribution board system
- D : Looping out with junction box

60 : What is the standard size of GI earth wire in domestic installation?

- A : 8 SWG
- B : 10 SWG
- C : 12 SWG
- D : 14 SWG

61 : Which size of copper wire is used for lighting circuit?

- A : 1 sq mm
- B : 1.5 sq mm
- C : 2.5 sq mm
- D : 4 sq mm

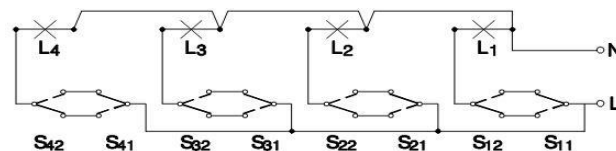
62 : Which type of light fittings are used for outdoor lighting purpose?

- A : Bracket fitting
- B : Bulk head lamp fitting
- C : Water proof light fitting
- D : Chain lamp fixture

63 : Which type of filler material is used after making holes?

- A : Paper
- B : Asbestos
- C : Cotton
- D : Clay

64 : What is the name of wiring circuit?



- A : Tunnel wiring
- B : Corridor wiring
- C : Hostel wiring
- D : Hospital wiring

65 : Which is four terminal switch?

- A : One way switch three poles
- B : Mult position switch single pole
- C : Two way switch
- D : Intermediate switch

66 : How many numbers of single way switch and two way switches are required for godown wiring with 5 lamps?

- A : 2 single way & 3 two way
- B : 4 single way & 1 two way
- C : 1 single way & 4 two way
- D : 3 one way & 2 two way

67 : How many two way switches are required to control one lamp from 3 different places?

- A : 100.00%
- B : 200.00%
- C : 300.00%
- D : 400.00%

68 : What is the name of wiring if one lamp controlled from two different places?

- A : Go down wiring
- B : Tunnel wiring
- C : Stair case wiring
- D : Hostel wiring

Wireman – Semester 2 Module 3 - Domestic Wiring Practice

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69 : Which diagram informs the reader about design of circuit without giving any information on the circuit itself?

- A** : Circuit diagram
- B** : Installation diagram
- C** : Layout diagram
- D** : Wiring diagram

70 : Which diagram indicates the physical position of accessories and final appearance of Installation?

- A** : Installation plan
- B** : Layout diagram
- C** : Circuit diagram
- D** : Wiring diagram

71 : Which wiring circuit needs to switch ON a lamp ahead, while the light behind is put OFF?

- A** : Staircase wiring
- B** : Godown wiring
- C** : Tunnel wiring
- D** : Corridor wiring

72 : Which wiring circuit is provided with one switch to operate ON or OFF all lights?

- A** : Tunnel wiring
- B** : Godown
- C** : Hostel wiring
- D** : Corridor wiring

73 : What is the purpose of circuit diagram in wiring installation?

- A** : Indicates with symbols and details of wiring method
- B** : It explains the function of various accessories
- C** : Represent physical position of accessories
- D** : Gives final appearance of installation

74 : Which material is used to make raw tool holder?

- A** : Carbon steel
- B** : Mild steel
- C** : Galvanized iron
- D** : Iron

75 : Which tool is used along with a hammer to make through hole in walls during wiring?

- A** : Pipe jumper
- B** : Rawl jumper
- C** : Cold chisel
- D** : Firmer chisel

76 : Which material is used for making the pipe jumper?

- A** : Mild steel
- B** : High carbon steel
- C** : Galvanized iron
- D** : Cast iron

77 : Which tool is used to make holes in the brick and concrete walls?

- A** : Rawl Jumper
- B** : Brawdle
- C** : Web chisel
- D** : Cold chisel

78 : How to avoid the broken of Rawl tool bit while making hole on the wall?

- A** : It should be kept at right angle to the wall surface
- B** : It should be kept less than 90° angle to the wall surface
- C** : Rawl tool bit is to be properly fitted
- D** : By using correct size of rowl tool bit

79 : How many numbers of single way switch and two way switch are required for Hostel wiring with 3 lamps?

- A** : 2 single way & 3 two way
- B** : 4 single way & 1 two way
- C** : 1 single way & 3 two way
- D** : 3 one way & 2 two way

80 : How many light, fan and 6A socket outlet points are recommended for a sub-circuit as per IE rule?

- A** : 7 Nos
- B** : 10 Nos
- C** : 12 Nos
- D** : 14 Nos

81 : Which is the height of horizontal run of cables as per NE code in domestic wiring?

- A** : 1.0 m
- B** : 1.5 m
- C** : 2.0 m
- D** : 2.5 m

Wireman – Semester 2 Module 3 - Domestic Wiring Practice

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82 : What is the recommended height of socket outlet from the floor level as per BIS?

- A : 1.3 m
- B : 2.0 m
- C : 2.5 m
- D : 3.0 m

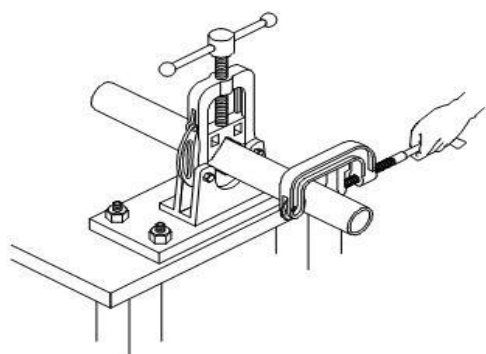
83 : Which helps the wireman and the consumer to select the materials for wiring?

- A : Estimation
- B : Drawing
- C : Specifications
- D : Cost of material

84 : Which factor is to be considered for selection of supply (Single (or) 3 phase) for wiring?

- A : Connected load
- B : Type of building
- C : Type of wiring system
- D : Size of cables

85 : What is the name of vice?



- A : Bench vice
- B : Carpenter vice
- C : Pipe vice
- D : Hand vice

86 : What is the minimum size of rigid steel conduit used for surface conduit wiring?

- A : 12 mm diameter
- B : 14 mm diameter
- C : 16 mm diameter
- D : 19 mm diameter

87 : What is the maximum threads needed to accommodate the pipes to the full threaded portion of accessories?

- A : Between 1 mm to 5 mm long
- B : Between 6 mm to 10 mm long
- C : Between 8 mm to 16 mm long
- D : Between 11mm to 27 mm long

88 : Which tool is used for cutting thread on the conduit pipe?

- A : Solid tap wrench
- B : Double ended adjustable tap wrench
- C : Stock and die set
- D : T-handle tap wrench

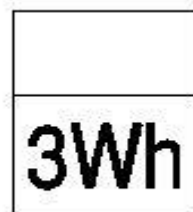
89 : What is the distance between the floor and distribution board as per IE rule in domestic wiring?

- A : 2 m
- B : 2.5 m
- C : 3 m
- D : 3.5 m

90 : What is the clear distance between teak wood board and the cover of Hinged type boards?

- A : 1.0 cm
- B : 1.5 cm
- C : 2.0 cm
- D : 2.5 cm

91 : Which is represented by the BIS symbol?



- A : Wattmeter
- B : Single phase energy meter
- C : 3 phase energy meter
- D : Power factor meter

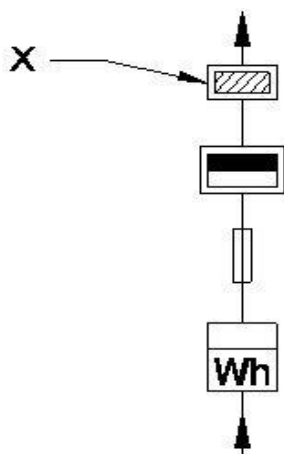
92 : What precaution is to be followed before installing energy meter?

- A : It should have name plate details
- B : Readings on the display must be readable
- C : It should be tested and approved by the local EB authorities
- D : It must have atleast 2 years warranty period

Wireman – Semester 2 Module 3 - Domestic Wiring Practice

Reviewed and updated on: 01st November 2019 Version 1.1

93 : What is the name of part marked as X?



- A : Energy meter
- B : I C cut out
- C : Main Switch
- D : Distribution board

94 : Which is the minimum clearance between the bottom point of the ceiling fan and the floor as per IE Rule?

- A : 1.2 m
- B : 1.8 m
- C : 2.4 m
- D : 3.2 m

95 : What is the resistance value of earth continuity conductor?

- A : Higher than 1 ohm to 10 ohm
- B : Should not be more than one ohm
- C : Greater than 10 ohm to 100 ohm
- D : Greater than 100 ohm

96 : Which is the length of pipe electrode used for pipe earthing?

- A : Not less than 1 m
- B : Not less than 1.5 m
- C : Not less than 2.0 m
- D : Not less than 2.5 m

97 : What is the thickness of copper plate used for plate earthing?

- A : Not less than 2.0 mm
- B : Not less than 2.5 mm
- C : Not less than 3.15 mm
- D : Not less than 6.5 mm

98 : Which method is preferred to reduce the value of earth resistance?

- A : By increasing the dia of pipe
- B : Connecting number of earth electrode in parallel
- C : By increasing the depth of earth pit
- D : By connecting insulated cables

99 : Where system earthing is employed?

- A : Commercial buildings
- B : Industries
- C : Generating station
- D : Domestic buildings

100 : Where plate earthing is used?

- A : Commercial building
- B : Substations
- C : Industries
- D : Multistoried buildings

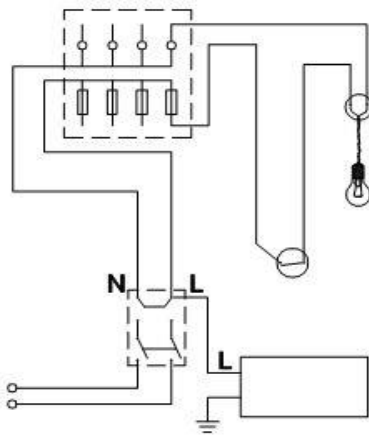
101 : What is the permissible leakage current in any wiring installation as per IE rule?

- A : Not exceed 1/50th part of full load current
- B : Not exceed 1/500th part of full load current
- C : Not exceed 1/5000th part of full load current
- D : Not exceed 1/50000th part of full load current

102 : Which range of megger is to be used to test the insulation resistance in medium voltage wiring installation as per BIS-732?

- A : 500 Volt
- B : 1000 Volt
- C : 1500 Volt
- D : 2000 Volt

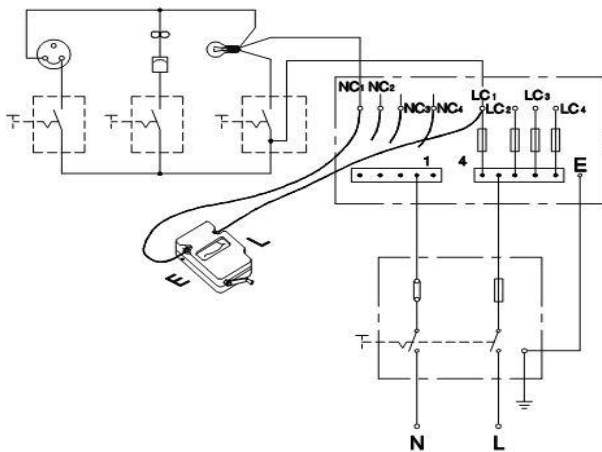
103 : Which type of testing for wiring installation is illustrated?



- A : Insulation resistance test between conductors
- B : Insulation resistance test between conductor and earth
- C : Polarity test
- D : Open circuit test

- C : Insulation resistance test
- D : Continuity test

104 : Which type of wiring installation testing is illustrated?



- A : Open circuit test
- B : Polarity test
- C : Short circuit test
- D : Insulation resistance test

105 : Which type test is to be carried out to check whether the switches are connected in live wire or not?

- A : Ground test
- B : Polarity test

106 : Which is the unit of luminous intensity?

- A : Candela
- B : Lumen
- C : Lumen/m²
- D : Lumen/watt

107 : Which is defined as that the luminous flux reaching a surface perpendicularly per unit area?

- A : Luminous flux
- B : Illuminance
- C : Luminous intensity
- D : Lux

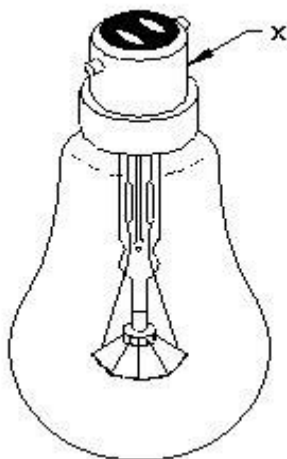
108 : Which is the property of good illumination?

- A : Should cover huge area
- B : Should have glaring light
- C : Should be low consumption
- D : Should not strain the eyes

109 : Which metal is used a filament incandescent lamps?

- A : Nichrome
- B : Tungsten
- C : Eureka
- D : Silver

110 : What is the name of cap marked as x of incandescent lamp?



- A : Edison screw cap
- B : Small bayonet cap
- C : Bayonet cap
- D : Giant edison screw cap

111 : Where halogen lamps are used?

- A : Domestic lighting
- B : Industrial lighting

- C : TV photography
- D : Out door lighting

112 : Which is coated in the tungsten filament of fluorescent tube lamp?

- A : Barium and strontium oxides
- B : Mercury
- C : Sodium
- D : Phosphor

113 : What is the expansion of CFL?

- A : Compressed filament lamp
- B : Cathode filament lamp
- C : Common fluorescent lamp
- D : Compact fluorescent lamp

114 : How strohoscopic effect is prevented in industrial twin tube light fitting?

- A : By connecting a capacitor parallel to supply
- B : By connecting a capacitor parallel to each tube
- C : By connecting a capacitor series with one tube
- D : By connecting a capacitor a series with both tube light

115 : Which type of fluorescent tube lamps are used for dimming and flashing circuits?

- A : Instant start fluorescent lamp
- B : Rapid start fluorescent tube lamp
- C : Fluorescent lamp single tube lamp
- D : Fluorescent lamp double tube lamp

116 : Which is cold cathode lamp?

- A : Mercury vapour lamp
- B : Fluorescent tube lamp
- C : Halogen lamp
- D : Neon lamp

117 : Which chemical composition powder gives green colour light in neon sign lamp?

- A : Zinc silicate
- B : Calcium tungstate
- C : Cadmium borate
- D : Magnesium tungstate

118 : Which position the MA type HPMV lamp is to be hung for lighting?

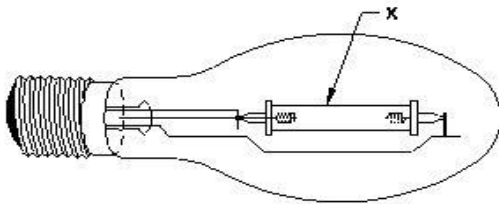
- A : Horizontally
- B : Vertically
- C : Inclined
- D : Any position

B : Miniature lamp

C : Flasher

D : Carbon filament lamp

119 : What is the name the part marked as x in High Pressure sodium vapour lamp?



- A : Electrode
- B : ARC tube
- C : Base
- D : Sodium vapour

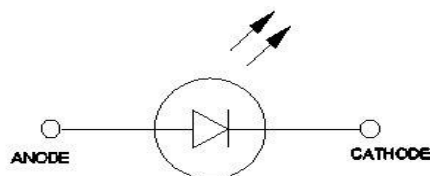
120 : Which colour light sodium vapour lamp gives?

- A : Yellow
- B : White
- C : Blue white
- D : Blue

121 : Which part of sodium vapour lamp fitting provides the ignition voltage initially and acts as a choke for limiting the current subsequently?

- A : Ignitor
- B : Leak transformer
- C : Capacitor
- D : Thermal starter

122 : Which is represented by the symbol?



- A : Photovoltaic cell
- B : LDR
- C : NTC resistor
- D : LED

123 : Which lamp acts only as switch instead of giving light?

- A : LED

Wireman – Semester 2 Module 5 - Industrial Wiring Practice

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124 : Which wiring is preferred for motor connection in industries?

- A : CTS wiring
- B : TRS wiring
- C : PVC conduct wiring
- D : Metal conduct wiring

125 : Which factor determines the size of wire to be used for industrial motor wiring?

- A : Load current
- B : Supply voltage
- C : Type of motor
- D : Purpose of motor

126 : How many sections of wiring are there in industrial wiring?

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

127 : Which is the purpose of control wiring?

- A : To limit the load current
- B : To increase the motor input voltage
- C : To communicate the commands to control devices
- D : To measure the load current

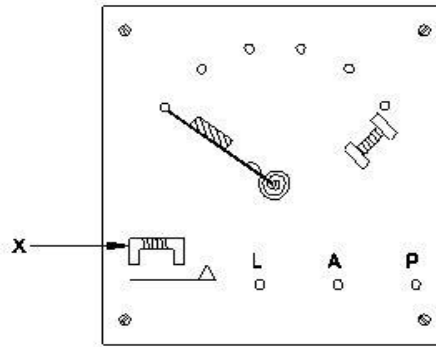
128 : Why power and control wiring is to be run in a separate conduit in industrial motor wiring?

- A : For easy maintenance
- B : To avoid current radiation
- C : For easy identification
- D : To reduce the voltage drop

129 : Which place the control ON/OFF switches is to be placed a industrial motor wiring?

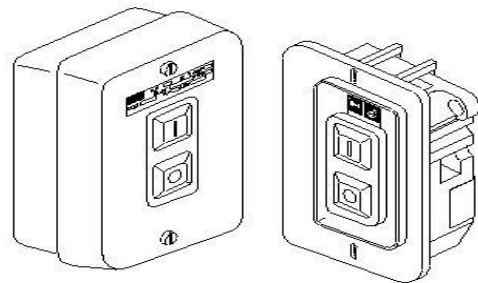
- A : Near the control panel
- B : Near the input main
- C : Near the entrance
- D : Near the motor

130 : Which is the part name marked as x starter face plate arrangement?



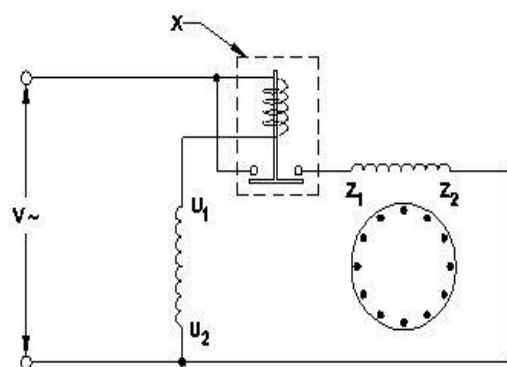
- A : over load relay
- B : No volt coil
- C : Sprial spring
- D : Studs

131 : Which is the name of starter?



- A : Auto star delta starter
- B : Manual star delta starter
- C : D.O.L starter
- D : MINI manual starter

132 : Which is the name of relay marked as x?



- A : Under voltage relay
- B : Electromagnetic relay
- C : Over voltage relay
- D : Time delay relay

Wireman – Semester 2 Module 5 - Industrial Wiring Practice

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133 : Why over load relay coil is wound with thick gauge of copper wire?

- A : To carry the line voltage
- B : To reduce voltage drop
- C : To carry load current
- D : To reduce the power loss

134 : Which is the purpose of single phasing preventor in 3 phase motor circuit?

- A : To protect the motor from damage
- B : To run the motor continuously at single phasing
- C : To regulate the supply voltage
- D : To protect the motor from over load

135 : What is the formula to calculate the value of insulation resistance while testing the wiring?

A :

$$I.R = \frac{\text{Leakage current}}{\text{supply voltage}}$$

B :

$$I.R = \frac{\text{Load current}}{\text{supply voltage}}$$

C :

$$I.R = \frac{\text{Supply voltage}}{\text{Leakage current}}$$

D :

$$I.R = \frac{\text{Supply voltage}}{\text{Load current}}$$

136 : What is the formula to calculate the standard value of Insulation Resistance (R_i) as per BIS?

A :

$$R_1 = \frac{25}{\text{No. of points in the circuit}} \text{ M}\Omega$$

B :

$$R_1 = \frac{50}{\text{No. of switches in the circuit}} \text{ M}\Omega$$

C :

$$R_1 = \frac{50}{\text{No. of points in the circuit}} \text{ M}\Omega$$

D :

$$R_1 = \frac{50}{\text{No. of amphenols in the circuit}} \text{ M}\Omega$$

137 : Which is the unit of insulation resistance?

- A : Milli ohm
- B : Ohm
- C : kilo ohm
- D : Mega ohm

138 : Which rated voltage megger is used to measure the insulation resistance value of 3phase 415V induction motor?

- A : 250V
- B : 500V
- C : 1000V
- D : 2500V

139 : Which instrument is used to measure the insulation resistance?

- A : Shunt type ohmmeter
- B : Series type ohmmeter
- C : Megger
- D : Multimeter

140 : What is the main reason for leakage current flowing in wiring installation?

- A : Insulation failure
- B : Low earth resistance
- C : Incorrect size of earth wire
- D : High earth reactance

141 : How many earth continuity conductors should be provided from the machine to panel board and to the main earth electrode?

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

142 : Which size of GI conductor is used for earthing to the motor from the main electrode?

- A : 14 SWG
- B : 10 SWG
- C : 8 SWG
- D : 4 SWG

143 : What is the colour code of protective earthing conductor as per NE code?

- A : Blue
- B : Black
- C : Green
- D : Red

144 : What is the recommended resistance value of earth continuity conductor used in domestic wiring installation as per IE Rules?

- A : Not more than 8 ohm
- B : Not more than 3 ohm
- C : Not more than 2 ohm
- D : Not more than 1 ohm

145 : How many earth is to be provided for a AC 3 phase induction motor?

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

146 : How to reduce the earth resistance value keep as low?

- A : By connecting two earth in series
- B : By adding more charcole
- C : By connecting to earth in parallel
- D : By adding more salt

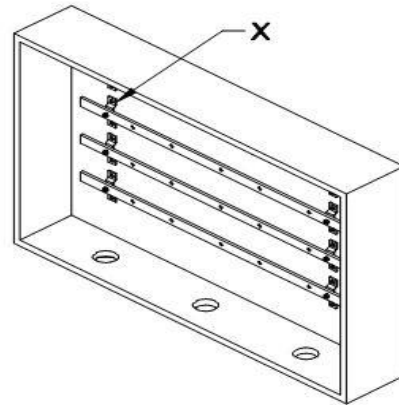
147 : What is the minimum clearance required between the wall and backside of a panel board in industrial wiring?

- A : Not less than 22.88 cm
- B : Not less than 18.4 cm
- C : Not less than 15.8 cm
- D : Not less than 10.2 cm

148 : What is the minimum distance in front of the switch board for industrial pannel board wiring?

- A : 2 M
- B : 1-5 M
- C : 1 M
- D : 0.5 M

149 : What is name of part marked asx?



- A : Cable entry hole
- B : Bus - bars
- C : Enclosure
- D : Porcelain supports

150 : What is the thickness of steel sheet using the covers of bus bar chamber?

- A : 1 mm
- B : 1.5 mm
- C : 2 mm
- D : 2.5 mm

151 : Why the equipment are arranged in front side of the switch board in industrial wiring?

- A : To avoid short circuit
- B : To operate easily
- C : To test the supply frequently
- D : To avoid personnal contacts during maintenance

152 : What is the purpose of openings provided in bus bar chamber?

- A : For cable entries
- B : For air circulation
- C : To release the heat
- D : To extend the busbar

153 : Which material is used to make busbars?

- A : Brass
- B : Galvanised iron
- C : Aluminium
- D : Bronze

154 : What is the colour code of 3 phase 4 wire AC supply system?

- A** : Red, yellow, black, green
 - B** : Red, blue, black, yellow
 - C** : Red, black, green, blue
 - D** : Red, yellow, blue, black
-

155 : What is the colour code of single phase AC supply as per NE code?

- A** : Red and blue
 - B** : Red and black
 - C** : Red and green
 - D** : Red and yellow
-

156 : What is the alpha numeric notation of 3 phase apparatus connection?

- A** : L1, L2, L3 & N
 - B** : U, V, W & N
 - C** : R, Y, B & N
 - D** : A1, B1, C1 & N
-

157 : Which material is used for harnessing of cable?

- A** : Metal bands
 - B** : P.V.C sleeves
 - C** : Link clips
 - D** : P.V.C saddles
-

158 : How the cable size is determined for industrial wiring?

- A** : By considering the voltage of circuit
 - B** : By considering the load resistance
 - C** : By considering the current carrying capacity
 - D** : By considering the power factor
-

Wireman – Semester 2 Module 6 - Commercial wiring

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159 : What is the minimum bus bar clearance between phases in medium voltage application?

- A** : 25 mm
- B** : 32 mm
- C** : 36 mm
- D** : 40 mm

160 : What is the maximum permissible voltage drop at the point of the commencement of supply at the consumers end for high and extra high voltage as per IE rule?

- A** : 12.5%
- B** : 8%
- C** : 5%
- D** : 3%

161 : How the cable is to be connected with the distribution boards as per IE rule?

- A** : By crimping lugs without cutting any cable strands
- B** : By crimping lugs with some strands cut off
- C** : By directly inserting the strands into terminals
- D** : By twisting the strands and inserting into terminals

162 : Which is used to protect the conductors that passing through walls in commercial wiring as per IE rules?

- A** : Wood batten
- B** : Rigid metal conduit
- C** : Flexible metal conduit
- D** : Flexible non metal conduit

163 : What is the full form of LAN?

- A** : Load Area Network
- B** : Local Area Network
- C** : Local Aviation Network
- D** : Local Active Network

164 : Which is the inter processor distance of LAN?

- A** : Above 1000 km
- B** : 10 km to 1000 km
- C** : 1 km to 10 km
- D** : 0 to 1 km

165 : Which is the data transmission medium in LAN?

- A** : PVC cable
- B** : Armoured cable

- C** : Belted cable
- D** : Coaxial cable

166 : What is the characteristics of LAN?

- A** : Consist one computer only
- B** : Group of 2 or more computers in the same building
- C** : Group of computers in different building
- D** : Group of computers in different area

167 : What is electrical drive?

- A** : Electro mechanical device
- B** : Electrical device
- C** : Electronic device
- D** : Mechanical device

168 : Which is the application of electrical drives?

- A** : Agricultural pumps
- B** : Fabricating workshop
- C** : Water treatment plant
- D** : Electric traction

169 : Which is the advantage of AC drive?

- A** : Power and control circuit are simple
- B** : Speed and design ratios have upper limits
- C** : Produce a simulated wave form
- D** : Heavy windings required

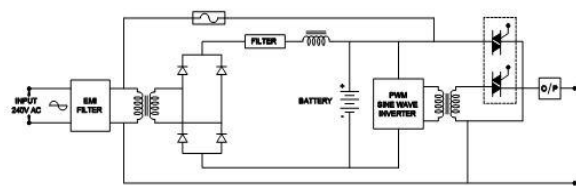
170 : Which colour LED indicates the fault occurred in drives?

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

171 : What is the expansion of UPS?

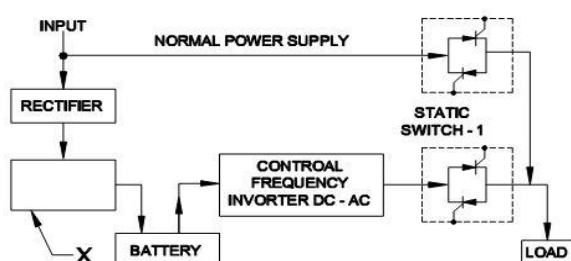
- A** : Uninterrupted Power System
- B** : Uninterrupted Power Supply
- C** : Uninterrupted Power Solution
- D** : Uninterrupted Power Section

172 : Which circuit diagram is illustrated?



- A : ON line UPS
- B : OFF line UPS
- C : Bridge rectifier
- D : Metal rectifier

173 : Which part is marked as in the block diagram of OFF line UPS?



- A : Reset switch
- B : Change over switch
- C : Control panel
- D : Battery charger

174 : What is the relation between back up time and capacity of the battery of an UPS?

- A : Capacity of battery increases back up time increases
- B : Capacity of battery increases back up time decreases
- C : Capacity of battery decreases back up time increases
- D : Capacity of battery has no relations with back up time

175 : Which component is connected across the transformer winding of an UPS for protection from lightning?

- A : Diode
- B : Transistor
- C : Triode
- D : Polyster capacitor

176 : Which electrical / electronic device requires ups?

- A : Air conditioner
- B : Micro wave oven

- C : Computer
- D : Television

177 : Why the battery is to be placed nearer to ups in ups wiring?

- A : To minimise the length of cable
- B : For safety reasons
- C : To increase the life of battery
- D : To reduce voltage drop

178 : What adjustment is to be done in commercial installation for interconnection of two or more UPS?

- A : By connecting manually
- B : By using a change over relay
- C : By using rotary switch
- D : By using ICDP switch

179 : How the capacity of an inverter is expressed?

- A : Watt hour
- B : Ampere
- C : Volt ampere
- D : Ampere hour

180 : Which wire is used to connect inverter and battery?

- A : PVC 1.5 sqmm copper wire
- B : Special auto wire
- C : PVC 1.5 sqmm aluminium wire
- D : PVC 2.5 sqmm copper wire

181 : How the neutral is provided in an inverter?

- A : It is common for inverter output and AC mains
- B : Separate neutral wire is provided
- C : Neutral is provided for out put only
- D : Neutral is provided for AC mains only

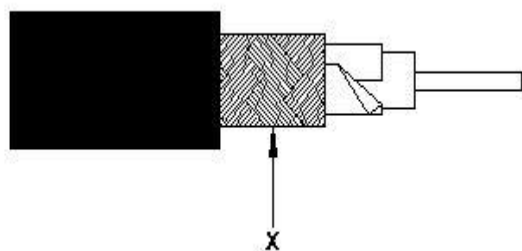
Wireman – Semester 2 Module 7 - Commercial wiring II

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182 : How many colour coded wires the RJ-45 cable contains?

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

183 : What is the name of the part marked as x?



- A : Jacket
- B : Foil
- C : Dielectric
- D : Braid

184 : What are the two colours used in 2 pairs of Ethernet RJ 45 cable?

- A : Blue and orange
- B : Blue and brown
- C : Orange and green
- D : Brown and orange

185 : What does the name coaxial refer?

- A : Common axis of two conductors
- B : Common array of all conductor
- C : Common conductor axis
- D : Common axial of one conductor

186 : What is the use of co - axial cable?

- A : For transmitting electricity
- B : For power wiring
- C : For transmitting video signals
- D : For house wiring

187 : Which computer networking component connect multiple ethernet segments together?

- A : Router
- B : Switch
- C : Bridge
- D : Hub

188 : What is the reason for using annealed copper conductor for telephone cable?

- A : For good physical appearance

B : For high dielectric strength

C : To get more flexibility

D : To avoid corrosion

189 : What is the full form of DTH system?

- A : Direction to home
- B : Divert to home
- C : Direct to home
- D : Distance to house

190 : What is the size of speaker wire if the distance between speaker and amplifier is less than 50 feet?

- A : 10 swg
- B : 12 swg
- C : 16 swg
- D : 18 swg

191 : What is the full form of UTP copper wiring?

- A : Uniform sheated Turns Package
- B : Unshielded Twisted Pair
- C : Unshielded Turns Pair
- D : Universal stranded Twisted Package

192 : What are the three main factors to be considered for DTH wiring?

- A : Safety, planning, budgeting
- B : Collection of material, wiring, testing
- C : Marking layout, fixing of accessories, wiring
- D : Measuring, marking layout, wiring

193 : Which cable is used for DTH termination to TV?

- A : RJ 45 cable
- B : Lead sheathed cable
- C : CTS cable
- D : Weather Proof cable

194 : Why correct thickness of wire must be selected for DTH/home theater connection?

- A : To minimize the voltage drop in wiring circuit
- B : To obtain good speaker performance
- C : To increase the electrical conductive of the wire
- D : To avoid loose connections on the terminal of the components

Wireman – Semester 2 Module 7 - Commercial wiring II

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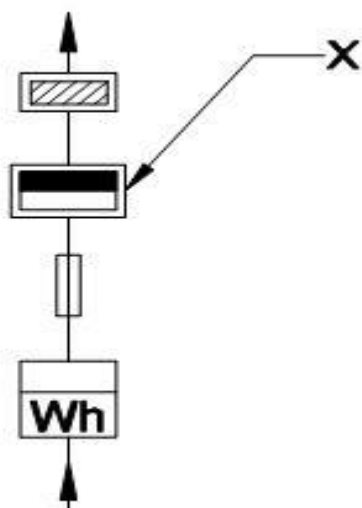
195 : What is the reason, the cables of Home theatre must be run away from the power supplies?

- A** : To get more clarity video
- B** : To avoid interference with audio and video of musical item
- C** : To avoid short circuit between power conductor wiring
- D** : To protect the components from impact of audio

196 : Which factor is noticed as an impact on home theatre wiring?

- A** : Speaker performance
- B** : Video component performance
- C** : Space of the room installation
- D** : Interference issues of wiring

197 : What is the name of part marked as?



- A** : Energy meter
- B** : I C cut out
- C** : Main Switch
- D** : Distribution board

198 : What percentage limit of error is permitted to the energy meter used for service meter board?

- A** : 1%
- B** : 2%
- C** : 3%
- D** : 5%

199 : Which location, the IC cut out is to be connected in service meter board?

- A** : Between main switch and distribution board
- B** : Between energy meter and main switch

- C** : First position of the service meter band
- D** : Last position of the service board connection

200 : What is the minimum height of energy meter fixing as per NE code of practise and IE rules?

- A** : 1 metre
- B** : 1.5 metre
- C** : 1.75 metre
- D** : 2 metre

201 : Which tool is used to make holes for fixing meter board in walls during wiring?

- A** : Pipe jumper
- B** : Rawl jumper
- C** : Cold chisel
- D** : Crow bar

202 : What is the use of Rawl jumper while fixing energy meter board on wall?

- A** : To make pilot hole on the wooden gutties
- B** : To make holes on the bricks
- C** : To mark the hole points on the wall
- D** : To make grooves on the concrete

203 : Where the wooden gutties are used in wiring?

- A** : Wooden board
- B** : Metal board
- C** : Rigid walls
- D** : Non-rigid walls

204 : Which is to be considered to select the size of ECC for earthing to service meter?

- A** : Supply voltage from supplier side
- B** : Type of wiring installation done in the system
- C** : Current carrying capacity of installation
- D** : Type of wiring material used

205 : Which material is used to prepare heating element?

- A** : Copper
- B** : Aluminium
- C** : Nichrome
- D** : Silver

206 : What is the formula to calculate the thermal efficiency?

A :

$$\% \text{ Efficiency} = \frac{\text{Heat utilised}}{\text{Heat generated}} \times 100$$

B :

$$\% \text{ Efficiency} = \frac{\text{Heat generated}}{\text{Heat utilised}} \times 100$$

C :

$$\% \text{ Efficiency} = \frac{\text{Input}}{\text{Output}} \times 100$$

D :

$$\% \text{ Efficiency} = \frac{\text{Raise of heat}}{\text{Heat generated}} \times 100$$

207 : What is the formula for heat generated?

A :

$$H = \frac{I^2 R t}{J} \text{ calories}$$

B :

$$H = I^2 R t \text{ calories}$$

C :

$$H = I^2 R \text{ calories}$$

D :

$$H = \frac{J}{I^2 R t} \text{ calories}$$

208 : Which material, the heater plate is made of?

A : Porcelain

B : Ceramic

C : Ebonite

D : Bakelite

209 : Where the heating element is placed in an immersion type heater?

A : Near the outer seating

B : Inside a hollow tube

C : Out side the body

D : Below the body

210 : Why the grooves are designed with projection in heater plate?

A : For the uniform distribution of heat

B : To prevent the heating element from coming out of grooves

C : To reduce the space for coiled heating element

D : To increase the resistance of the heating element

211 : Which metal is used to make contact points of thermostat?

A : Copper

B : Silver

C : Aluminium

D : Brass

212 : What is the property of heating element used in electrical heating appliances?

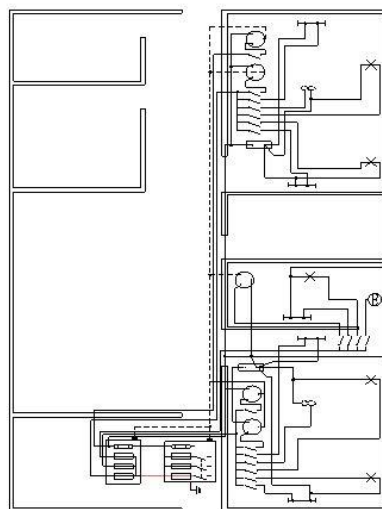
A : Low coefficient of expansion

B : Low specific resistance

C : Low mechanical strength

D : Low voltage withstanding

213 : What is the name of diagram?



A : Wiring diagram

B : Installation diagram

C : Layout diagram

D : Circuit diagram

214 : Which is the permissible voltage drop in declared voltage supply to HT consumer as per IE rule?

A : Not more than 5%

B : Not more than 8%

C : Not more than 10%

D : Not more than 12%

Wireman – Semester 2 Module 7 - Commercial wiring II

Reviewed and updated on: 01st November 2019 Version 1.1

215 : Which formula is used to calculate the permissible voltage drop in 3 phase wiring circuits (I =line current R = Resistance of one core only)

A :

$$\sqrt{3} IR$$

B : $3 IR$

C : IR

D : $2IR$

216 : Which wiring system is suitable for high rise buildings?

A : Looping out from switches

B : Distribution system

C : Ring main system

D : Tree system

217 : Which type of distribution is suitable for commercial wiring of multistoried flats?

A : Looping out with junction

B : Looping out with switch

C : Bus chamber

D : Raising mains

218 : Which system of wiring enables the appliances connected to the system to have same voltage?

A : Ring main system

B : Raising main system

C : Distribution board system

D : Tree system

219 : How many earths are to be provided along with the vertical run of raising mains in commercial building wiring?

A : 1

B : 2

C : 3

D : 4

220 : Which load is to be given separate lines as essential in commercial wiring?

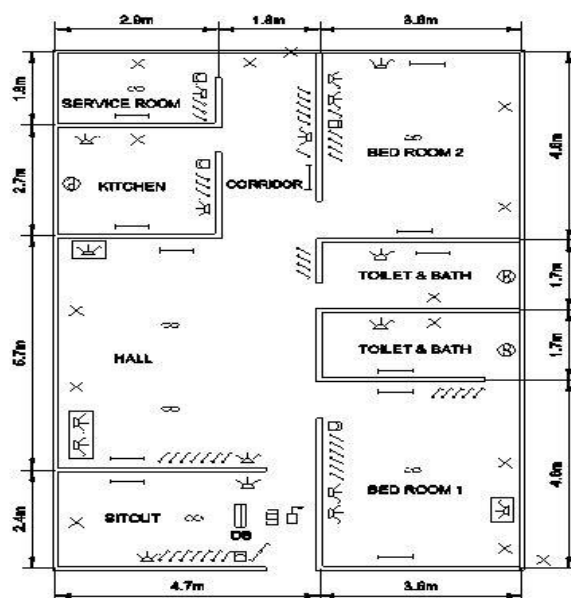
A : Stair case and garden

B : Verandah and portico

C : Common walking area

D : Lift and water supply

221 : How many wall socket are located in hall of the building layout?



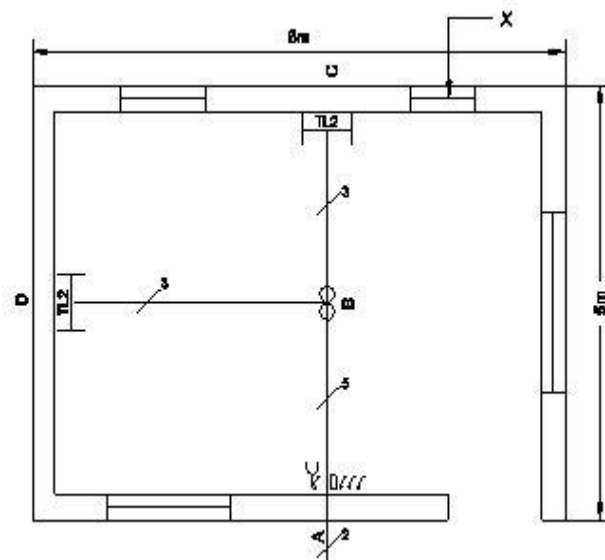
A : 2

B : 3

C : 4

D : 5

222 : What is the name of the symbol marked as x in the layout diagram?



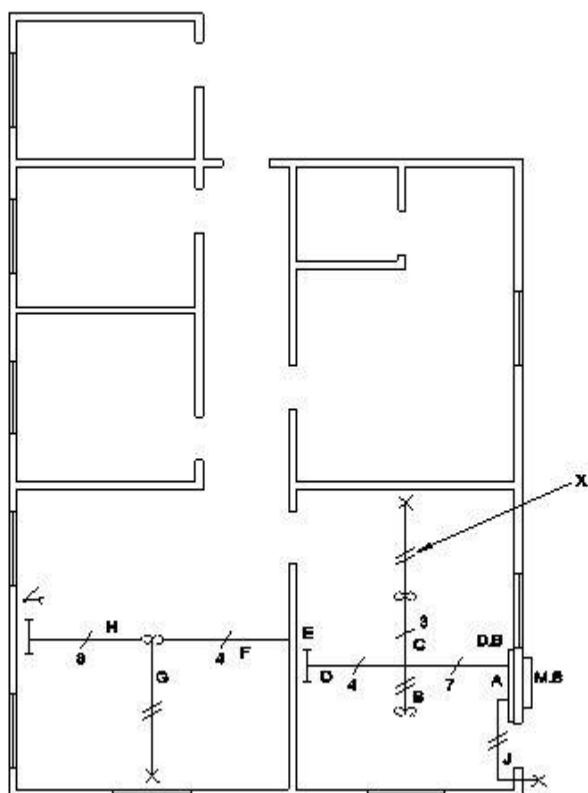
A : Single tube fluorescent lamp fitting

B : Twin tube fluorescent lamp fitting

C : Incandescent lamp

D : Fan regulator

223 : What does the marking, marked as x represent in the office layout?

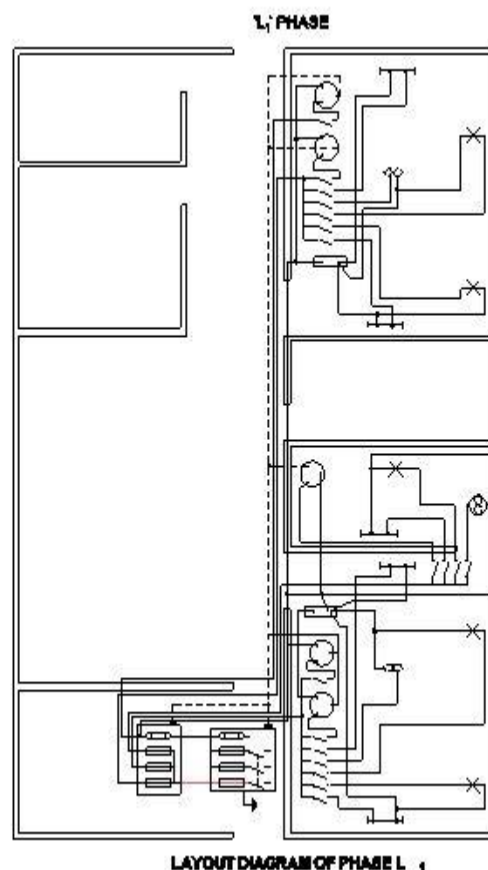


- A** : Size of each wire in mm²
- B** : Number of wire runs
- C** : Number of pipes runs
- D** : Number of wires inside the pipe

224 : Which is the purpose of layout diagram used for building installation?

- A** : To locate the position of electrical points in each used in the building
- B** : To calculate the total connected load
- C** : To estimate the labour cost for wiring
- D** : To estimate the material cost for wiring installation

225 : How many branch circuits are used in the layout diagram?



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

226 : How much starting current of motor with respect to load current for calculation of cable size?

- A** : One time of full load current
- B** : One and half time of full load current
- C** : Two times of full load current
- D** : Three times of full load current

227 : What is the name of computer part?



- A : MIC
- B : BAR code reader
- C : Flash light
- D : Camera

228 : What is the expansion of CPU?

- A : Central Performance Unit
- B : Central Processing Unit
- C : Control Processing Unit
- D : Control Performance Unit

229 : Which part is the pointing device in computer?

- A : Key
- B : Monitor
- C : Mouse
- D : CPU

230 : Which part of the computer performs mathematical operations?

- A : Control unit
- B : Arithmetic logic unit (ALU)
- C : Mouse
- D : Key board

231 : Which is the input device of computer system?

- A : Keyboard
- B : Projector
- C : Floppy
- D : Printer

232 : Which is the output device of the computer?

- A : Printer
- B : Mouse

- C : Key board
- D : Scanner

233 : Which output device is used for audio signals?

- A : Plotter
- B : Monitor
- C : Projector
- D : Speakers

234 : What is the use of printers?

- A : To store the data from soft copy
- B : To create hard copies of computer files
- C : To make more number of photo copies
- D : To print the data from hard copy

235 : What is the expansion of RAM?

- A : Random Arithmetic Memory
- B : Read Arithmetic Memory
- C : Read Access Memory
- D : Random Access Memory

236 : What is the name of the storage device?



- A : Memory card
- B : Video tape
- C : Floppy disc drive
- D : Hard disc drive

237 : How many mega bytes (MB) is equal to 1 giga byte (GB)?

- A : 10 MB
- B : 100 MB
- C : 1000 MB
- D : 1024 MB

238 : Which is a temporary storage for data and programmes that are being accessed by the CPU?

- A : RAM
- B : ROM
- C : DVD
- D : USB flash drive

Wireman – Semester 2 Module 8 - Computer practice

Reviewed and updated on: 01st November 2019 Version 1.1

239 : Which storage memory the contents are erased if the computer is powered OFF?

- A : ROM
- B : PROM
- C : RAM
- D : EPROM

240 : How many versions of windows operating system are available?

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

241 : What is the other name of MS-Excel?

- A : Electronic spread sheet
- B : Electronic file
- C : Electronic document
- D : Electronic chart

242 : Which short cut key is used to bring the text to centre in MS word?

- A : Ctrl + E
- B : Ctrl + S
- C : Ctrl + C
- D : Ctrl + X

243 : Which command is used to display each slide without menus (or) tool bar?

- A : Slide sorter view
- B : Slide show view
- C : New slide
- D : Slides group

244 : What is the expansion of WWW?

- A : Web Wise World
- B : World Wide Web
- C : World Wise Web
- D : Word Wide Web

245 : Which is the free open source web browser from mozilla?

- A : Opera
- B : Fire box
- C : Google chrome
- D : Internet explorer

246 : Which browser is preferred for small devices like mobile phone?

- A : Firefox
- B : Opera

- C : Mozilla
- D : Netscape

247 : Which browser is an inbuilt browser in windows?

- A : Google chrome
- B : Internet explorer
- C : Mozilla firefox
- D : Operamini

248 : What is the expansion of E-mail?

- A : Enter mail
- B : Electronic mail
- C : Economic mail
- D : Education mail

249 : What is the full form of URL internet address?

- A : Uniform resource location
- B : Universal resource location
- C : Uniform resolution location
- D : Unique resource location

250 : Which folder in e-mail store messages that have not been sent?

- A : Inbox
- B : Drafts
- C : Sent
- D : Spam

251 : Which default folder of E-mail that places the scanning e-mails?

- A : Drafts
- B : Spam
- C : Inbox
- D : Trash

ANSWERS :

1:C; 2:B; 3:C; 4:D; 5:A; 6:A; 7:A; 8:B; 9:B; 10:D; 11:A;
12:B; 13:C; 14:B; 15:A; 16:B; 17:B; 18:C; 19:C; 20:D;
21:A; 22:C; 23:A; 24:B; 25:C; 26:C; 27:B; 28:C; 29:B;
30:C; 31:A; 32:A; 33:B; 34:C; 35:D; 36:A; 37:D; 38:D;
39:C; 40:C; 41:A; 42:D; 43:C; 44:B; 45:D; 46:C; 47:D;
48:D; 49:D; 50:C; 51:D; 52:B; 53:B; 54:B; 55:B; 56:A;
57:B; 58:B; 59:A; 60:D; 61:A; 62:C; 63:B; 64:B; 65:D;
66:C; 67:D; 68:C; 69:C; 70:A; 71:B; 72:C; 73:B; 74:B;
75:A; 76:C; 77:A; 78:A; 79:C; 80:B; 81:D; 82:A; 83:C;
84:A; 85:C; 86:C; 87:D; 88:C; 89:A; 90:D; 91:C; 92:C;
93:D; 94:C; 95:B; 96:D; 97:C; 98:B; 99:C; 100:B;
101:C; 102:A; 103:B; 104:A; 105:B; 106:A; 107:B;
108:D; 109:B; 110:C; 111:C; 112:A; 113:D; 114:C;
115:B; 116:D; 117:A; 118:B; 119:B; 120:A; 121:B;
122:D; 123:C; 124:D; 125:A; 126:B; 127:C; 128:B;
129:D; 130:A; 131:D; 132:B; 133:C; 134:A; 135:C;
136:C; 137:D; 138:C; 139:C; 140:A; 141:C; 142:C;
143:C; 144:D; 145:B; 146:C; 147:B; 148:C; 149:D;
150:B; 151:D; 152:A; 153:C; 154:D; 155:B; 156:B;
157:A; 158:C; 159:B; 160:A; 161:A; 162:B; 163:B;
164:D; 165:D; 166:B; 167:A; 168:D; 169:B; 170:C;
171:B; 172:A; 173:D; 174:A; 175:D; 176:C; 177:D;
178:B; 179:C; 180:B; 181:A; 182:C; 183:D; 184:C;
185:A; 186:C; 187:D; 188:C; 189:C; 190:C; 191:B;
192:A; 193:A; 194:B; 195:B; 196:A; 197:C; 198:C;
199:B; 200:A; 201:B; 202:B; 203:D; 204:C; 205:C;
206:A; 207:A; 208:A; 209:B; 210:B; 211:B; 212:A;
213:C; 214:D; 215:A; 216:D; 217:D; 218:C; 219:B;
220:D; 221:C; 222:A; 223:B; 224:A; 225:C; 226:D;
227:B; 228:B; 229:C; 230:B; 231:A; 232:A; 233:D;
234:B; 235:D; 236:D; 237:D; 238:B; 239:C; 240:C;
241:A; 242:A; 243:B; 244:B; 245:B; 246:B; 247:B;
248:B; 249:A; 250:B; 251:C;

Wireman – Semester 3 Module 1 - Electronic Components

Reviewed and updated on: 01st November 2019 Version 1.1

1 : What is the name of maximum reverse voltage the diode can withstand?

- A** : Knee voltage
- B** : Barrier voltage
- C** : Peak inverse voltage
- D** : Cut in voltage

2 : What is the barrier potential for silicon diode?

- A** : 0.9V
- B** : 0.3V
- C** : 0.7V
- D** : 0.6V

3 : Identify the component symbol represents?



- A** : Diode
- B** : Diac
- C** : LED
- D** : Zener diode

4 : What is the application of zener diode?

- A** : Voltage regulator
- B** : Rectifier
- C** : Amplification
- D** : Oscillation

5 : How many terminals are in transistor?

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

6 : Which is the current amplification factor in common base configuration?

- A** : Alpha (α)
- B** : Beta (β)
- C** : Gamma (γ)
- D** : Delta (Δ)

7 : Which region emitter and collector junctions are reverse biased?

- A** : Saturation region

B : Cut off region

C : Active region

D : Breakdown region

8 : How many semi conducting layers are present in SCR?

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

9 : What are the name of the terminals in UJT?

- A** : Base 1, Base 2, gate
- B** : Anode, Cathode, gate
- C** : Base 1, Base 2, Emitter
- D** : Emitter base, collector

10 : Which current is required to turn ON SCR from OFF state to ON state?

- A** : Holding current
- B** : Latching current
- C** : Reverse blocking current
- D** : Forward blocking current

11 : Which is the control terminal of SCR?

- A** : Gate
- B** : Cathode
- C** : Anode
- D** : Base

12 : How many terminals are in fixed voltage regulator IC?

- A** : 3
- B** : 4
- C** : 5
- D** : 6

13 : How the size of integrated circuits (IC) compared with discrete circuit?

- A** : Large
- B** : Small
- C** : Similar
- D** : Very large

14 : What does 05 indicates in IC 7805?

- A** : Positive output current
- B** : -5V
- C** : +5V
- D** : Negative output current

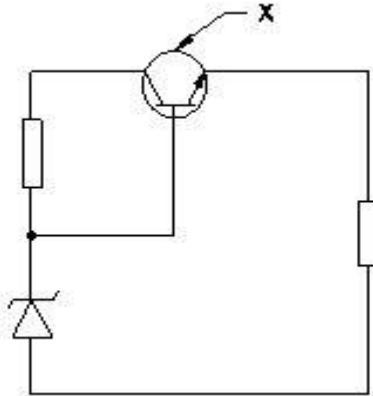
Wireman – Semester 3 Module 1 - Electronic Components

Reviewed and updated on: 01st November 2019 Version 1.1

15 : What is the application of 7805 IC?

- A** : Clipping
- B** : Clamping
- C** : Oscillator
- D** : Voltage regulator

16 : What is the name of component marked as X in voltage regulator?



- A** : Zener diode
- B** : Diode
- C** : Transistor
- D** : Diac

17 : Which is the high power passive component in D.C. power supply?

- A** : Transistors
- B** : Diodes
- C** : IC
- D** : Resistors

18 : Which is the second stage of a DC power supply?

- A** : Voltage transformation
- B** : Filtering
- C** : Rectification
- D** : Input supply

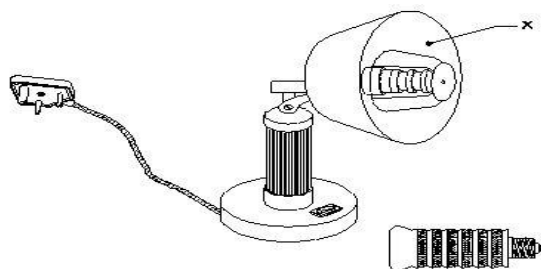
Wireman – Semester 3 Module 2 - Electrical Appliances

Reviewed and updated on: 01st November 2019 Version 1.1

19 : Which material is used for heating coil of electric heater?

- A** : Copper
- B** : Nichrome
- C** : Silver
- D** : Brass

20 : What is the part marked as X?



- A** : Bowl reflector
- B** : Heating element
- C** : Insulator
- D** : Switch

21 : How many number of pins are in the chord wire of automatic electric iron?

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

22 : Which is the additional part used in automatic iron compared to non automatic iron?

- A** : Heal plate
- B** : Pressure plate
- C** : Chord wire
- D** : Thermostat

23 : What is the function of thermostat in automatic electric iron?

- A** : To control the temperature
- B** : To transfer heat
- C** : To fix the element
- D** : To hold electric iron

24 : What is the range of speed in a food mixer?

- A** : 300-600rpm
- B** : 550-900rpm
- C** : 1000-2000rpm
- D** : 3000-14000rpm

25 : What is the minimum value of insulation resistance of chord wire in a food mixer?

- A** : 1 mega ohm

B : 500 ohm

C : 100 mega ohm

D : 1 ohm

26 : What is the function of rotary switch in food mixer?

- A** : Over load protection
- B** : To reverse rotation
- C** : Over current Protection
- D** : Speed selection

27 : How many windings are in a ceiling fan?

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

28 : Which type of bearing is used in table fan?

- A** : Sleeve bearings
- B** : Ball bearings
- C** : Roller bearings
- D** : Needle bearings

29 : Which type of motor is used in ceiling fan?

- A** : Permanent capacitor motor
- B** : Capacitor start induction run motor
- C** : Universal motor
- D** : Repulsion motor

30 : Which washing machine, water is propelled up wards?

- A** : Agitator wash
- B** : Pulsator wash
- C** : Air power wash
- D** : Chaos punch wash

31 : Which type of washing machine is fitted with concave shaped disc?

- A** : Air wash
- B** : Agitator wash
- C** : Pulsator wash
- D** : Chaos punch wash

32 : Which electrical effect gang type electric bell works?

- A** : Heating effect
- B** : Magnetic effect
- C** : Chemical effect
- D** : X ray effect

Wireman – Semester 3 Module 2 - Electrical Appliances

Reviewed and updated on: 01st November 2019 Version 1.1

33 : Which device is used in annunciator panel?

A : Buzzer

B : LED

C : Hooter

D : Loud speaker

Wireman – Semester 3 Module 3 - DC Generator

Reviewed and updated on: 01st November 2019 Version 1.1

34 : What is the working principle of DC generator?

- A** : Amperes law
- B** : Faradays law of electro magnetic induction
- C** : Faradays law of electrolysis
- D** : Lenzs law

35 : What type of Emf is induced in DC generator?

- A** : Dynamically induced
- B** : Statically induced
- C** : Self induced
- D** : Mutually induced

36 : What rule is used to find the direction of induced emf in DC generator?

- A** : End rule
- B** : Flemings right hand rule
- C** : Cork screw rule
- D** : Flemings left hand rule

37 : Which generator the field winding is connected across the armature?

- A** : Series generator
- B** : Pulse generator
- C** : Magneto generator
- D** : Shunt generator

38 : Which type of DC generator can be called as a constant voltage generator?

- A** : Series generator
- B** : Shunt generator
- C** : Differential compound generator
- D** : Under compound generator

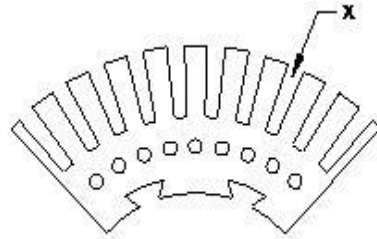
39 : Which part of a DC generator is laminated?

- A** : Winding
- B** : Shaft
- C** : Armature core
- D** : Yoke

40 : Which material is used for commutator segment?

- A** : Copper
- B** : Hard-drawn copper
- C** : Carbon
- D** : Brass

41 : Identify the part marked as X in figure?



- A** : Teeth
- B** : Slot
- C** : Key way
- D** : Air duct

42 : What is the function of commutator in DC generator?

- A** : To convert AC to DC
- B** : To convert DC to AC
- C** : To rotate the armature
- D** : To collect current

43 : Where the brushes are housed in DC generator?

- A** : Yoke
- B** : Terminal box
- C** : Shaft
- D** : Brush holder

44 : Which part of the DC generator helps to spread out field flux in the air gap?

- A** : Pole shoes
- B** : Yoke
- C** : Armature
- D** : Commutator

45 : What is indicated by letter N in this formula?

$$E = \frac{\phi Z N}{60} \times \frac{P}{A} \text{ Volts}$$

- A** : Number of conductor
- B** : Speed in rpm
- C** : Number of parallel path
- D** : Number of poles

Wireman – Semester 3 Module 3 - DC Generator

Reviewed and updated on: 01st November 2019 Version 1.1

46 : Which is the formula of emf equation in wave wound DC generator?

A :

$$E = \frac{\phi ZN}{60} \times \frac{P}{2} \text{ Volts}$$

B :

$$E = \frac{\phi Z A}{60} \times \frac{P}{N} \text{ Volts}$$

C :

$$E = \frac{A Z N}{60} \times \frac{P}{\phi} \text{ Volts}$$

D :

$$E = \frac{\phi P N}{60} \times \frac{P}{A} \text{ Volts}$$

47 : What will happen, if shunt field resistance is too large?

A : Fails to build up voltage

B : Build up voltage

C : Generator doesn't run

D : Voltage increases

48 : Which determines the polarity of induced emf in DC shunt generator?

A : Number of conductor

B : Number of parallel path

C : Direction of rotation of armature

D : Number of field poles

49 : Which type of DC generator is used as booster generator?

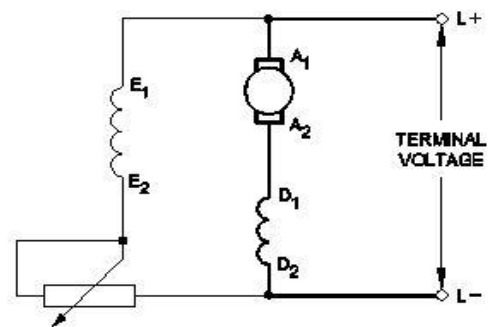
A : Series generator

B : Separately excited generator

C : Shunt generator

D : Compound generator

50 : Which type of compound generator is illustrated?



A : Short shunt compound generator

B : Long shunt compound generator

C : Differential compound generator

D : Separately excited generator

51 : Which generator has both shunt and series field winding?

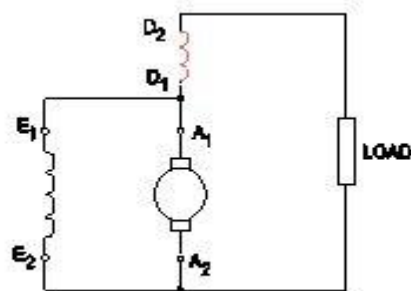
A : Compound generator

B : Shunt generator

C : Series generator

D : Separately excited generator

52 : What is the name of DC generator?



A : Short shunt compound generator

B : Long shunt compound generator

C : Differential compound generator

D : Shunt generator

53 : Which generator, shunt field flux is opposed by series field flux?

A : Differential compound generator

B : Cumulative compound generator

C : Shunt generator

D : Series generator

Wireman – Semester 3 Module 3 - DC Generator

Reviewed and updated on: 01st November 2019 Version 1.1

54 : Which DC compound generator the shunt field is connected in parallel to armature only?

- A** : Shunt generator
- B** : Short shunt generator
- C** : Series generator
- D** : Long shunt generator

55 : What is the function of series field winding in cumulative compound generator?

- A** : To oppose the shunt field
- B** : To oppose main field
- C** : To assist the shunt field
- D** : To oppose armature

56 : What is the full form of TPT?

- A** : Trailing Pole Tip
- B** : Temporary Pole Tip
- C** : Topmost Pole Tip
- D** : Temporary Present Tip

57 : What is the full form of GNA?

- A** : General Neutral Axis
- B** : Geometrical Neutral Axis
- C** : Geographical Neutral Axis
- D** : Geometrical Numerical Axis

58 : How the effect of cross magnetising effect is nullified?

- A** : By changing commutator
- B** : By reversing direction
- C** : By shifting the brush position
- D** : By changing armature

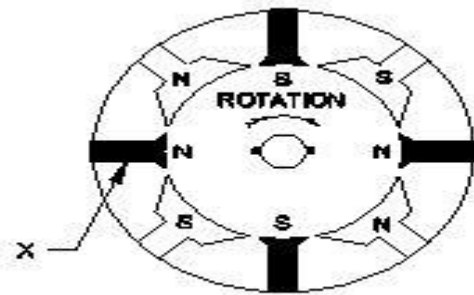
59 : What is the function of compensating winding in DC machine?

- A** : Reduce armature reaction
- B** : To produce flux
- C** : To reduce humming
- D** : To reduce friction

60 : What is the function of interpole in DC machine?

- A** : To reduce humming
- B** : To improve commutation
- C** : To reduce magnetic locking
- D** : To reduce vibration

61 : What is the name of part marked as X?



- A** : Main pole
- B** : Interpole
- C** : Compensating winding
- D** : Pole shoe

62 : What is the full form of MNA?

- A** : Micro Neutral Axis
- B** : Minimum Neutral Axis
- C** : Miniature Neutral Axis
- D** : Magnetic Neutral Axis

63 : How the compensating winding is connected with the armature of DC machine?

- A** : Series
- B** : Parallel
- C** : Series - Parallel
- D** : Between armature and field

64 : How the inter poles are connected to the armature of a DC machine

- A** : Parallel
- B** : Series
- C** : Series - Parallel
- D** : Between armature and field

65 : What is the effect of rough commutation in DC generators?

- A** : Heavy sparking in the brushes
- B** : Terminal voltage reduces to zero
- C** : Voltage drop at brushes increases
- D** : Terminal voltage reduces considerably

66 : Which generator has very high value of voltage regulation?

- A** : Shunt generator
- B** : Compound generator
- C** : Series generator
- D** : Magneto generator

Wireman – Semester 3 Module 3 - DC Generator

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67 : Which of the following is the voltage equation for DC series generator?

A :

$$E_g = V - I_a R_a$$

B :

$$E_g = V + I_a R_a$$

C :

$$E_g = V + I_a (R_a + R_{se})$$

D :

$$E_g = V + I_a R_{se}$$

68 : Which type of DC generator is used for welding purpose?

A : Differential compound generator

B : Cumulative compound generator

C : Shunt generator

D : Series generator

69 : Which type of DC generator is used for centrifugal pump?

A : Series generator

B : Shunt generator

C : Differential compound generator

D : Under compound generator

70 : Which type of DC compound generator is used for light and power load?

A : Flat compound

B : Under compound

C : Differential compound

D : Differential long shunt generator

71 : Which of the following generator does not build up voltage if load is not connected?

A : Series generator

B : Shunt generator

C : Long shunt compound generator

D : Short shunt compound generator

72 : What is the condition of voltage while operating DC generators in parallel?

A : Must be more

B : Above 250V

C : Must be the same

D : Must be less

73 : Where the positive terminal of the generator is connected while parallel operation?

A : -ve bus bar

B : Neutral point

C : +ve bus bar

D : Phase wire

74 : How load is shifted from one generator to other when DC generators are operating in parallel?

A : Adjusting speed

B : Adjusting armature resistance

C : By stopping the generator

D : Adjusting excitation

75 : Which of the following is the necessity of parallel operation of DC generators?

A : Continuity of supply

B : Reduce cost

C : Easy operation

D : Easy connection

76 : What is the cause for the fault, that brush makes chattering noise?

A : Over loading

B : Insufficient brush tension

C : Excessive brush pressure

D : Insufficient brush spring pressure

77 : What is the cause for the fault that bearing over heating in DC generator?

A : Unbalanced armature

B : Foreign material in air gap

C : More current in armature

D : Incorrect grade of bearing grease

78 : What is the cause for the fault that heavy sparking in light loads in DC generator?

A : Oily commutator surface

B : Defective alignment

C : Defective bearing

D : Wrong alignment

Wireman – Semester 3 Module 4 - DC Motors

Reviewed and updated on: 01st November 2019 Version 1.1

79 : Which machine converts electrical power to mechanical power?

- A : Alternator
- B : DC motor
- C : DC generator
- D : Transformer

80 : Which rule is used to find out direction of rotation of DC motor?

- A : Flemings left hand rule
- B : Flemings right hand rule
- C : Cork screw rule
- D : End rule

81 : Which type of magnetic field is necessary for working of DC motor?

- A : Pulsating magnetic field
- B : Alternating magnetic field
- C : Rotating magnetic field
- D : Uniform magnetic field

82 : What is the value of angle between fingers in Flemings left hand rule?

- A : Right angles to each other
- B : 40 degrees to each other
- C : 45 degrees to each other
- D : 60 degrees to each other

83 : Which formula is used to find out back emf in DC motor?

A :

$$E_g = \frac{\phi Z N}{60} \times \frac{A}{P}$$

B :

$$E_g = \frac{A Z N}{60} \times \frac{P}{\phi}$$

C :

$$E_b = \frac{\phi Z N}{60} \times \frac{P}{A}$$

D :

$$E_b = \frac{P Z N}{60} \times \frac{A}{\phi}$$

84 : What is the unit of torque in DC motor?

- A : Joule

B : Newton

C : Newton - metre

D : Watt

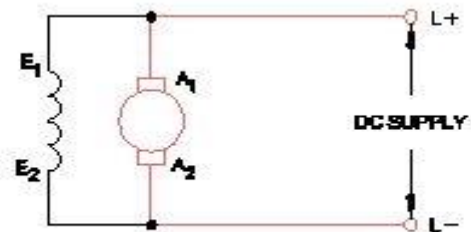
85 : Which represent the turning or twisting moment of force in an axis?

- A : Centrifugal force
- B : Speed
- C : Twisting
- D : Torque

86 : Which motor has very high starting torque?

- A : DC series motor
- B : DC shunt motor
- C : DC differential compound motor
- D : DC cumulative compound motor

87 : What is the name of DC motor?



- A : Short shunt compound motor
- B : DC Series motor
- C : DC Shunt motor
- D : Long shunt compound motor

88 : What are the field winding terminals of a DC shunt motor?

- A : E1 and E2
- B : A1 and A2
- C : D1 and D2
- D : F1 and F2

89 : Which type of motor considered as constant speed motor?

- A : DC shunt motor
- B : DC series motor
- C : AC series motor
- D : Universal motor

Wireman – Semester 3 Module 4 - DC Motors

Reviewed and updated on: 01st November 2019 Version 1.1

90 : How shunt field is connected to armature in DC shunt motor?

- A** : Series
- B** : Parallel
- C** : Series parallel
- D** : Combination

91 : Which is torque expression of DC series motor?

A :

$$T \propto V - E_b$$

B :

$$T \propto I_a^2$$

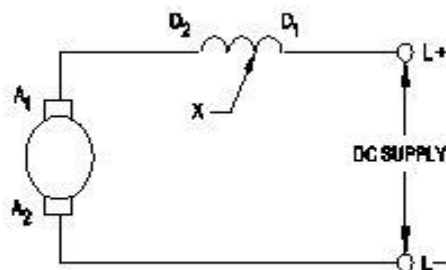
C :

$$T \propto I_a$$

D :

$$T \propto \frac{E_b}{\phi}$$

92 : What is the name of part marked as X?



- A** : Series field
- B** : Shunt field
- C** : Armature
- D** : Compensating winding

93 : Which motor is to be started with load?

- A** : 3 Phase induction motor
- B** : Slip ring induction motor
- C** : DC series motor
- D** : DC shunt motor

94 : Where the series motor is used?

- A** : Lathe
- B** : Hoist

C : Pumpset

D : Welding

95 : Which motor is used in heavy construction trucks?

- A** : Differential compound motor
- B** : Cumulative compound motor
- C** : DC shunt motor
- D** : DC series motor

96 : Which motor has both shunt field and series field winding?

- A** : Compound motor
- B** : Shunt motor
- C** : Series motor
- D** : Capacitor motor

97 : Which motor is used in steel rolling machinery?

- A** : DC Differential compound
- B** : DC cumulative compound motor
- C** : DC series motor
- D** : DC shunt motor

98 : Which protect DC motor from over load?

- A** : Commutator
- B** : Field diverter
- C** : Armature diverter
- D** : Starter

99 : How starting current is reduced in DC motors?

- A** : By using armature diverter
- B** : By using field diverter
- C** : By using starters
- D** : By controlling speed

100 : Which part of DC motor starter hold the handle in ON position?

- A** : OLR
- B** : No volt coil
- C** : Protective resistor
- D** : Spiral spring

101 : How the starting resistance is connected with armature of DC motor?

- A** : Parallel with armature
- B** : Series with armature
- C** : Series with field
- D** : Across with field

Wireman – Semester 3 Module 4 - DC Motors

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102 : Which starter is used for starting a DC compound motor?

- A : Two point starter
- B : DOL starter
- C : Four point starter
- D : Star-Delta starter

103 : What is the function of protective resistor in DC four point starter

- A : To limit current in holding coil
- B : To limit armature current
- C : To limit field current
- D : To limit the speed

104 : Which type of starter is used for DC series motor

- A : DOL starter
- B : Four point starter
- C : Two point starter
- D : Three point starter

105 : Which relation gives the speed of a DC motor?

A :

$$N \propto \frac{E_b}{\phi}$$

B :

$$N \propto \frac{\phi}{E_b}$$

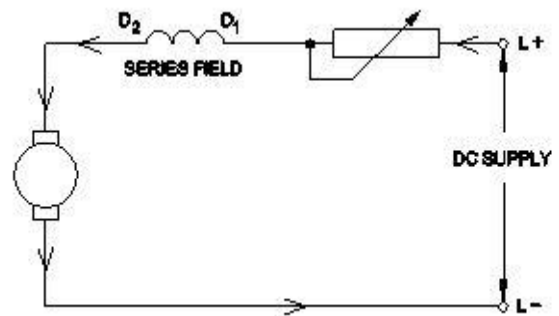
C :

$$N \propto \frac{V + I_a R_a}{\phi}$$

D :

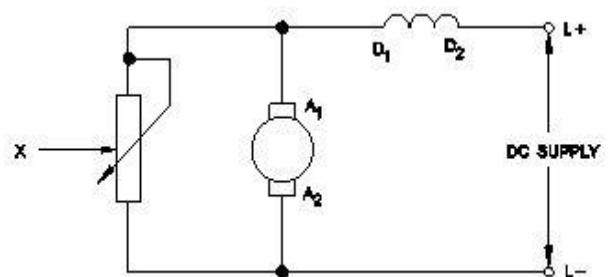
$$N \propto I_a R_a$$

106 : Which method of speed control of DC motor?



- A : Supply voltage control
- B : Field tapping
- C : Field diverter
- D : Armature diverter

107 : What is the part marked as X?



- A : Diverter
- B : Field coil
- C : Starting resistor
- D : Armature

108 : Which method of speed control used in DC shunt motor to control the speed below normal?

- A : Field control
- B : Armature control
- C : Field tapping method
- D : Field diverter method

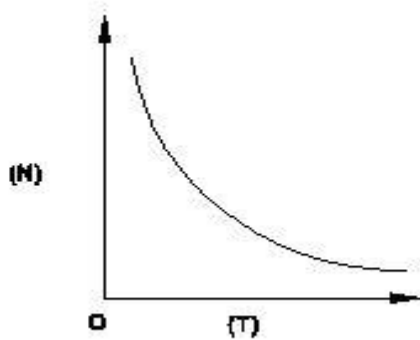
109 : Which method of speed control used in DC motor to control the speed above normal

- A : Field control
- B : Armature control
- C : Supply voltage control
- D : Tapped field control

110 : Which method of speed control used for variation of speed from zero to above normal?

- A : Supply voltage
- B : Armature control
- C : Shunt field control
- D : Ward-Leonard system

111 : Which motor has this speed - torque characteristic?



- A** : DC series motor
- B** : DC shunt motor
- C** : Cumulative compound motor
- D** : Differential compound motor

112 : Which motor is used for traction purpose?

- A** : DC shunt motor
- B** : DC compound motor
- C** : DC series motor
- D** : Capacitor motor

113 : Which motor is used for grinders and polishers?

- A** : DC series motor
- B** : DC shunt motor
- C** : Differential compound motor
- D** : Cumulative compound motor

114 : Which instrument is used to measure insulation resistance of DC motor?

- A** : Earth tester
- B** : Megger
- C** : Voltmeter
- D** : Ammeter

115 : Which is the major reason for open circuit in armature circuit of DC machine?

- A** : Over voltage
- B** : Low voltage
- C** : Over load
- D** : Loose commutator segments

116 : Which test is conducted to determine the winding earth leakage of a DC motor?

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

Wireman – Semester 3 Module 5 - Three phase circuit

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117 : What is the angular displacement of 3 phase voltages?

- A : 120 electrical degrees
- B : 90 electrical degrees
- C : 180 electrical degrees
- D : 360 electrical degrees

118 : What is the factor relating to line voltage and phase voltage?

- A : $\sqrt{3}$
- B : $\sqrt{2}$
- C : 1
- D : 3

119 : What is the formula for power in delta connection

A :

$$P = 3 \times V_L \times I_L \times \cos\theta$$

B :

$$P = \sqrt{3} \times V_{ph} \times I_{ph} \times \cos\theta$$

C :

$$P = 3 \times V_L \times I_{ph} \times \cos\theta$$

D :

$$P = \sqrt{3} \times V_L \times I_L \times \cos\theta$$

120 : What is the value of neutral current in balanced star connected 3 phase load?

- A : 0 Amp
- B : 1.73 Amp
- C :

$$\frac{I_L}{\sqrt{3}} \text{ Amp}$$

D :

$$I_{ph} \text{ Amp}$$

121 : What is the relation between line voltage (VL) and phase voltage (Vph) in 3 phase delta connection?

A :

$$V_L = V_{ph}$$

B :

$$V_L = \sqrt{3} \times V_{ph}$$

C :

$$V_L = 3 \times V_{ph}$$

D :

$$V_L = \frac{V_{ph}}{\sqrt{3}}$$

122 : What is the line voltage if phase voltage is 415V in delta connection?

- A : 415V
- B : 400
- C : 240V
- D : 138V

123 : Which is the type of load when the phase currents of a 3 phase circuit are same?

- A : Balanced load
- B : Unbalanced load
- C : No load
- D : Full load

124 : Which is the type of load if the phase currents of a 3 phase system are different?

- A : Full load
- B : No load
- C : Balanced load
- D : Unbalanced load

125 : How many number of watt meter to be used for balanced 3 phase power measurement?

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

126 : Which method is used for 3f power measurement when load is unbalanced?

- A : One watt meter method
- B : Voltmeter method
- C : Ammeter method
- D : Three watt meter method

Wireman – Semester 3 Module 5 - Three phase circuit

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127 : What is the value of power factor when two watt meter readings are equal in 2 watt meter method of power measurement?

- A : Unity
 - B : 0.5 lagging
 - C : 0.5 leading
 - D : Less than 0.5
-

128 : What is the reading in second watt meter W2 if the first watt meter reading is $W1 = 100W$ at the p.f 0.5?

- A : 200W
 - B : Zero
 - C : 100W
 - D : 50W
-

129 : What is the formula for total power in three watt meter method of power measurement?

- A : $W1 - W2$
 - B : $W1 + W2 + W3$
 - C : $W1 + W2$
 - D : $W1(W2 + W3)$
-

130 : Where two watt meter method of power measurement is used?

- A : Balanced load only
 - B : Unbalanced load only
 - C : Balanced and unbalanced load
 - D : Half full load
-

131 : What is the value of line current if phase current is 10 Amp in star connection?

- A : 17.3 Amp
 - B : 10 Amp
 - C : 5 Amp
 - D : 9 Amp
-

132 : Calculate the phase current if the line current is 30 Amp in delta connection?

- A : 30A
 - B : 17.3A
 - C : 15.6A
 - D : 10Amp
-

Wireman – Semester 3 Module 6 - AC Generator

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- 133** : Which working principle AC generator?
A : Faradays laws of electro magnetic induction
B : Ohms law
C : Lenzs law
D : Faradays laws of electrolysis

- 134** : Which Emf is induced in a AC generator?
A : Dynamically induced emf
B : Statically induced emf
C : Counter emf
D : Self induced emf

- 135** : Which part rotates in large alternator?
A : Field
B : Armature
C : Brush
D : Yoke

- 136** : Which material is used to construct armature core of alternator?
A : Spring steel
B : Mild steel
C : Silicon steel
D : Forged steel

- 137** : Which rotor is used in high speed alternator?
A : Smooth cylindrical
B : Salient pole
C : Projected pole
D : Squirrel cage rotor

- 138** : Which type of slots are used in armature core of alternator?
A : Totally closed
B : Wide open
C : Semi closed
D : Semi open

- 139** : What are the terminal markings of a 3 phase star connected alternator?
A : U, V, W and N
B : A, B, C and N
C : 1, 2, 3 and 4
D : X, Y, Z, N

- 140** : What is the phase displacement between three windings in an alternator?
A : 120°
B : 90°
C : 360°
D : 180°

- 141** : Which type of rotor has small diameter and large axial length?
A : Smooth cylindrical
B : Salient pole
C : Projecting pole
D : Squirrel cage

- 142** : What is the excitation source of a large alternator?
A : DC shunt generator
B : Rectifier
C : DC series generator
D : Battery

- 143** : Which type of alternator is used for high speed operation?
A : Salient pole alternator
B : Smooth cylindrical pure alternator
C : Projected pole alternator
D : Impulse turbo alternator

- 144** : How the alternators are rated?
A : KVA
B : KW
C : KVAR
D : KWH

- 145** : What is the Emf equation of an ideal alternator?

A :

$$2.22 F \phi_V$$

B :

$$4.44 K_d k_c F \phi T_V$$

C :

$$2.22 \phi T_V$$

D :

$$4.44 \phi F T_V$$

Wireman – Semester 3 Module 6 - AC Generator

Reviewed and updated on: 01st November 2019 Version 1.1

146 : What is the formula for calculating total load on 3-phase alternator?

A :

$$\sqrt{3} V_L \times I_L \times \cos \phi$$

B :

$$\sqrt{3} V_p I_p \cos \phi$$

C :

$$V_p I_p \cos \phi$$

D :

$$\sqrt{3} V_p I_p \sin \phi$$

147 : What is the formula for voltage regulation of an alternator?

A :

$$\frac{V_{NL} - V_{FL}}{V_{FL}} \times 100$$

B :

$$\frac{V_{FL} - V_{NL}}{V_{FL}} \times 100$$

C :

$$\frac{V_{NL} + V_{FL}}{V_{FL}} \times 100$$

D :

$$\frac{V_{NL} + V_{FL}}{V_{NL}} \times 100$$

148 : What is the condition for voltage in parallel operation of 3-phase alternator?

A : Must be same

B : Must be different

C : Must be low

D : Must be high

149 : Which is the condition for parallel operation of 3-phase alternator?

A : Frequency must be same

B : Voltage must be different

C : Sequence must be different

D : Polarity must be different

150 : Why parallel operation of alternators is necessary?

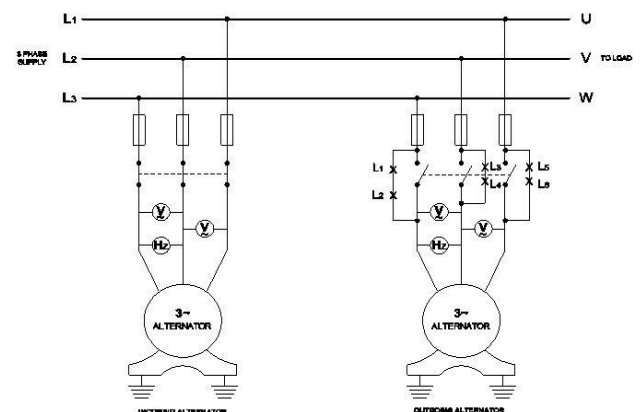
A : To get more voltage

B : To share more loads

C : To improve efficiency

D : To maintain constant frequency

151 : Which method of synchronising is given?



A : Dark lamp method

B : Bright lamp method

C : Synchroscope method

D : Two bright one dark method

152 : What method is used for parallel operation of alternator?

A : Dark and bright lamp method

B : Ward - leonard method

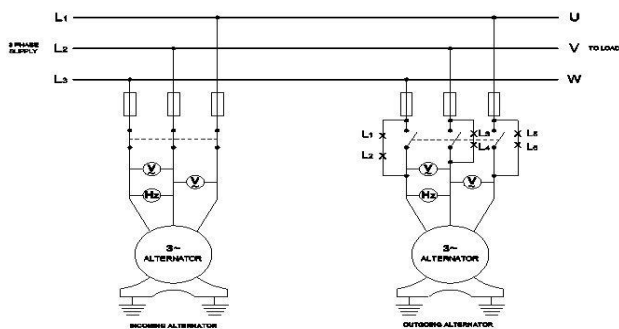
C : Over excitation method

D : Under excitation method

Wireman – Semester 3 Module 6 - AC Generator

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153 : Which is the correct time of parallel operation of alternators in lamp method illustrated?



- A : All 3 lamps in dark
- B : All 3 lamps in bright
- C : Two lamps bright and one lamp dark
- D : One lamp bright and two lamps dark

154 : How the 3 lamps glow under parallel operation of alternators in bright lamp method?

- A : All 3 lamps in dark
- B : All 3 lamps in bright
- C : Two lamps bright and one lamp dark
- D : One lamp bright and two lamps dark

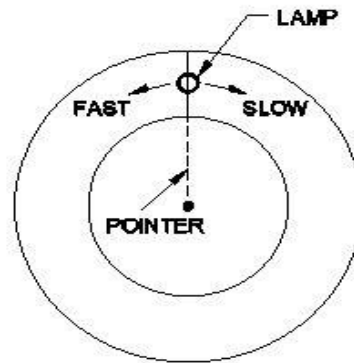
155 : How many lamps are required for parallel operation of two 3 phase alternators?

- A : 3
- B : 6
- C : 8
- D : 10

156 : What is the name of the instrument used to indicate the correct time for parallel operation of alternators?

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

157 : Which is the exact instant of parallel operation of alternators in Weston synchroscope illustrated?



- A : Indicating the fast direction
- B : Indicating the slow direction
- C : Visible at its central position
- D : Oscillating in between fast and slow

158 : Which instrument is the special form of power factor method?

- A : Synchroscope
- B : Frequency meter
- C : Wattmeter
- D : Phase sequence meter

159 : Which is used in Weston type electro dynamo meter synchroscope?

- A : Iron vane
- B : Fixed coil
- C : Transformer
- D : Permanent magnet

Wireman – Semester 3 Module 7 - AC Single phase induction motors

Reviewed and updated on: 01st November 2019 Version 1.1

160 : What is the basic working principle of single phase universal motors?

- A** : Same as DC Motors
- B** : Faradays laws
- C** : Rotating magnetic field theory
- D** : Flemings right hand rule

161 : Which motor has very low starting torque?

- A** : Three phase squirrel cage motor
- B** : Three phase slip ring motor
- C** : Resistance start induction run motor
- D** : Universal motor

162 : Which type of rotor is used in capacitor start induction run single phase motor?

- A** : Slip ring type
- B** : Commutator type
- C** : Wound rotor type
- D** : Squirrel cage type

163 : How many number of windings are there in split phase resistance type induction motor?

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

164 : Which winding circuit will have more resistance in split phase resistance type induction motor?

- A** : Main winding
- B** : Compensating winding
- C** : Auxiliary winding
- D** : Damper winding

165 : Which motor operates without centrifugal switch?

- A** : Permanent capacitor motor
- B** : Capacitor start capacitor run motor
- C** : Capacitor start induction run motor
- D** : Resistance induction run motor

166 : Which winding is disconnected by the centrifugal switch in split phase resistance type induction motor

- A** : Main winding
- B** : Auxiliary winding
- C** : Compensating winding
- D** : Damper winding

167 : Which speed the centrifugal switch acts in a single phase induction motor?

- A** : About 70% of speed
- B** : About 25% of speed
- C** : About 50% of speed
- D** : At full speed

168 : Which single phase induction motor has high starting torque?

- A** : Split phase induction motor
- B** : Capacitor start induction run motor
- C** : Shaded pole motor
- D** : Two value Capacitor motor

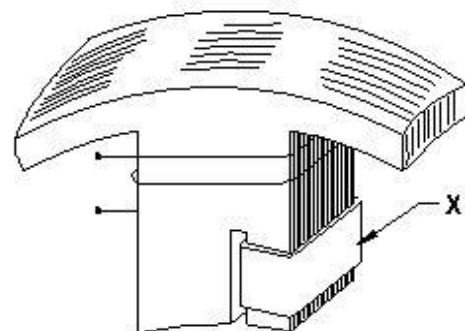
169 : Which winding is disconnected at 70% of speed in a capacitor start induction run motor?

- A** : Auxiliary winding
- B** : Main winding
- C** : Running winding
- D** : Damper winding

170 : What is the another name of main winding in a single phase capacitor start induction run motor?

- A** : Auxiliary winding
- B** : Damper winding
- C** : Running winding
- D** : Starting winding

171 : What is the part marked as X?



- A** : Main coil
- B** : Shading coil
- C** : Yoke
- D** : Poles

Wireman – Semester 3 Module 7 - AC Single phase induction motors

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172 : What is the material used to make the shading coil of a shaded pole motor?

- A** : Aluminium
- B** : Brass
- C** : Silver
- D** : Copper

173 : Which single phase motor operates in both AC and DC supply?

- A** : Shaded pole motor
- B** : Two value Capacitor motor
- C** : Universal motor
- D** : Split phase induction motor

174 : What is the another name of Universal motor?

- A** : AC single phase series motor
- B** : Three phase induction motor
- C** : Shaded pole motor
- D** : Synchronous motor

175 : Which of the motor has wound rotor and commutator?

- A** : Capacitor start capacitor run motor
- B** : Capacitor start induction run motor
- C** : Shaded pole motor
- D** : Universal motor

176 : What is the value of starting torque for a universal motor?

- A** : 100 % of full load torque
- B** : Below 50% of full load torque
- C** : 450 % of full load torque
- D** : 150 % of full load torque

177 : Which motor runs at synchronous speed?

- A** : Capacitor start induction run motor
- B** : Shaded pole motor
- C** : Universal motor
- D** : Hysteresis motor

178 : Which motor stator is wound for three phase?

- A** : Reluctance motor
- B** : Capacitor start induction run motor
- C** : Shaded pole motor
- D** : Universal motor

179 : Which motor stator consists of multiple salient electro magnet poles?

- A** : Shaded pole motor
- B** : Repulsion motor

C : Capacitor start induction run motor

D : Universal motor

180 : Which of the motor has step movements?

- A** : Shaded pole motor
- B** : Repulsion motor
- C** : Stepper motor
- D** : Universal motor

181 : Which type of winding is done in the repulsion motor?

- A** : Distributed AC winding
- B** : DC lap or wave winding
- C** : Damper winding
- D** : Compensating winding

182 : Which motor is used in food mixer?

- A** : Universal motor
- B** : Stepper motor
- C** : Capacitor start induction run motor
- D** : Repulsion motor

183 : Which motor is used for refrigerators and air conditioners?

- A** : Universal motor
- B** : Stepper motor
- C** : Capacitor start induction run motor
- D** : Two value Capacitor motor

184 : Which motor is used in toys and hair dryers?

- A** : Stepper motor
- B** : Universal motor
- C** : Shaded pole motor
- D** : Synchronous motor

Wireman – Semester 3 Module 8 - AC 3 Phase Induction motor

Reviewed and updated on: 01st November 2019 Version 1.1

185 : What is the speed of rotating magnetic field in a 3f induction motor?

- A : Rotor speed
- B : Synchronous speed
- C : Motor speed
- D : Rated speed

186 : Which equation is used for calculation synetronous speed of 3f induction motor.

A :

$$N_s = \frac{120P}{F}$$

B :

$$N_s = \frac{120f}{P}$$

C :

$$N_s = 120 \times P \times F$$

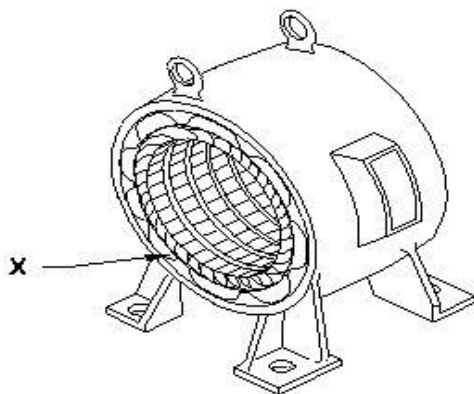
D :

$$N_s = \frac{PF}{120}$$

187 : What is the synchronosis speed of a 3 phase induction motor if the supply frequency is 50 Hz and number of pole is 4?

- A : 1400 rpm
- B : 1500 rpm
- C : 1450 rpm
- D : 1000 rpm

188 : Name the part marked as X?



- A : Terminal box
- B : Yoke/lrame

C : Stator winding

D : Laminated steel core

189 : Which material is used to wound rotor of squirrel cage induction motor?

- A : Aluminium
- B : Enamelled copper conductor
- C : Silicon steel
- D : Copper bars

190 : Which part of squirrel cage rotor is short circuited?

- A : End rings
- B : Shaft
- C : End cover hysteresis
- D : Bearings

191 : Why the core of 3f induction motor is laminated?

- A : To reduce friction loss
- B : To reduce eddy current loss
- C : To reduce hysteresis loss
- D : To reduce starting current

192 : What is the equation for rotor frequency of 3-phase induction motor?

A :

$$F_r = \frac{N_s - N_r}{N_s} \times F_s$$

B :

$$F_r = (N_r - N_s) \times F_s$$

C :

$$F_r = (N_s - N_r) \times F_s$$

D :

$$F_r = \frac{N_s - N_s}{N_r} \times F_s$$

Wireman – Semester 3 Module 8 - AC 3 Phase Induction motor

Reviewed and updated on: 01st November 2019 Version 1.1

193 : Which formula is used to find percentage slip in 3 ϕ induction?

A :

$$\%S = \frac{120f}{P} \times 100$$

B :

$$\%S = \frac{N_s - N_r}{N_s} \times 100$$

C :

$$\%S = \frac{N_s - N_r}{N_r} \times 100$$

D :

$$\%S = \frac{N_r - N_s}{N_s} \times 100$$

194 : Which speed of 3-phase induction motor runs?

- A** : Above synchronous speed
- B** : Below synchronous speed
- C** : Equal to synchronous speed
- D** : At slip speed

195 : What is the value of slip at the time of starting of 3 phase induction motor?

- A** : Two
- B** : Three
- C** : One
- D** : Zero

196 : Which is directly proportional to torque in 3 phase induction motor?

- A** : Rotor power factor
- B** : Stator frequency
- C** : Number of poles
- D** : Supply voltage

197 : What is phase angle difference between three windings in three phase squirrel cage induction motor?

- A** : 360°
- B** : 90°
- C** : 120°
- D** : 30°

198 : Which material is used to wound outer cage rotor bars of a double squirrelcage induction

motor?

- A** : Brass
- B** : Aluminium
- C** : Copper
- D** : Silicon steel

199 : Which type of rotor is used in squirrelcage induction motor?

- A** : Wound type
- B** : Squirrel cage
- C** : Slipring type
- D** : Projecting type

200 : Why rotor bars of squirrel cage induction motor is skewed?

- A** : Reduce magnetic humming
- B** : Reduce losses
- C** : Improve efficiency
- D** : Improve capacity

201 : How to change the direction of rotation of a 3 ϕ squirrel cage induction motor?

- A** : By interchanging three terminals
- B** : By interchanging any two terminals
- C** : By disconnecting one terminal
- D** : By reducing the applied voltage

202 : Which type of starter is recommended to start upto 3 HP squirrelcage induction motors?

- A** : DOL starter
- B** : Auto transfer starter
- C** : Star-delta starter
- D** : Rotor resistance starter

203 : Which starter is in simple expensive and easy to start?

- A** : Rotor resistance starter
- B** : DOL starter
- C** : Semi automatic star delta starter
- D** : Auto transformer starter

204 : Which device in DOL starter provides effective protection against over load?

- A** : Holding coil
- B** : Back up fuse
- C** : Thermal relay
- D** : Push button switch

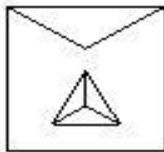
Wireman – Semester 3 Module 8 - AC 3 Phase Induction motor

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205 : How many number of contactors are used in a semi automatic star delta starter?

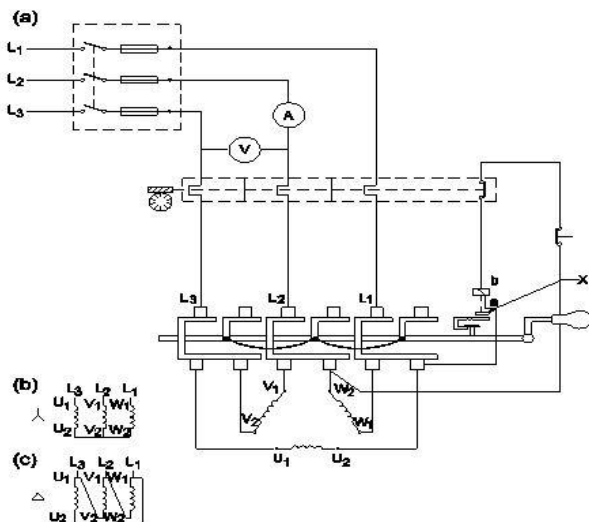
- A : 6
- B : 4
- C : 5
- D : 3

206 : Which type of AC 3 phase motor starter this BIS symbol represents?



- A : Star delta starter
- B : Rheostatic starter
- C : Direct online starter
- D : Pole changing starter

207 : Name the part marked as X in manual star delta starter?



- A : Plunger
- B : Lever plate
- C : Stop button
- D : Over load relay setting

208 : Which is the additional device used in automatic star delta starter than semi automatic star delta starter?

- A : Push button station
- B : Timer

C : OLR

D : Number of contacts

209 : How many times of starting current in 3f induction motor is reduced, while starting by star delta starter?

- A : 3 times
- B : 1/3 times
- C :

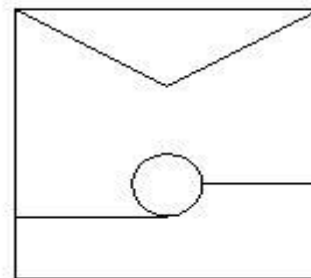
$\sqrt{3}$ times

D : 1/2 times

210 : Which device is used in control of a star delta starter to stop the motor?

- A : OLR
- B : Star contactor
- C : Delta contactor
- D : Normally closed push button

211 : What is the name of the starter symbol?

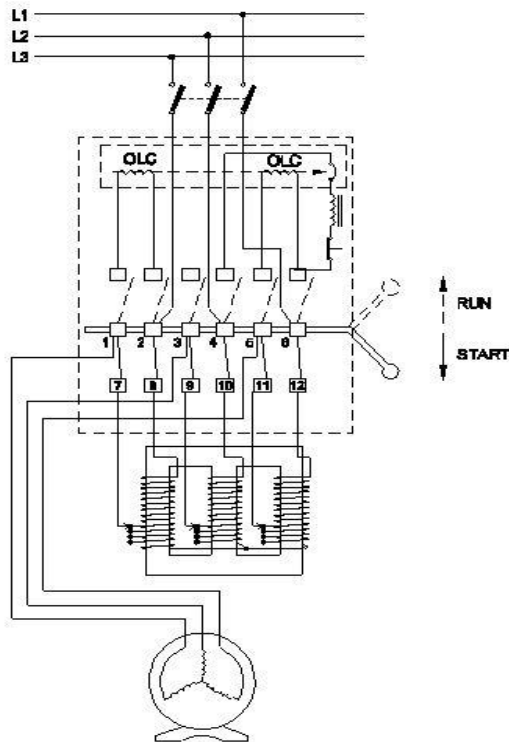


- A : D.O.L starter
- B : Auto transformer starter
- C : Automatic star/delta starter
- D : Semi automatic star/delta starter

Wireman – Semester 3 Module 8 - AC 3 Phase Induction motor

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212 : What is the name of the A.C motor starter?



- A : DOL starter
- B : Auto transformer starter
- C : Semi automatic star delta starter
- D : Fully automatic star delta starter

213 : Which type of starter is used with reduced voltage tappings for 3 phase induction motor?

- A : D.O.L starter
- B : Star delta starter
- C : Auto transformer starter
- D : Rotor resistance starter

214 : How the voltage is reduced in auto transformer starter at the time of starting?

- A : By reducing supply voltage
- B : By adjusting the tappings by handle
- C : By using step down transformer
- D : By adding resistance with rotor

215 : Which induction motor, the external resistance is added to rotor circuit?

- A : Squirrel cage induction motor
- B : Double squirrel cage induction motor
- C : Slip ring induction motor
- D : Single phase induction motor

216 : Which motor is used to produce high starting torque at variable speed?

- A : Repulsion motor
- B : Permanent capacitor motor
- C : 3 Phase slip ring induction motor
- D : 3 Phase single squirrel cage induction motor

217 : Why slip ring induction motor is fitted with wound rotor?

- A : To reduce the slip
- B : To control the speed
- C : To reduce the losses
- D : To get high starting and running torque

218 : Which type of starter is used to start and run the 3 phase slip ring induction motor?

- A : Direct on-line starter
- B : Rotor rheostat starter
- C : Auto transformer starter
- D : Manual star-delta starter

219 : What is the purpose of using rotor resistance starter to start 3 phase slip ring induction motor?

- A : Reduce rotor voltage
- B : Increase rotor current
- C : Increase the starting torque
- D : Reduce the power loss

220 : Why external resistance is included in the rotor circuit at starting through 3 phase slip ring induction motor starter?

- A : To get high running torque
- B : To reduce high starting current
- C : To reduce the load current
- D : To get increased speed at starting

221 : What is the effect of motor, if the rotor windings in slip ring induction motor is open circuited at starting?

- A : Will not run
- B : Runs at slow speed
- C : Runs at very high speed
- D : Runs but not able to pull load

222 : Which method is used to control the speed of 3 phase induction motor from stator side?

- A : By cascade operation
- B : By rotor rheostat control
- C : By injecting emf in rotor circuit
- D : By changing the applied frequency

Wireman – Semester 3 Module 8 - AC 3 Phase Induction motor

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223 : Which speed control method of 3 f motor is used only induction motor supplied by generator?

- A** : Casacade operation method
 - B** : By changing the number of stator poles
 - C** : By injection Emf in rotor circuit
 - D** : By changing the supplied voltage
-

224 : Which method of speed control is only applicable for 3 phase slipping induction motor?

- A** : Casacade operation method
 - B** : Rotor rheostat speed control
 - C** : Changing the applied frequency method
 - D** : Changing the number of stator poles method
-

225 : Which method of speed control of 3 phase induction motor above and below normal speed can be obtained?

- A** : By rotor rheostat control
 - B** : By changing applied voltage
 - C** : By injecting EMF in rotor circuit
 - D** : By changing the number of stator poles
-

226 : Which method of speed control of 3 phase induction motor only two speeds can be obtained?

- A** : By cascade operation
 - B** : By changing the applied voltage
 - C** : By changing the supply frequency
 - D** : By changing the number of stator poles
-

227 : Which method of speed control can be obtained from rotor side of 3 phase induction motor?

- A** : Voltage control
 - B** : Cascade operation
 - C** : Pole changing control
 - D** : Supply frequency control
-

228 : Which principle the current sensing single phasing preventor works?

- A** : Equal currents with balanced loads
 - B** : Different currents with balanced loads
 - C** : Equal currents with unbalanced loads
 - D** : Different currents with unbalanced loads
-

229 : What is called, if the order of 3 phase supply voltages reach the maximum value?

- A** : Phase relation
 - B** : Phase sequence
 - C** : Single phasing
 - D** : Phase distortion
-

230 : What is the purpose of single phasing preventor?

- A** : Protects the motor by stopping automatically under balanced load
 - B** : Provides three phase supply in sequence order
 - C** : Prevents the motor from short circuit fault
 - D** : Prevent the motor from over load
-

231 : Which type of single phase preventer is used for the motor with constant load?

- A** : Mechanical single phasing preventor with bimetal relay
 - B** : Mechanical single phasing preventer with coils
 - C** : Voltage sensing single phasing preventer
 - D** : Current sensing single phasing preventer
-

Wireman – Semester 3 Module 9 - Power wiring of motors

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232 : Which board can be accessed from rear as well as from front side?

- A** : Switch board
- B** : Panel board
- C** : Danger board
- D** : Main switch board

233 : How the name identification boards are fixed on the panel?

- A** : Welded
- B** : Riveted
- C** : Brazed
- D** : Soldered

234 : What is the name of the accessory used to fix MCB and contactors in panel board?

- A** : Thimbles
- B** : G clamp
- C** : Din rail
- D** : Grommets

235 : When the isolation switch of a panel board should be operated?

- A** : In ON load condition
- B** : In normal load condition
- C** : In over load condition
- D** : In OFF load condition

236 : Which PVC material is used in panel board for providing pathway for wiring inside?

- A** : Raceways
- B** : Grommets
- C** : Din rail
- D** : Wire ferrules

237 : What is the function of ferrules in panel boards?

- A** : To identify the panel
- B** : To identify the switch
- C** : To identify the wire
- D** : To identify raceways

238 : What is the name of bushing used to prevent dirt, water and insects entering the panel board?

- A** : Raceways
- B** : Thimbles
- C** : Sleeves
- D** : Grommets

239 : What is the minimum clearance distance required in front of a panel or switch board?

- A** : 1 metre
- B** : 0.8 metre
- C** : 0.6 metre
- D** : 0.5 metre

240 : What is the name of part in a panel board where cables are completely enclosed?

- A** : Meter cabinet
- B** : Cable alley
- C** : Bus chamber
- D** : Cubicle

241 : Which part of a panel board should be earthed as per IE rule?

- A** : All live parts
- B** : All terminals
- C** : All metal parts
- D** : All bus bars

242 : What should be prepared first to design and estimate a panel board?

- A** : Schematic diagram
- B** : Panel board
- C** : Switchgears list
- D** : Accessories list

243 : What is the next step involved in panel design after preparing Schematic diagram?

- A** : Preparation of wiring diagram
- B** : Panel board measurement
- C** : Preparation of accessories list
- D** : Preparation of Meter cabinet

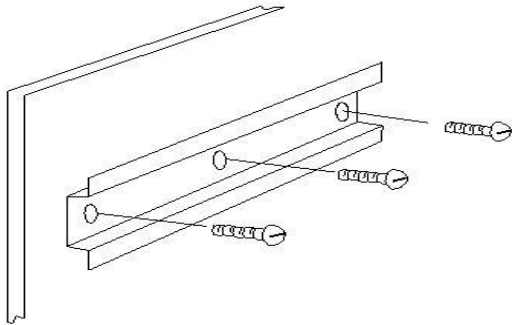
244 : What is the cutting angle value of iron angle in panel boards?

- A** : 90°
- B** : 75°
- C** : 60°
- D** : 45°

Wireman – Semester 3 Module 9 - Power wiring of motors

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245 : Which is the name of preparation of control panel?



- A : Fixing of Raceways
- B : Fixing of G channel
- C : Fixing of Din rail
- D : Fixing of PVC channel

246 : What is the minimum clear distance required between bare conductors in panel board?

- A : 2.5 cm
- B : 10 cm
- C : 3.8 cm
- D : 1.2 cm

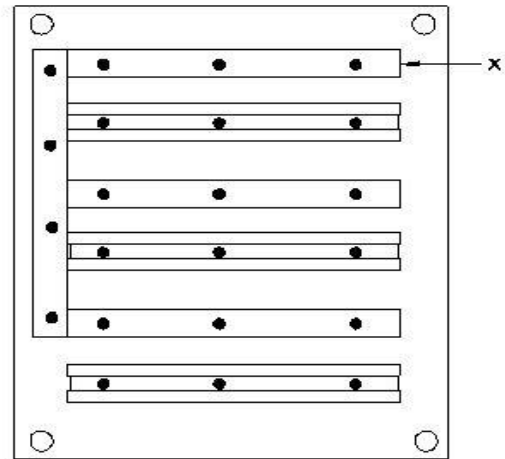
247 : What is the name of device used to fix and hold cables in a secure manner inside the panel board?

- A : Thimbles
- B : Grommets
- C : Wire ferrules
- D : Wire clip

248 : Which item is used to terminate the cable ends in a panel board?

- A : Grommets
- B : Wire ferrules
- C : Thimbles
- D : Raceways

249 : What is the part marked as x in the panel board?



- A : Raceways
- B : Bushing
- C : Grommets
- D : Thimbles

250 : What is the minimum number of earth terminals needed on a panel board?

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

251 : What is the name of item used to fix the cables rigidly to the body of panel board?

- A : Bushing
- B : Grommets
- C : Ferrules
- D : Gland

252 : Which material is used to make earth bus bar in panel boards?

- A : Copper
- B : Silver
- C : Iron
- D : PVC

253 : Which step is involved in testing load performance in panel boards?

- A : Second step
- B : First step
- C : Last step
- D : Third step

Wireman – Semester 3 Module 9 - Power wiring of motors

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ANSWERS :

1:C; 2:C; 3:D; 4:A; 5:B; 6:A; 7:B; 8:C; 9:C; 10:B; 11:A;
12:A; 13:B; 14:C; 15:D; 16:C; 17:D; 18:C; 19:B; 20:A;
21:C; 22:D; 23:A; 24:D; 25:A; 26:D; 27:C; 28:A; 29:A;
30:B; 31:C; 32:B; 33:A; 34:B; 35:A; 36:B; 37:D; 38:B;
39:C; 40:B; 41:B; 42:A; 43:B; 44:A; 45:B; 46:A; 47:A;
48:B; 49:A; 50:B; 51:A; 52:A; 53:A; 54:B; 55:C; 56:A;
57:B; 58:C; 59:A; 60:B; 61:B; 62:D; 63:A; 64:B; 65:A;
66:C; 67:C; 68:A; 69:B; 70:A; 71:A; 72:C; 73:C; 74:D;
75:A; 76:B; 77:D; 78:D; 79:B; 80:A; 81:D; 82:A; 83:C;
84:C; 85:D; 86:A; 87:C; 88:A; 89:A; 90:B; 91:B; 92:A;
93:C; 94:B; 95:D; 96:A; 97:B; 98:D; 99:C; 100:B;
101:B; 102:C; 103:A; 104:C; 105:A; 106:A; 107:A;
108:B; 109:A; 110:D; 111:A; 112:C; 113:B; 114:B;
115:D; 116:B; 117:A; 118:A; 119:D; 120:A; 121:A;
122:A; 123:A; 124:D; 125:A; 126:D; 127:A; 128:B;
129:B; 130:C; 131:B; 132:B; 133:A; 134:A; 135:A;
136:C; 137:A; 138:A; 139:A; 140:A; 141:A; 142:A;
143:B; 144:A; 145:B; 146:A; 147:A; 148:A; 149:A;
150:B; 151:A; 152:A; 153:A; 154:C; 155:B; 156:C;
157:C; 158:A; 159:C; 160:A; 161:C; 162:D; 163:B;
164:C; 165:A; 166:B; 167:A; 168:D; 169:A; 170:C;
171:B; 172:D; 173:C; 174:A; 175:D; 176:C; 177:D;
178:A; 179:B; 180:C; 181:B; 182:A; 183:D; 184:C;
185:B; 186:B; 187:B; 188:C; 189:D; 190:A; 191:B;
192:A; 193:B; 194:B; 195:C; 196:A; 197:C; 198:A;
199:B; 200:A; 201:B; 202:A; 203:B; 204:C; 205:D;
206:A; 207:A; 208:B; 209:C; 210:D; 211:B; 212:B;
213:C; 214:B; 215:C; 216:C; 217:D; 218:B; 219:C;
220:B; 221:A; 222:D; 223:B; 224:B; 225:B; 226:D;
227:B; 228:A; 229:B; 230:A; 231:D; 232:A; 233:B;
234:C; 235:D; 236:A; 237:C; 238:D; 239:A; 240:B;
241:C; 242:A; 243:C; 244:D; 245:C; 246:A; 247:D;
248:C; 249:A; 250:A; 251:D; 252:A; 253:C;

Wireman – Semester 4 Module 2 - Generation and transmission

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

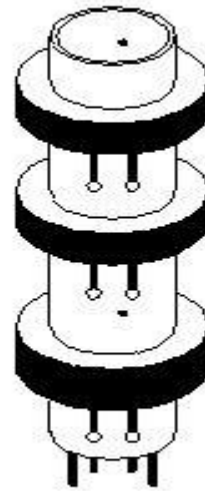
- 5 : What is the name of transformer?



- 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 :

$$E = 4.44 F N \theta_m$$

- 9 : Which is denoted by the letter ϕ_m in the formula $4.44 F N \phi_m$?

- 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

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11 : Which is the transformation ratio?

A :

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

B :

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

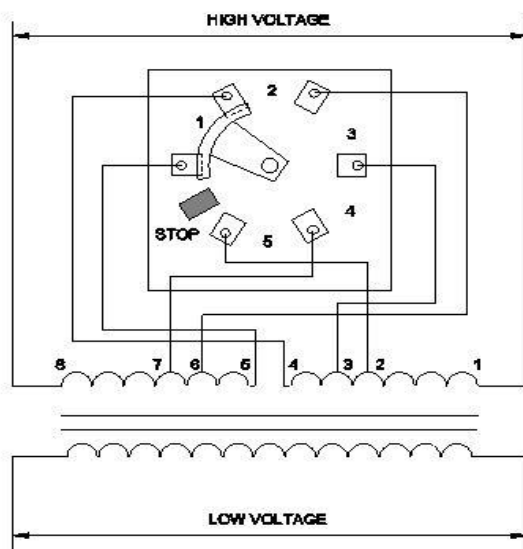
C :

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

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

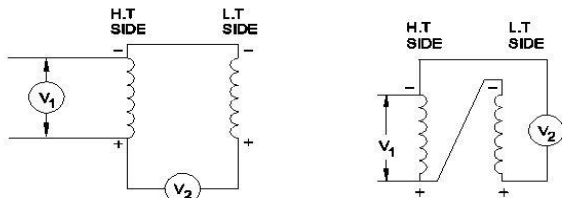
Wireman – Semester 4 Module 2 - Generation and transmission

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18 : Which principle auto transformer works?

- A : Lenzs law
- B : Flemings right hand rule
- C : Self induction
- D : Mutual induction

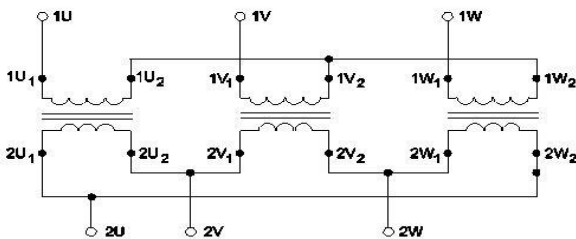
19 : What is the name of test of single phase transformer?



a) V_2 IS LESS THAN $V_1 (V_P - V_S)$ VOLTS b) V_2 IS MORE THAN $V_1 (V_P + V_S)$ VOLTS

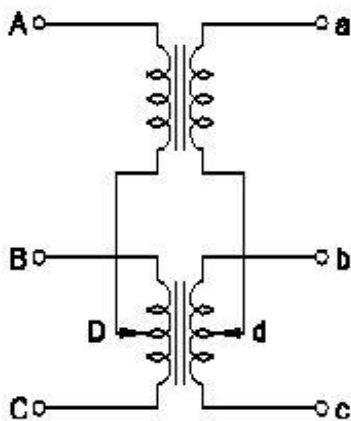
- A : Short circuit test
- B : Open circuit test
- C : Polarity test
- D : Continuity test

20 : What is the connection name of transformer?



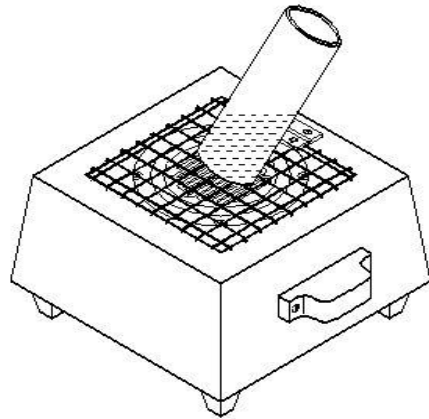
- A : Star - star
- B : Star - delta
- C : Delta - delta
- D : Delta - star

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 charger
- 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

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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

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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

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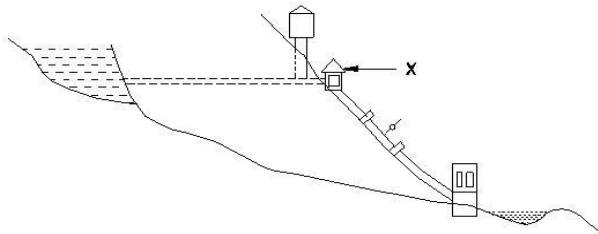
48 : Which is conventional power generation?

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

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

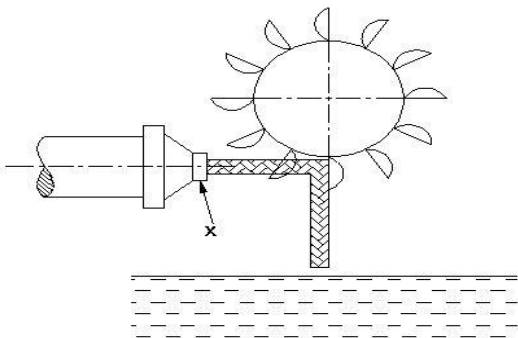
- A** : Coal
- B** : Wood
- C** : Biogas
- D** : Kerosene

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



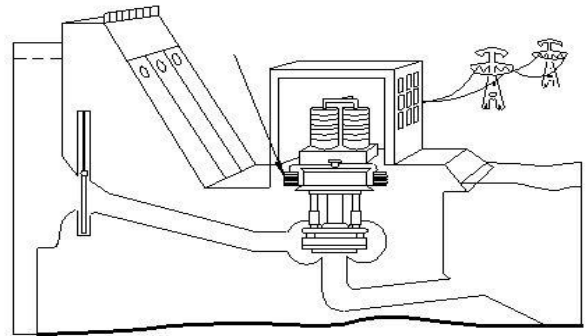
- A** : Surge tank
- B** : Valve house
- C** : Penstock
- D** : Reservoir

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

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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 over head 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?

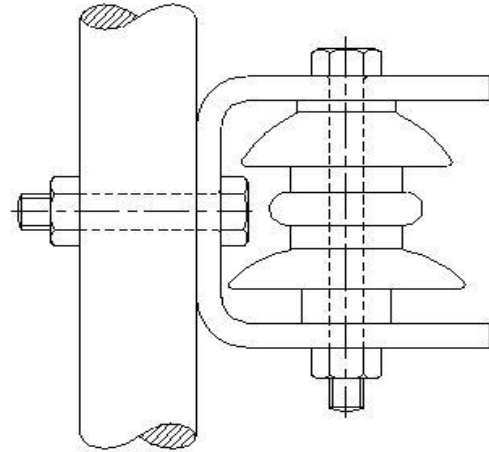
- A** : Not below 1 m from ground

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?



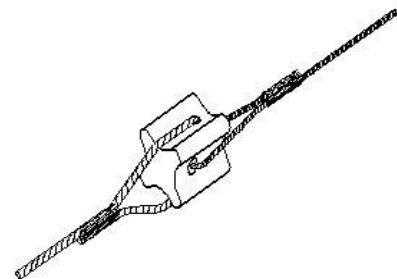
A : Suspension insulator

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

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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 voltage
- 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

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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

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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

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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

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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 armouring 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 armouring 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

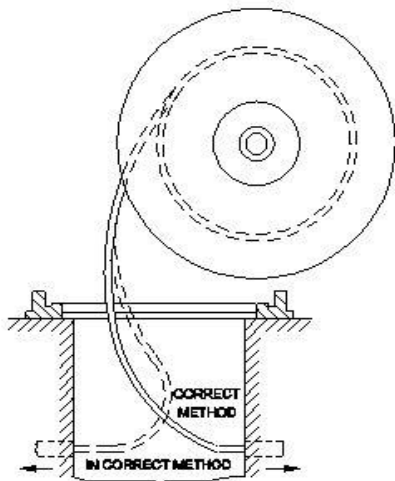
163 : Which method of laying involves digging a trench in the ground and laying cable on a bedding of sand ?

- 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

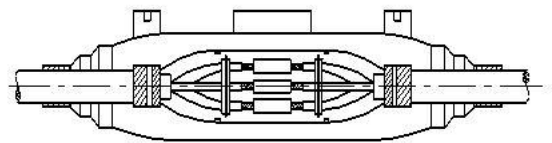
167 : Which method of cable laying, The cable is protected by sand (or) layer of bricks?

- 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** : Out put voltage of alternators must be different
- B** : Out put 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** : Out put 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

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

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

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

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

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

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

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

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

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

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

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

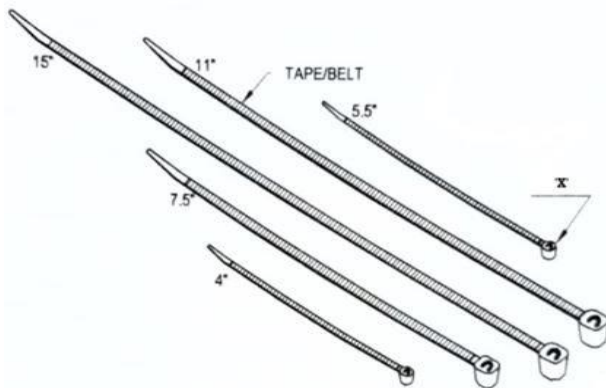
Wireman – Semester 4 Module 7 - Control panel wiring and maintenance

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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

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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

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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

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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

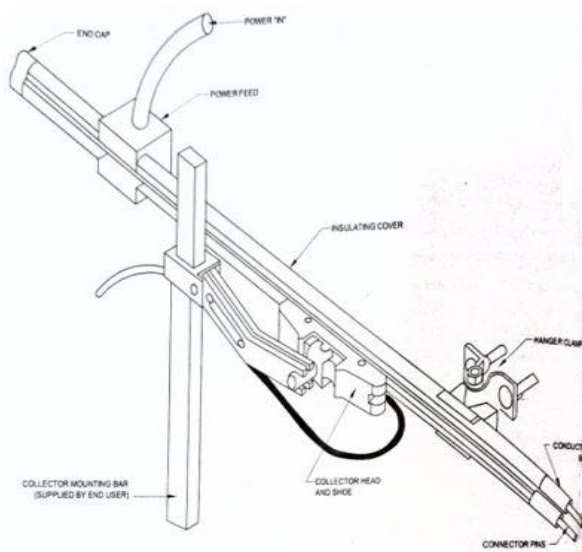
227 : Which is the cross sectional area of neutral bus bar compared to phase busbar above 200 A capacity?

- 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

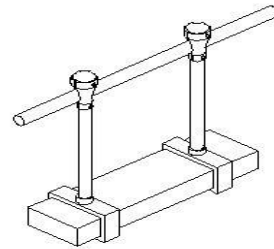
230 : Which is the distance of saddles to be fixed from the centre of bends (or) couplings in metal circuit wiring?

- 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

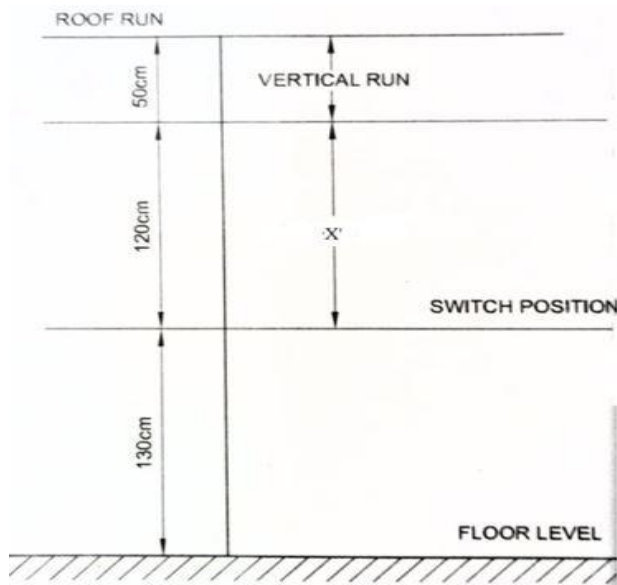
233 : Which is the minimum size of copper conductor used for power wiring in commercial wiring as per IE rule?

- 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

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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

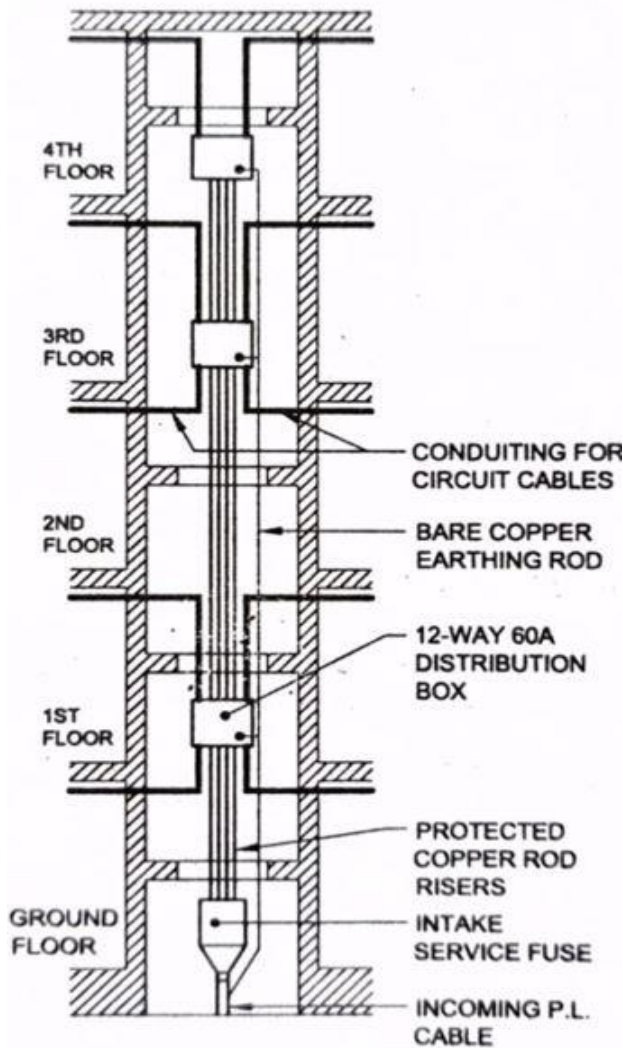
243 : Which is the number of earth leads shall be provided along with vertical runs of rising mains?

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

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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 : $I^2 R$
- 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

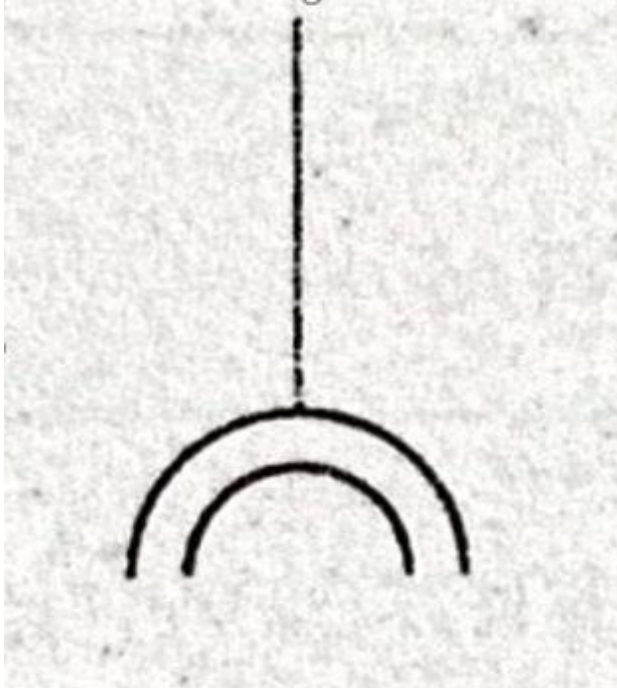
253 : Which method of wiring consumes less quantity of wire/cable?

- 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

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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;