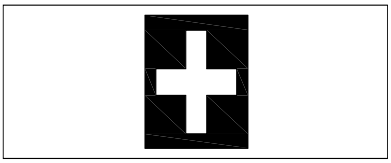
Electrician - Block 1 - Module 1 : Safety Practice

Questions: Level 1

1 What is the name of the safety sign?

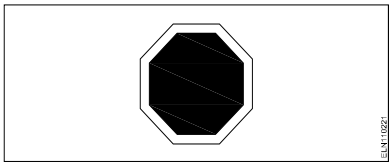


A Warning sign
B Mandatory sign
C Prohibition sign
D Information sign

2 What is smothering in extinguishing of fire?
A Adding the fuel element to the fire
B Removing the fuel element from the fire
C Using of water to lower the temperature
D Isolating the fire from the supply of oxygen

3 Which step of the 5s-concept refers “Standardization”?
A Step – 1
B Step - 2
C Step - 3
D Step - 4

4 What is the name of road safety sign?

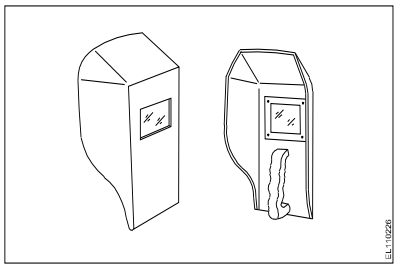


A Mandatory sign
B Cautionary sign
C Informatory sign
D Prohibition sign

5 What is the back ground colour of warning signs in the basic category?
A Blue
B White
C Yellow
D Green

6 What is the full form of BIS?
A Board of Indian Standard
B Bureau of Indian Standard
C Board of International Standard
D Bureau of International Standard

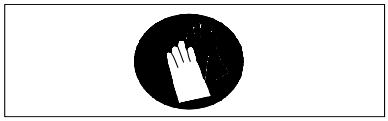
7 What is the name of PPE?



A Nose mask
B Head shield
C Face shield
D Hand screen

8 CPR stands for
A Cardio Pulse Recorder
B Common Pulse Respirator
C Cardio Pulmonary Resuscitation
D Compulsory Pursuit resuscitation

9 What is the name of the safety sign?



A Warning sign
B Mandatory sign
C Prohibition sign
D Information sign

10 What is the name of the cautionary sign?

A School
B Guarded
C Unguarded
D Pedestrian crossing

11 Which defines an unexpected occurance that requires immediate action?
A Accident
B Casuality
C Emergency
D First aid treatment

12 What is the prime reasons for severe electric shock?

A Using excess rating of fuse

B Execution of electric work without planning

C Wrong connection and not using correct pad

D The magnitude of current and duration of contact

Questions: Level 2

1 Which is the physical hazard??
A Smoking
B Vibration
C Corrosive
D Radio active

2 Which is the correct sequence of operation to be performed when using the fire extinguisher?
A Pull, Aim, Squeeze, Sweep
B Pull, Aim, Sweep, Squeeze
C Push, Arrange, Squeeze, Sweep
D Push, Arrange, Sweep, Sequence

3 Which type of PPE is to be used for the dust particles hazard?
A Goggle
B Nose mask
C Face shield
D Hand shield

4 The foam type fire extinguisher is most suitable for..
A The fire on clothes
B The fire on metals
C The fire on flammable liquid
D The fire on electrical equipment

5 Which type of fire extinguisher is used for fire on electrical equipment?
A Halon type
B Foam type
C Gas cartridge type
D Stored pressure type

6 Which is the waste disposal method that produces heat?
A Recycling
B Composting
C Incineration
D Waste compaction

7 Which Personal Protective Equipment (PPE) is used for the protection from fumes?
A Apron
B Goggles
C Ear mask
D Nose mask

8 Which method is used to lift and move heavy loads?
A Winches
B Crane and slings
C Layers and Rollers
D Machine moving platforms

9 What is starving in extinguishing of fire?
A Adding fuel to the fire
B Using water to cool the fire
C Removing fuel element from the fire
D Preventing oxygen supply to the fire

10 Which disposal method of waste save lot of energy?
A Land fill
B Recycling
C Incineration
D Composting

11 Which artificial respiriation method is to be performed to the victim with injuries on the chest and belly?
A Schafer's method
B Mouth to mouth method
C Mouth to nose method
D Nelson's arm-lift back pressure method

12 Which type of occupational health hazard is cause for infection?
A Electrical hazard
B Biological hazard
C Physiological hazard
D Psychological hazard

13 Which is the cause for fire in electrical equipment?
A Less than the rated voltage
B Damage in insulation of cables
C Open in earth continuity conductor
D open circuit in electrical installation

14 How will you diagonise the victim is suffering under cardiac arrest?
A Gets pain in spinal guard
B Mouth will be closed tightly
C Heavy swelling on his stomach
D Appears blue colour around his lips

15	What will be first-aid to be given to stop the bleeding of the victim?
A	Applying ointment
B	Keep the injured portion upward
C	Covering the wound portion by dressing
D	Applying pressure over the injured portion
16	Which is the golden hour for the victim injured on head with risk of dying?
A	First 15 minutes
B	First 30 minutes
C	First 45 minutes
D	First 60 minutes
17	Which condition of the victim is referred as COMA stage?
A	Unconscious but can respond to calls
B	Conscious but cannot respond to calls
C	Breathing but cannot respond to calls
D	Lie totally senseless and do not respond to calls
18	Which PPE is to be used for eye protection?
A	Helmet
B	Goggles
C	Leather aprons
D	Head shield without earmuff
19	Which process of disposal of waste material is broken down into organic compounds?
A	Land fill
B	Recycling
C	Composting
D	Waste compaction
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
21	Which type of protection the title PPE - 7 represents?
A	Ears protection
B	Safety footwear
C	Eyes and face protection
D	Protective clothing and over all

Questions: Level 3

1 Which criteria must be satisfied for the quality of PPE's?

A It can withstand the hazards
B It can be used for long period
C Made by good quality material
D Full protection against all hazards

2 What is the action to be taken to control the severe bleeding?

A Apply clean pad and bandage firmly
B Wipe out the bleeding by the clothes
C Squeeze together the sides of the wound
D Apply some ointment on the bleeding area

3 What immediate treatment to be given for the patient having faintness due to low blood sugar?

A Do not give him anything to eat
B Call any one to take him to doctor
C Give him some hot eatable things to eat
D Give him something sweet to eat (or) drink

4 Which condition CPR treatment must be given to the patient?

A If he is having injury on his chest
B If he is breathing but not responding
C If the patient does not have a pulse
D If the patient is in unconscious condition

5 If the electric shocked victim is unconscious but is breathing, what immediate action to be taken?

A Report to your higher officials
B Send him to doctor without first aid treatment
C Call other persons to take away from the place
D Loosen the clothing about the neck, chest and waist

6 What immediate action should be taken to rescue the victim, if he is still in contact with the electrical power supply?

A Pull or push him from the contact by hand
B Inform your authority about this electric shock
C Call someone for helping to remove him from contact
D Break the contact by switching OFF the power supply

7 How will you rescue the electric shocked victim if you are not able to switch 'OFF' the power?

A Pullout by using insulating material
B Call somebody to switch 'OFF' the main
C Insulate the victim and then push (or) pull him
D Report this accident to your immediate authority

8 What immediate action can be taken for a critical spinal injury victim?

A Move him to a comfortable safer place
B Place the victim in the recovery position
C Apply some ointment on his back smoothly
D Do not move the victim's head, neck and back

Module 1 : Safety Practice- Key paper

Questions: Level 1

SL.No	Key
1	D
2	D
3	D
4	A
5	C
6	B
7	D
8	C
9	D
10	D
11	A
12	D

Questions: Level 2

SL.No	Key
1	B
2	A
3	B
4	C
5	A
6	C
7	D
8	B
9	C
10	B
11	D
12	B
13	B
14	D
15	D
16	B
17	D
18	B
19	C
20	C
21	A

Question: Level 3

SL.No	Key
1	A
2	C
3	D
4	C
5	D
6	D
7	A
8	D

Electrician - Block 1 - Module 2 : Basic Electrical - AC circuits

Questions: Level 1

1 How many electrons are there in the copper atom?

A 8
B 13
C 18
D 29

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2 What is the formula to calculate the equivalent resistance (RT) of the three resistors R1, R2 & R3 are connected in parallel circuit?

A RT = R1 + R2 + R3

B $\frac{1}{R_1} + \frac{1}{R2} + \frac{1}{R_3}$

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

D $R_T = \frac{1}{\frac{1}{R1} + \frac{1}{R2} + \frac{1}{R3}}$

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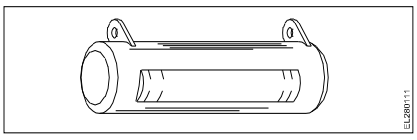
3 What is the name of the resistor?



A Metal film resistor
B Wire wound resistor
C Carbon – film resistor
D Carbon composition resistor

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4 What electrical quantities are related in Ohm's law?

A Current, resistance and power
B Current, voltage and resistivity
C Current, voltage and resistance
D Voltage, resistance and current density

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5 What is the unit of resistivity?

A ohm / cm
B ohm / cm^2
C ohm - metre
D ohm / metre

---

6 What is the formula for Quantity of electricity (Q)?

A Current x Time
B Voltage x Current
C Current x Resistance
D Voltage x Resistance

---

7 What is the unit of conductance??

A Mho
B Ohm
C Ohm-m
D Ohm/m

---

8 What is the S.I unit of specific resistance?

A Ohm/cm
B $Ohm/metre_2$
C Ohm-metre
D $Micro\ ohm/cm_2$

---

9 Which formula is used to calculate the power of a DC circuit?

A Voltage x time
B Current x voltage
C Current x resistance
D Voltage x resistance

---

10 What is the specific resistance value of copper conductor?

A 1.72 Ohm/cm^3
B 1.72 Micro ohm
C 1.72 $Micro\ ohm/cm^3$
D 1.72 Micro ohm/m

---

11 What is the formula to find 3 phase Reactive power (PR) if the line voltage is 'V_L' and line current is 'I_L'?

A $P_r = V_L I_L$
B $P_r = 3 V_L I_L \cos\theta$
C $P_r = \sqrt{3} V_L I_L \sin\theta$
D $P_r = \sqrt{3} V_L I_L \cos\theta$

---

12 What is the formula for Reactive Power (Pr) in an AC circuit?

A $P_r = VI$
B $P_r = \sqrt{2} VI$
C $P_r = VI \cos\theta$
D $P_r = VI \sin\theta$

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13 What is the phase displacement in a 3-phase AC circuit?

A 90°
B 120°
C 180°
D 270°

14 What is the formula to calculate the impedence (Z) of the R.L.C series circuit, if the inductive reactance (X_L) is less than capacitve recatance (X_C)?

A $Z = R^2 + \sqrt{X_L{}^2 + X_C{}^2}$

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

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

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

15 What is the formula to calculate the three phase active power (P) if the line voltage (VL) and line current is IL and phase angle is 'q'?

A $P = 3\ V_L\ I_L\ \text{Sin}\theta$

B $P = 3\ V_L\ I_L\ \text{Cos}\theta$

C $P = \sqrt{3}\ V_L\ I_L\ \text{Sin}\theta$

D $P = \sqrt{3}\ V_L\ I_L\ \text{Cos}\theta$

16 What is the form factor (K_f) for sinusoidal AC?

A 1

B 1.11

C 2.22

D 4.44

17 Which formula is used to calculate the impedance (z) of a RLC series circuit?

A $Z = R^2 + (x_L \sim x_c)^2$

B $Z = \sqrt{R^2 + (x_L \sim x_c)}$

C $Z = \sqrt{R + (x_L \sim x_c)}$

D $Z = \sqrt{R^2 + (x_L \sim x_c)^2}$

18 How many electrons are there in the valence shell of a copper atom?

A 1

B 2

C 8

D 18

19 What is the unit for Quantity of electricity?

A Mho

B Coulomb

C Volt /second

D Ampere/second

20 What formula is used to calculate Electro Motive Force (EMF)??

A EMF = Potential difference – voltage drop

B EMF = Potential difference + voltage drop

C EMF = Potential difference + voltage drop/2

D EMF = Potential difference + 2 x voltage drop

Questions: Level 2

1 Calculate the electrical energy in unit consumed by 500W lamp for 5 hours.
A 0.5 unit
B 1.0 unit
C 1.5 unit
D 2.5 unit

2 What is the value of hot resistance of a bulb rated as 100W/250V?
A 31.25 ohm
B 62.50 ohm
C 312.50 ohm
D 625.00 ohm

3 Calculate the total power of the circuit of two lamps rated as 200W/240V are connected in series across 240V supply?
A 50 W
B 100 W
C 200 W
D 400 W

4 What is the change of resistance value of the conductor as its diameter is doubled?
A Increases to two times
B Decreases to four times
C Decrease to half of the value
D No change in value of resistance

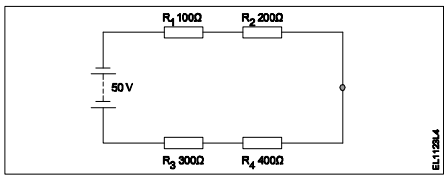
5 What is the effect of the parallel circuit with one branch opened?
A Current will remain same
B Whole circuit will not function
C No current will flow in that branch
D Voltage drop increase in the opened branch

6 Which is the application of series circuit?
A Voltmeter connection
B Lighting circuits in home
C Shunt resistor in ammeter
D Multiplier resistor of a voltmeter

7 What is the effect on opened resistor in series circuit?
A No effect in opened resistor
B Full circuit current will flow in opened resistor
C Total supply voltage will appear across the opened resistor
D No voltage will appear across the opened resistor

8 Which type of meter is used to test the polarity of battery?
A Moving iron ammeter
B Moving coil voltmeter
C Moving iron voltmeter
D Dynamo meter type wattmeter

9 What is the voltage drop in resistor 'R_2' in the series circuit?



A 5 volt
B 10 volt
C 15 volt
D 20 volt

10 Which is the application of series circuit?
A Fuse in circuit
B Voltmeter connection
C Electrical lamp in homes
D Shunt resistor in ammeter

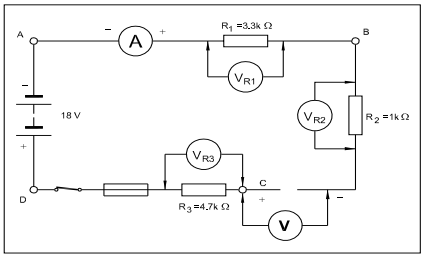
11 What is the change in value of resistance of the conductor, if its cross section area is doubled?
A No change
B Decreases 2 times
C Increases 2 times
D Decreases 4 times

12 What is the value of resistance in an open circuit?
A Zero
B Low
C High
D Infinity

13 Which resistor the lowest current flows in a parallel circuit having the values of 50 Ω, 220 Ω, 450 Ω and 560 Ω connected with supply?
A 50 Ω
B 220 Ω
C 450 Ω
D 560 Ω

14 Which is inversely proportional to the resistance of a conductor?
A Length
B Resistivity
C Temperature
D Area of cross section

15 What is the reading of the voltmeter 'V'?



A 0 V
B 6 V
C 9 V
D 18 V

16 What is the main cause for below 0.5 lagging power factor in 3 phase system?
A Due to fluctuation of voltage
B True power due to resistive load
C Reactive power due to more inductive load
D Reactive power due to more capacitive load

17 What is the current in neutral conductor in 3 phase unbalanced load in star connected system?
A No current will flow
B The algebraic sum of current in 3 phases
C The algebraic sum of current in 2 phases only
D Higher than the lowest current in any one of the phases

18 What will be the readings of two watt meters (W_1& W_2) in 3 phase power measurement, if the power factor is zero?
A W_1 & W_2 both are positive reading
B W_1 is Positive and W_2 is negative reading
C W_1 is equal to W_2 but with opposite signs
D W_1 is zero reading, and W_2 is negative reading

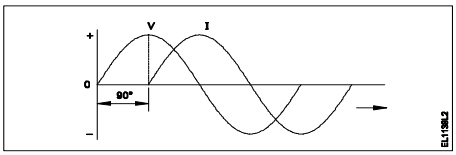
19 What is the maximum value of voltage for 240 volt RMS?
A 240V
B 415V
C 339.5V
D 376.8V

20 What is the relation between the line voltage (V_L) and phase voltage (Vp) in star connected system?
A $V_L = \sqrt{3}V_P$
B $V_L = 3V_P$
C $V_L = V_P / \sqrt{3}$
D $V_L = V_P / 3$

21 At what power factor in a 3 phase power measurement the reading of two wattmeters are equal and positive?
A 0
B 1
C 0.5
D 0.8

22 What is the relation between the line current (I_L) and phase current (I_P) in delta connected system?
A $I_L = I_P$
B $I_L = 3\ I_P$
C $I_L = \sqrt{3}\ I_P$
D $I_L = I_P / \sqrt{3}$

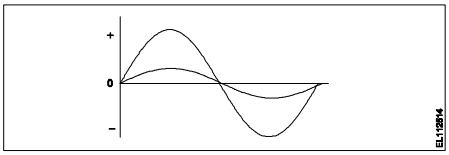
23 Which AC circuit contains the phase relation between voltage (V) and current (I)?



A Pure resistive circuit
B Pure capacitance
C Pure inductance
D Pure resistance and inductance series circuit

24 In a 3 phase system, if the active power is 4 kw and the apparent power is 5 KVA, calculate the reactive power?
A 1 KVAR
B 2 KVAR
C 3 KVAR
D 4 KVAR

25 What relationship is illustrated in between the current and voltage?



A Current and voltage are "in phase"
B Current and voltage are in out of phase
C Current lags behind the voltage
D Current leads ahead of the voltage

26 Calculate the total power by two wattmeter (W1 & W2) method, if one of the wattmeter (W2) reading is taken after reversing?

A W_1 x 2

B W_1 only

C W_1 - W_2

D W_1 + W_2

27 In which 3 phase system, the artificial neutral is required to measure the phase voltage?

A 3 wire star connected system

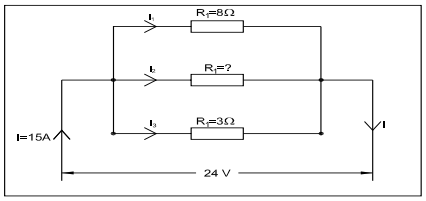
B 4 wire star connected system

C 3 wire delta connected system

D 4 wire delta connected system

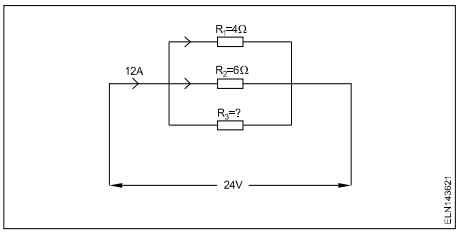
Questions: Level 3

1 Calculate the value of resistance 'R_2' in the parallel circuit?



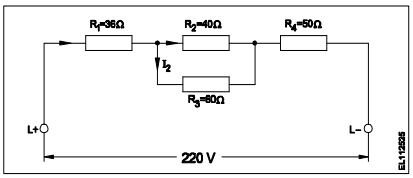
A 2 Ω
B 4 Ω
C 6 Ω
D 8 Ω

2 Calculate the resistance value in R_3 resistor.



A 4 Ohm
B 6 Ohm
C 8 Ohm
D 12 Ohm

3 Calculate the voltage drop across the resistor 'R_4' in the circuit?



A 48 V
B 72 V
C 80 V
D 100 V

4 What happens to the voltmeter if it is connected as an ammeter?

A Low reading
B No deflection
C Meter burns out
D Overshoot deflection

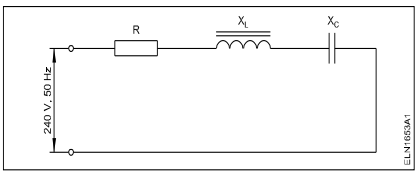
5 What is the effect of electric current on neon lamp?

A Heating effect
B Magnetic effect
C Chemical effect
D Gas ionization effect

6 What is the resistance of the inductive coil takes 5A current across 240V, 50Hz supply at 0.8 power factor?

A 48 Ω
B 42.5Ω
C 38.4Ω
D 26.6Ω

7 Calculate the impedance of the circuit R = 5Ω, XL= 36Ω and XC = 24 Ω.?



A 69 Ω
B 65 Ω
C 13 Ω
D 12 Ω

8 Calculate the line current of the 3 phase 415V 50 HZ supply for the balanced load of 3000 watt at 0.8 power factor is connected in star.

A 8.5 A
B 5.2 A
C 4.5 A
D 3.4 A

9 Calculate the power factor of coil having resistance of 24Ω, draws the current of 5A, at 240V/ 50HZ AC supply.

A 0.8
B 0.6
C 0.5
D 0.3

10 Calculate the power factor of R.L.C circuit having resitance (R) = 15W, resultant reactance (X) = 20W connected across 240V /50Hz AC supply?

A 0.5
B 0.6
C 0.7
D 0.8

11 How the low power factor (P.F) can be improved in AC circuits?

A By connecting resistors in series
B By connecting capacitors in series
C By connecting inductors in series
D By connecting capacitors in parallel

12 What is the P.F in 2 wattmeter method of 3 phase power measurement, if one of the wattmeters reading is zero and the other reads total power?

A 0.5
B Zero
C Unity
D Below 0.5

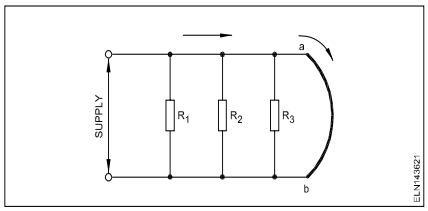
13 How will you obtain positive reading in the wattmeter reads negative reading during 3-phase two wattmeter method?

A By interchanging the connections of input terminals
B By disconnecting the connection of current coil in meter
C By reversing the connection of pressure coil in meter
D By reversing the pressure coil and current coil connection in meter

14 What is the power factor if one of the wattmeter gives negative reading in two wattmeter method of 3 phase power measurement?

A 0.5
B Unity
C Between 1 to 0.5
D Between 0.5 to zero

15 What is the effect of the circuit, if 'ab' points are shorted?



A Circuit resistance will be zero
B Same current will flow in all branches
C Supply voltage will exist in each branch
D Total circuit current is equal to each branch circuit current

Module 2 : Basic Electrical - AC circuits - Key paper

Questions: Level 1

SL.No	Key
1	D
2	D
3	B
4	C
5	C
6	A
7	A
8	C
9	B
10	C
11	C
12	D
13	B
14	D
15	D
16	B
17	D
18	A
19	B
20	B

Questions: Level 2

SL.No	Key
1	D
2	D
3	B
4	B
5	C
6	D
7	C
8	B
9	B
10	A
11	B
12	D
13	D
14	D
15	D
16	C
17	D
18	C
19	C
20	A
21	B
22	C
23	B
24	C
25	A
26	C
27	C

Question: Level 3

SL.No	Key
1	C
2	D
3	D
4	A
5	D
6	C
7	C
8	B
9	C
10	B
11	D
12	A
13	C
14	D
15	A

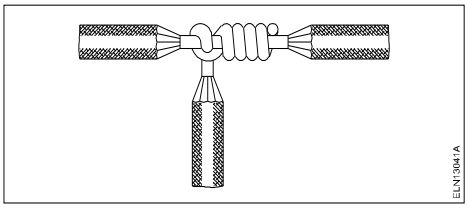
Electrician - Block 1 - Module 3 : Wire joints - Soldering

Questions: Level 1

1 What is the possible range to measure the size of the wire in a Standard Wire Gauge (SWG)?

A 0-44
B 0-42
C 0-38
D 0-36

2 What is the name of the wire joint?



A Aerial tap joint
B Knotted tap joint
C Duplex cross tap joint
D Double cross tap joint

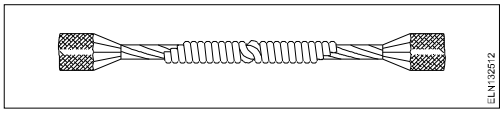
3 Which tool is used to measure the size of the wire?

A Steel rule
B Vernier caliper
C Measuring steel tape
D Standard wire gauge (SWG)

4 What is the unit of insulation resistance?

A Ohm
B Kilo ohm
C Milli ohm
D Mega ohm

5 What is the name of the joint?



A Married joint
B Scarfed joint
C Western union joint
D Britannia straight joint

6 What does the number 1.40 represent if a stranded conductor is designated as 10 sq.mm cable of size 7/1.40?

A Area of cross section
B Radius of one conductor
C Diameter of all conductor
D Diameter of each conductor

7 What is the value of electrical conductivity of aluminium conductor?

A 61 mho/m
B 56 mho/m
C 35 mho/m
D 28 mho/m

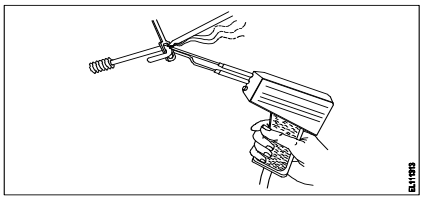
8 What is the rating factor of cable provided with coarse excess current protection?

A 1.11
B 1.23
C 0.81
D 0.707

9 What is the accuracy (or) least count of the outside micrometer?

A 0.01 mm
B 0.001 mm
C 0.002 mm
D 0.02 mm

10 What is the name of the soldering method?

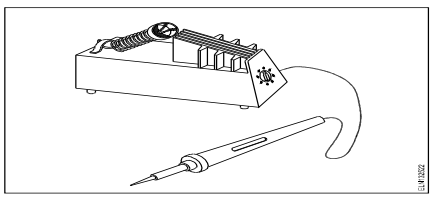


A Dip soldering
B Soldering iron
C Soldering gun
D Soldering with flame

11 Which size of conductor is bigger in diameter, when it is measured by SWG?

A 14 SWG
B 18 SWG
C 21 SWG
D 36 SWG

12 What is the name of the soldering method?



A Dip soldering
B Soldering with blow lamp
C Soldering with soldering gun
D Temperature controlled soldering

13 What is the expansion of AWG?

A American Wire Gauge

B American Wire Grade

C American Wire Group

D American Wire Guard

Questions: Level 2

1 What is the current carrying capacity of 32 amp.rated cable, if it is protected by the rewirable fuse?

A 13 Amp
B 16 Amp
C 26 Amp
D 39 Amp

2 Which type of soldering flux is used for soldering galvanised iron?

A Rosin
B Zinc chloride
C Sal ammonia
D Hydrochloric acid

3 Which method of soldering is used for quantity production and for tinning work?

A Dip soldering
B Soldering with a flame
C Soldering with soldering iron
D Soldering with soldering gun

4 Which method of soldering is widely used for soft soldering?

A Dip soldering
B Soldering iron
C Soldering gun
D Soldering with a flame

5 Which electrical device is the coarse excess current protection?

A Cartridge fuses
B Rewirable fuses
C Miniature Circuit Breaker (MCB)
D High Repturing Capacity (HRC) Fuses

6 Which type of joint is used for extending the length of conductor in over head lines?

A Scarfed joint
B Aerial tap joint
C Britannia “T” joint
D Western Union joint

7 Which type of soldering flux is used for soldering aluminum conductors?

A Tallow
B Ker-al-lite
C Zinc chloride
D Sal ammonia rosin

8 What is the effect on molten solder due to repeated melting?

A Tin content reduced
B Lead content reduced
C Prevent slug formation
D Uneven flowing in joints

9 Why the soldering iron must be kept into a stand that not in use while soldering?

A It prevents burns and fire
B To control the excessive heat
C To save the time of soldering process
D To save the operator from electric shock

10 Which type of wire joint is found in the junction box?

A Aerial tap joint
B Plain tap joint
C Rat tail joint
D Married joint

11 What is the use of Britannia ‘T’ joint?

A Extending the length of the lines
B Inside and outside wiring installation
C Mechanical stress not required on conductor
D Tapping the service connection from overhead lines

12 Which type of soldering method is used for servicing and repairing work?

A Dip soldering
B Soldering with a flame
C Soldering with soldering gun
D Soldering with a soldering iron

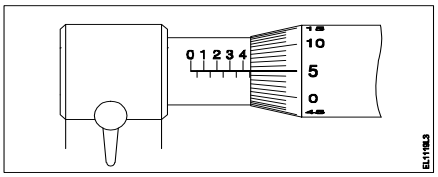
13 What is the use of dipsoldering method?

A Soft soldering
B Piping and cable soldering work
C Soldering miniature components on PCB
D Soldering sensitive electric components

14 Which type of joint is used in over head lines for high tensile strength?

A Scarfed joint
B Britannia ‘T’ joint
C Western union joint
D Britannia straight joint

15 What is the reading of the micrometer?



A 5.05 mm
B 5.00 mm
C 4.55 mm
D 4.05 mm

16 Which method of soldering is used for repairing the vehicle body?
A Dip soldering
B Soldering with flame
C Soldering with soldering iron
D Soldering with soldering gun

17 What is the advantage of stranded conductor over solid conductor?
A Cost is less
B More flexible
C Less voltage drop
D More insulation resistance

18 What is the current capacity of the 16 Amp. Cable, if it is protected by coarse excess current protection?
A 11 A
B 13 A
C 15 A
D 18 A

19 What is the disadvantage of solid conductor compared to stranded conductor?
A Less rigidity
B Less flexibility
C Low melting point
D Low mechanical strength

20 Which type of wire joint is suitable for low current circuits only?
A Knotted tap joint
B Plain tap joint
C Aerial tap joint
D Double cross lap joint

21 What is the cause for cold solder defect in soldering?
A Excessive heating
B Insufficient heating
C Incorrect use of solder
D High wattage soldering iron

22 Which solder is used for soldering aluminium conductors?
A Fire solder
B Coarse solder
C Timmer's solder
D ALCAP solder

23 Which conductors are used for distribution lines?
A Insulated conductors
B Insulated solid conductors
C Bare conductors
D Two core cable

Questions: Level 3

1 What will happen to PVC insulation in cable carries excess current continuously for long period?

A Voltage drop increases
B Voltage drop decreases
C Insulation resistance increases
D Insulation resistance decreases

2 Which is to be added to recondition the solder?

A Tin
B Zinc
C Lead
D Rosin

3 What happens If stranded cables are cut to insert to an under sized hole of wiring accessory, what will happen?

A Loose connection
B Overheat on load
C Faulty circuit
D Overload

4 What is the effect of accelerated cooling of soldering?

A Tin content will be reduced
B Lowers mechanical strength
C Joint oxidises
D Splashing of solder

Module 3 : Wire joints - Soldering- Key paper

Questions: Level 1

SL.No	Key
1	D
2	B
3	D
4	D
5	A
6	D
7	C
8	B
9	A
10	C
11	A
12	D
13	A

Questions: Level 2

SL.No	Key
1	C
2	D
3	A
4	B
5	B
6	D
7	B
8	A
9	A
10	C
11	D
12	C
13	C
14	C
15	C
16	B
17	B
18	B
19	B
20	C
21	B
22	D
23	C

Question: Level 3

SL.No	Key
1	D
2	A
3	B
4	B

Electrician - Block 1 - Module 4 : Basic Wiring Practice

Questions: Level 1

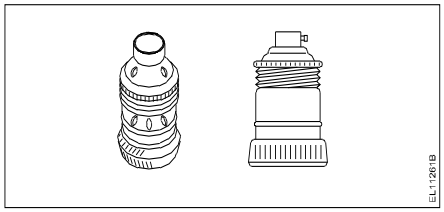
1 How the conduit pipes are specified?

A Length in metre
B Wall thickness in mm
C Inner diameter in mm
D Outer diameter in mm

2 What is the fusing factor for rewireable fuse?

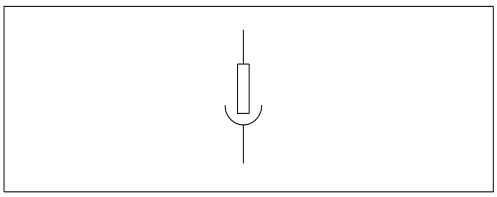
A 1.1
B 1.4
C 2.1
D 2.5

3 What is the name of electrical accessory?



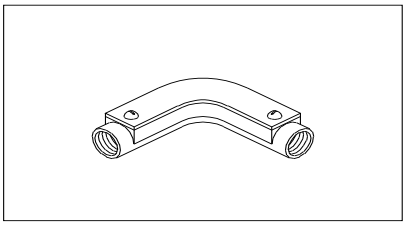
A Bracket holder
B Edison screw type holder
C Angle swivel lamp holder
D Goliath Edison screw lamp holder

4 What is the name of symbol used in wiring circuit?



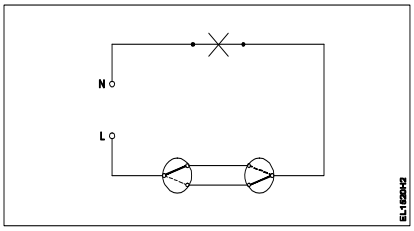
A Link
B Fuse
C Pull switch
D Plug and socket

5 What is the name of the conduit accessory?



A Solid bend
B Solid elbow
C Inspection Bend
D Inspection elbow

6 What is the name of the diagram?

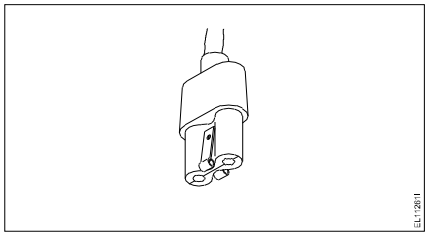


A Installation plan
B Layout diagram
C Wiring diagram
D Circuit diagram

7 What is the fusing factor for high repturing capacity fuses (HRC)?

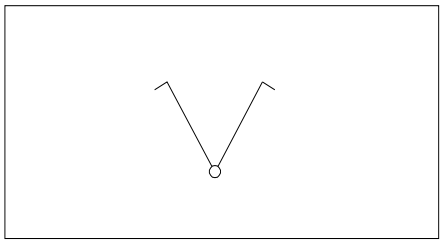
A 1.0
B 1.1
C 1.4
D 1.7

8 What is the name of the accessory used in electrical appliances?



A 2 Pin plug
B Three pin plug
C Iron connector with direct entry
D Flat connector with side entry

9 What is the name of the accessory symbol?



A Bell push switch
B Two way switch
C One way switch two poles
D Multi position switch single pole

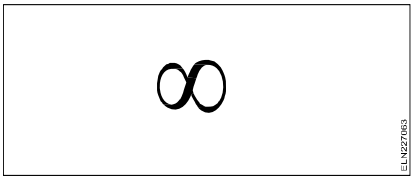
10 What is the name of the four insulated conductors group?

A Pair
B Core
C Quad
D Layer

11 How many two way switches are required in godown wiring circuit to control four lamps?

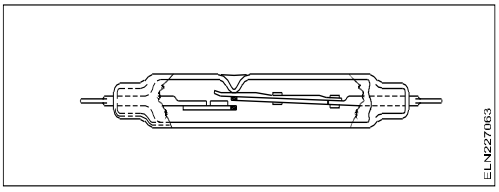
A 2
B 3
C 4
D 5

12 What is the symbol indicates?



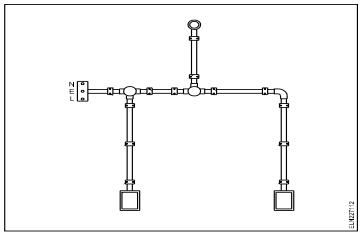
A Table fan
B Ceiling fan
C Bracket fan
D Exhaust fan

13 What is the name of the relay?



A Impulse relay
B Dry reed relay
C Electromagnetic relay
D Mercury wetted contact relay

14 What is the name of the diagram?



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

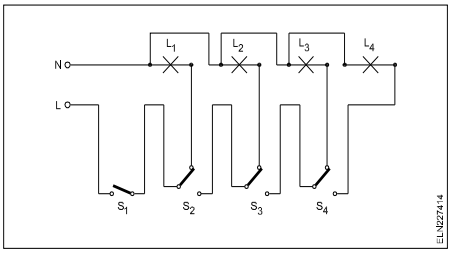
15 What is the term for the time taken by a fuse to interrupt the circuit in fault?

A Time factor
B Fusing factor
C Cut-off factor
D Fusing current

16 What is the maximum PVC conduit size to make safe cold bending?

A 12 mm
B 19 mm
C 25 mm
D 50 mm

17 What is the name of the lighting circuit?

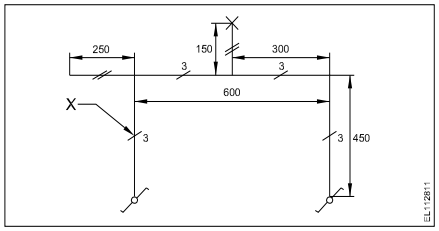


A Tunnel lighting wiring
B Corridor lighting wiring
C Godown lighting wiring
D Staircase lighting wiring

18 What is the expansion of MCB?

A Minute Control Breaker
B Miniature Circuit Breaker
C Minimum Current Breaker
D Maximum Current Breaker

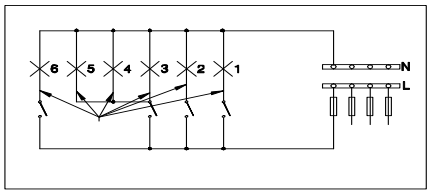
19 What does the symbol marked 'X' indicate?



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

20 What is the minimum size of aluminum earth continuity conductor used in single phase domestic wiring as per BIS?
A 3.5 Sq.mm
B 3 Sq.mm
C 2.5 Sq.mm
D 1.5 Sq.mm

21 What is the name of wiring method?



A Joint box method
B Looping back method
C Loop in method using 3 plate ceiling rose
D Loop in method using 2 plate ceiling rose

22 What is length of thread on rigid conduits as per BIS?
A 9mm - 20mm
B 11mm - 27mm
C 13mm - 25mm
D 15mm - 30mm

23 Which principle ELCB works?
A Fall in potential
B Residual current
C Potential divider
D Current sensing

24 Which type of lamp holder is used for the lamps above 300 watts?
A Edison screw holder
B Goliath screw holder
C Angle holder
D Brachet holder

25 Which principle miniature circuit breaker works?
A Thermal magnetic
B Thermal hydraulic
C Thermal pneumatic
D Induction

26 What is the formula to find voltage drop of a A.C single phase wiring circuit?
A Voltage drop = IR volt
B Voltage drop = I^2R volt
C Voltage drop = I/R volt
D Voltage drop=IR/2 volt

27 What is the maximum permissible load for a power sub circuit as per I.E rules?
A 800 Watt
B 1500 Watt
C 2000 Watt
D 3000 Watt

28 What is the permissible leakage current in domestic wiring installation?
A 1/5 x Full load current
B 1/50 x Full load current
C 1/500 x Full load current
D 1/5000 x Full load current

29 Which formula is used to calculate the diversity factor?

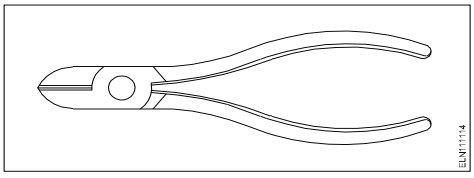
A $\text{Diversity factor} = \frac{\text{Maximum load}}{\text{Installed load}}$

B $\text{Diversity factor} = \frac{\text{Installed load}}{\text{Maximum load}}$

C $\text{Diversity factor} = \frac{\text{Minimum actual load}}{\text{Installed load}}$

D $\text{Diversity factor} = \frac{\text{Installed load}}{\text{Minimum actual load}}$

30 What is the name of the tool?



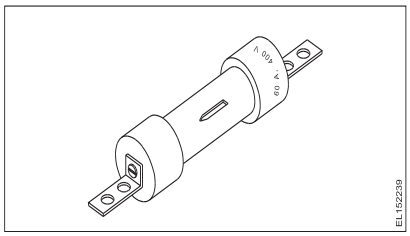
A Wire stripper
B Crimping tool
C Combination pliers
D Diagonal cutting pliers

Questions: Level 2

1 What is the purpose of underwriter's knot for pendent holder connection?

A Avoid loose connections
B Increase mechanical strength
C Prevent excessive cap cover pressure
D Reduce the strain from the terminals of accessories

2 What is the type of fuse?



A Knife edge cartridge fuse
B High rupturing capacity fuse
C Ferrule contact cartridge fuse
D Diazed screw type cartridge fuse

3 Which is provided along into MCB to quench arc during breaking?

A Oil chamber
B Blow arc oil
C Arc chute
D Vaccum chamber

4 What is the advantage of concealed wiring?

A Easy to maintain
B Less voltage drop
C High insulation resistance
D Protection against moisture

5 What is the purpose of the flexible cords in domestic wiring?

A Concealed wiring
B Permanent connection
C Run cable through holes in ceiling
D Connection transportable appliances

6 What is the purpose of tin coating on copper fuse wire?

A Withstand high temperature
B Increase the fusing factor
C Prevent oxidation of copper wire
D Increase the mechanical strength

7 Why tree system of wiring most suitable for multistoryed building?

A Easy load balancing
B Constant voltage distribution
C Offers minimum voltage drop
D Easy in fault finding with many fuses

8 Which place the Tree system of wiring is most suitable?

A Godown wiring
B Industrial wiring
C Domestic wiring
D Multi storied building

9 Why separate wiring is recommended for home theatre wiring and power wiring?

A Avoid electrical fire
B Reduce power loss
C Avoid electrical interference
D Maintain voltage level constant

10 What is the tool used to bend conduits?

A Hickey
B Coupler
C Pipe vice
D Bench vice

11 What is the purpose of ELCB?

A Detects the fault in circuit
B Monitors the residual current
C Protects the equipment from over load
D Protects from short circuit fault

12 What is the purpose of the fuse cut out provided at the incoming power supply?

A To ensure the line is not over loaded
B To maintain the stabilised supply voltage
C To protect the circuit from the leakage current
D To protect the human beings from electric shock

13 What is the use of die stock set?

A Cut external threads on square pipe
B Cut internal threads on cylindrical pipe
C Cut external threads on cylindrical pipe
D Cut internal threads on rectangular pipe

14 Which classification of accessory the ceiling rose is classified?

A Outlet accessories
B Safety accessories
C Holding accessories
D General accessories

15 What is the purpose of the circuit diagram in wiring installation?

A To show the physical position of accessories

B To estimate the various accessories in the circuit

C To inform the reader quickly what for the circuit is designed

D To show the schematic connection of the circuit for a specific task

16 Why the looping-back (loop in) method is preferred in domestic wiring installation?

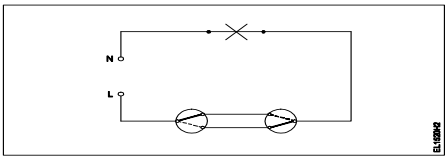
A Easy to identify the faults

B No separate joints are used

C More number of tappings can be taken

D More number of sub-circuits can be taken

17 What is the name of the diagram?



A Staircase wiring

B Godown wiring

C Hostel wiring

D Tunnel wiring

18 What is the function of circuit breaker?

A Making contact at normal condition

B Making contact at abnormal condition

C Breaking automatically at abnormal condition

D Physical breaking contact at abnormal condition

19 What is the function of bimetallic strip in MCB?

A Over load protection

B Short circuit protection

C Over voltage protection

D Earth leakage protection

20 What protection offered by residual current circuit breaker?

A Protection from shock

B Protection from over load

C Protection from short circuit

D Protection from leakage current

21 Where the phase conductor is looped in looping system of wiring?

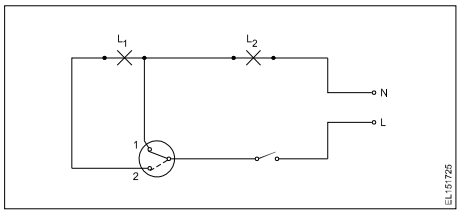
A Switch box

B Junction box

C Distribution box

D Socket connection

22 What is the application of the wiring circuit?



A Two lamps dim operation only

B Two lamps controlled by one switch

C Two lamps controlled by two switches

D One lamp bright and two lamp dim operation

23 Which types of accessories are used to operate a portable appliance?

A Safety accessories

B Holding accessories

C Outlet accessories

D Controlling accessories

24 Which type of accessories of fuse is comes under?

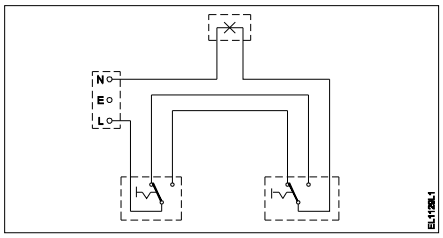
A Controlling accessories

B Holding accessories

C Safety accessories

D Outlet accessories

25 What is the type of diagram?



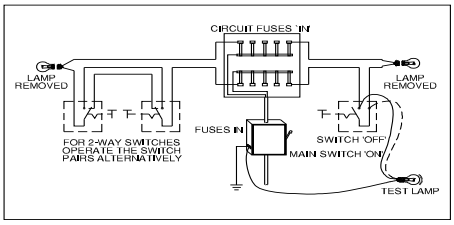
A Wiring diagram

B Circuit diagram

C Installation plan

D Layout diagram

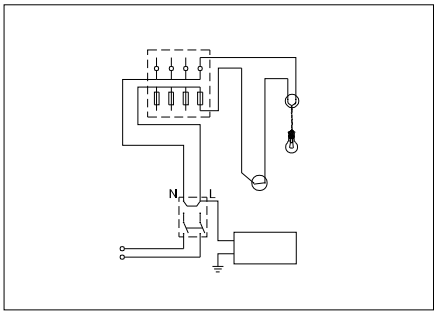
26 What is the type of test in domestic wiring installation?



A Polarity test
B Continuity (or) open circuit test
C Insulation resistance test between conductors
D Insulation resistance test between conductors and earth

27 Which instrument is used to test new domestic wiring installation?
A Multimeter
B Megger
C Shunt type ohmmeter
D Series type ohmmeter

28 What is the type of test in the wiring installation?



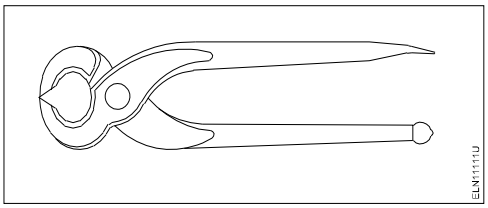
A Polarity test
B Open circuit test
C Insulation resistance test between conductors
D Insulation resistance test between conductors and earth

29 Which test is to be carried out by using megger?
A Polarity test
B Insulation resistance test
C Earth electrode resistance test
D Earth conductor continuity test

30 Which plier is used for making wire hooks and loops?
A Flat nose plier
B Long nose plier
C Round nose plier
D Diagonal cutting plier

31 What is the use of pincer?
A Twisting the flexible wires
B Cutting small diameter of wires
C Extracting the pin nails from the wood
D Holding small objects, where finger cannot reach

32 What is the use of this tool?



A Holding the hot substances
B Cutting and twisting the wires
C Extracting nails from the wood
D Loosening and tightening the bolts and nuts

Questions: Level 3

1 What is the reason of lamp glowing dim and motor running slow in a domestic wiring circuit?

A Open circuit in the neutral line

B Short circuit between conductors

C High value series resistance fault

D Open circuit in the earth conductor

---

2 What is the effect of low current rated cable used to connect higher current load?

A Voltage drop increases

B Load current increases

C Voltage drop decreases

D Cable damage due to heat

---

3 Why the copper cables are mostly preferred than aluminium cables in bath room?

A Copper is cheaper

B One type of wiring material only to be used in all rooms

C Aluminium will be oxidised quickly

D Less voltage drop in copper

---

4 Why the earth wire is laid running along with the conduit run domestic wiring installation?

A Make the conduit mechanically sharp

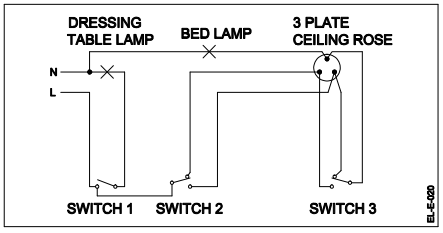
B Save the earth wire against mechanical damage

C Provide continuous electrical conductivity to earth connection

D Connect the earth wire to the installation of earth terminal

---

5 Which test to be carried out next, after disconnecting the supply in this circuit?



A Continuity test between switch 1 and 2.

B Continuity test between switch No.2 and ceiling rose

C Continuity test of the neutral conductor of the lamp

D Continuity test at the switch No.2 and 3

Module 4 : Basic Wiring Practice - Key paper

Questions: Level 1

SL.No	Key
1	D
2	B
3	B
4	D
5	C
6	D
7	B
8	C
9	D
10	C
11	B
12	B
13	B
14	C
15	C
16	C
17	C
18	B
19	A
20	C
21	B
22	B
23	B
24	B
25	A
26	A
27	D
28	D
29	C
30	D

Questions: Level 2

SL.No	Key
1	D
2	B
3	C
4	D
5	D
6	C
7	D
8	D
9	C
10	A
11	B
12	A
13	C
14	A
15	D
16	B
17	A
18	C
19	A
20	A
21	D
22	D
23	C
24	C
25	A
26	A
27	B
28	D
29	B
30	C
31	C
32	C

Question: Level 3

SL.No	Key
1	C
2	D
3	C
4	C
5	C

Electrician - Block1 - Module 5 : Cells and Battery

Questions: Level 1

1 Which law secondary cell works?
A Lenz's law
B Joule's law
C Faradays laws of electrolysis
D Faradays laws of electromagnetic induction

2 What is the formula to calculate the Mass deposited during electrolysis?
A M = it gm
B M = zit gm
C M = it/z gm
D M = z/it gm

3 How the capacity of batteries is specified?
A Volt
B Watt
C Volt Ampere
D Ampere hour

4 What is the unit of electric charge?
A Volt
B Watt
C Ampere
D Coulomb

5 What is the Electro Chemical Equivalent (ECE) of silver?
A 0.001182 mg/coloumb
B 0.01182 mg/coloumb
C 0.1182 mg/coloumb
D 1.1182 mg/coloumb

6 What does the letter 'Z' indicate in the formula M= Zit ?
A Time in seconds
B E.C.E of electrolyte
C Amount of current in Amp
D Mass deposited in grams

7 What is the Electro Chemical Equivalent (ECE) of copper?
A 0.329 mg / coulomb
B 0.329 mg - coulomb
C 1.1182 mg / coulomb
D 1.1182 mg - coulomb

Questions: Level 2

1 Which device converts sunlight into electrical energy?
A Photo voltaic cell
B Liquid crystal diode
C Light emitting diode
D Light dependent resistor

2 Which method of charging if the battery is to be charged for short duration at higher rate?
A Initial charge
B Boost charge
C Trickle charge
D Freshening charge

3 Which effect causes by passing electric current in liquids?
A Heating
B Lighting
C Magnetic
D Chemical

4 Which material is used to make negative plates in lead acid battery?
A Lead dioxide
B Sponge lead
C Lead peroxide
D Lead sulphate

5 What is the function of fine selector switch in battery charger?
A Selection of current rating
B Selection of charging time
C Selection of voltage range
D Selection of charging method

6 What purpose the hydrometer is used during charging of battery?
A Determine the AH capacity
B Assess the battery voltage level
C Assess the discharge level of battery
D Determine the specific gravity of electrolyte

7 Which is used as an electrolyte in lead acid battery?
A Hydrochloric acid
B Ammonium chloride
C Potassium hydroxide
D Diluted sulphuric acid

8 What is the outcome at the positive plate, after the chemical reaction in lead acid battery during charging?
A Sponge lead(Pb)
B Lead peroxide(PbO_2)
C Lead sulphate($PbSO_4$)
D Lead sulphate + water

9 Which method the battery is charged at low current for long period?
A Rectifier method
B Trickle charging method
C Constant current method
D Constant potential method

10 What is the outcome of the chemical reaction that takes place in negative plate of lead acid battery during discharging?
A Sponge lead(Pb)
B Lead peroxide(PbO_2)
C Lead sulphate($PbSO_4$)
D Lead sulphate + water

11 What is the purpose of separator in lead acid battery?
A To provide a path for electrolyte
B To hold the positive and negative plate firmly
C To avoid short in between the positive and negative plates
D To keep positive and negative plate in a sequence array

12 Which instrument is used to measure the specific gravity of electrolyte in lead acid battery?
A Barometer
B Hydrometer
C Anima meter
D High rate discharge tester

13 Which apparatus is used to check the charging condition of voltage in battery?
A Voltmeter
B Multimeter
C Hydrometer
D High rate discharge tester

Questions: Level 3

1 What is the name of defect that bending of plates in secondary cells?

A Buckling
B Local action
C Partial short
D Hard sulphation

2 Which technique is used to control the corrosion of a metal surface?

A Anodic protection
B Cathodic protection
C Electrolytic protection
D Electrostatic protection

3 What is the effect if one cell is connected with reverse polarity in a parallel combination circuit?

A Voltage become zero
B Become open circuit
C Will get short circuited
D No effect will function normally

4 Why the vent plug is kept open during charging of a battery?

A To escape the gas freely
B To allow oxygen enter inside
C To check the level of electrolyte
D To check the colour changes in the plates

5 How the hard sulphation defect in lead acid battery can be rectified?

A Changing with new electrolyte
B Replacing with new electrodes
C Recharging the battery for a longer period at low current
D Recharging the battery for short period at high current

6 What is the effect of buckling defect in a lead acid battery?

A Bending of the electrodes
B Reducing the strength of electrolyte
C Making short between the electrodes
D Increasing the internal resistance

7 What happen to the terminal voltage of a cell if load increases?

A Increases
B Decreases
C Falls to zero
D Remains same

8 Which is the cause for buckling defect in lead acid battery?

A Overcharging or over discharging
B Charging with low rate for short period
C Formation of sediments falling from the plate
D Battery is kept in discharged condition for long period

Module 5 : Cells and Battery - Key paper

Questions: Level 1

SL.No	Key
1	C
2	B
3	D
4	D
5	D
6	B
7	A

Questions: Level 2

SL.No	Key
1	A
2	B
3	D
4	B
5	A
6	D
7	D
8	B
9	B
10	C
11	C
12	B
13	D

Question: Level 3

SL.No	Key
1	A
2	B
3	C
4	A
5	C
6	A
7	B
8	A

Electrician - Block 1 - Module 6 : Earthing

Questions: Level 1

1 What is the minimum size of Aluminum earth continuity conductor used in single phase domestic wiring as per BIS?

A 3 Sq.mm
B 3.5 Sq.mm
C 2.5 Sq.mm
D 1.5 Sq.mm

---

2 Which is the criteria for good earthing ?

A Low resistance
B Medium resistance
C High resistance
D Low conductivity

---

3 What is the name of the conductor, that is connected to the earth electrode ?

A Earrthing ring
B Earth Continuity Conductor
C Earth wire
D Earthing lead

---

4 What is the length of pipe earth electrode as per IE rules?

A Not less than 3.5 m
B Not less than 3.0 m
C Nor less than 2.75 m
D Not less than 2.5 m

---

5 What is the internal diameter of the earth electrode pipe?

A Not smaller than 25mm
B Not smaller than 30 mm
C Not smaller than 35mm
D Not smaller than 38mm

---

6 Which principle the earth resistance tester works?

A Self induction
B Mutual induction
C Fall of potential method
D Fleming’s left hand rule

---

7 What is the expansion of ECC?

A Earth Conductor Continuity
B Earth Continuity Conductor
C Earth Carrying Conductor
D Earth Continuity Cable

Questions : Level 2

1 Which method is used to reduce earth resistance value in a existing earth?

A Increasing the length of electrode
B Keeping wet condition in earth pits always
C Adding more sand and charcoal in earth pits
D Increasing the diameter of earth electrode

2 Why A.C is required to measure the earth resistance by using earth resistance tester?

A Regulate the current
B Increase the voltage drop
C Decrease the voltage drop
D Avoid electrolytic emf interference

3 Which material the pipe earth electrode is made of ?

A Galvanised iron
B Copper
C Aluminium
D Gun metal

4 Why the earth electrode resistance is found higher in rocky areas?

A Moisture is very low
B Installation is too difficult
C Depth of earth pit is less
D More height from the ground

5 Which is the main purpose of equipment earthing ?

A To protect the equipment from short circuit
B To safe guard human beings from electric shock
C To prevent from the electric fire hazards
D To protect from the open circuit fault

6 Where system earthing is done?

A Generating station
B Electroplating installation
C Small industrial installation
D Domestic wiring installation

7 Why system earthing is different in utilization than equipment earthing?

A It protects human only
B It protects from over load
C It is associated with current carrying conductors
D It is connected to the non current carrying metal work

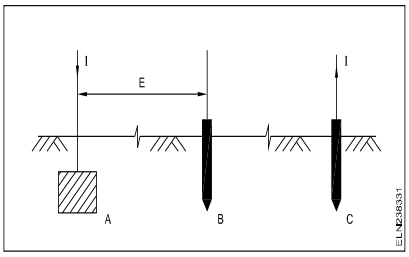
8 Which ratio is proportional to the deflection of the needle of earth resistance tester ?

A The current in current coil only
B The current in pressure coil only
C The current in current and pressure coils
D The square of the current and pressure coil

9 Which wiring installation the System earthing is suitable?

A Substations
B Godown wiring
C Domestic wiring
D Commercial wiring

10 Which method of earth resistance measurement is illustrated?



A Fall of current
B Fall of potential
C Current dividing
D Potential dividing

11 What is the function of current reverser in earth resistance tester?

A Converts A.C. into D.C
B Reverses the polarity of D.C
C Changes D.C. supply into A.C supply
D Reverses the direction of rotation of the generator

12 What is the megger reading in a dead short wiring installation?

A 0 MΩ
B 1 MΩ
C 500 MΩ
D Infinity

Questions: Level 3

1 How the earth resistance can be reduced?

A Providing double earthing

B Reducing the pit depth for earthing

C Increasing the length of the electrodes

D Decreasing the length of the electrodes

---

2 What is the maximum safe limit of earth resistance value for a 3 kw, 240v geyser ?

A 8 Ω

B 12 Ω

C 18 Ω

D 24 Ω

---

3 Why the ceiling fans and tube fittings are exempted from earthing?

A Not directly touched by end user

B These are double insulated equipments

C It will not operate with earth connection

D Consume small power

---

4 What is the minimum distance between the adjacent parallel earth electrodes having same length of n2.5 m?

A 1 m

B 2.5 m

C 5 m

D 10 m

---

5 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

Module 6 : Earthing - Key paper

Questions: Level 1

SL.No	Key
1	C
2	A
3	D
4	D
5	D
6	C
7	B

Questions: Level 2

SL.No	Key
1	B
2	D
3	A
4	A
5	B
6	A
7	C
8	C
9	A
10	B
11	C
12	A

Question: Level 3

SL.No	Key
1	A
2	A
3	B
4	C
5	C

Electrician - Block 1 - Module 7 : Basic Electronic Practice

Questions: Level 1

1 What is the input ripple frequency (Fin) of full wave rectifier?

A F_{in} = ½ F

B F_{in} = F_{in}

C F_{in} = 2 F_{in}

D F_{in} = √2 F_{in}

---

2 Which is an active component?

A No output

B Resistor

C Capacitor

D Transistor

---

3 Which is a passive component?

A Diac

B Diode

C Transistor

D Capacitor

---

4 Which instrument provides a visual representation of measured or tested quantities?

A Voltage stabilizer

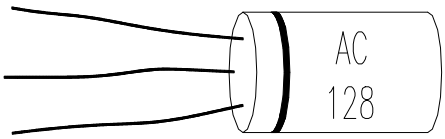
B Function generator

C Cathode ray oscilloscope

D Radio frequency generator

---

5 What is the name of electronic component?



A Thyristor

B High power transistor

C Low power transistor

D Photo transistor

---

6 What is the AC input voltage , if the output voltage is 24v in full wave rectifier?

A 24 V

B 27 V

C 30 V

D 48 V

Questions: Level 2

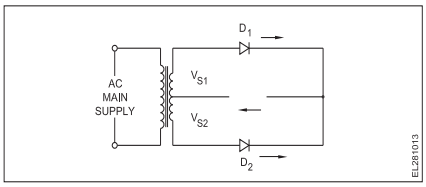
1 Why the barrier voltage is more in silicon material?

A Lower atomic number
B Resistance is very low
C Doping percentage is more
D Valance electrons are two only

2 What is the reason for widened barrier in a reverse biased diode?

A Minority carriers in two materials are neutralised
B Electron in N material is drifted to positive terminal
C Holes in P material attracted to negative terminal
D Electrons and holes are attracted towards supply terminals

3 What is the output voltage in the full wave rectifier circuit?



A No output
B Rated secondary output
C Half the rated secondary output
D Double the rated secondary output

4 Which quantity can be measured by CRO?

A Frequency
B Inductance
C Resistance
D Power factor

5 What is the criteria to decide a material as conductor, semi conductor and insulator?

A Atomic bonding structure of atom
B Existence of valance electrons in atom
C Atomic weight of the atom of the material
D Atomic number of the atom of the material

6 Which doping material is used to make P-type semi conductor?

A Boron
B Arsenic
C Antimony
D Phosphorous

7 Which type of biasing is required to a NPN transistor for amplification?

A Base ground, emitter and collector positive
B Base negative, emitter positive and collector negative
C Base positive, emitter negative and collector positive
D Base positive, emitter negative and collector negative

8 What is the use of time-base control switch or knob in the CRO?

A Select sweep speed
B Select input voltage range
C Select input signal voltage
D Select intensity of the beam

9 What is the output DC voltage in half wave rectifier, if the input AC voltage is 24 volt?

A 24 Volt
B 12 Volt
C 9.6 Volt
D 10.8 Volt

10 Why most of semi conductor devices are made by silicon compared to germanium?

A High barrier voltage
B High resistance range
C High thermal conductivity
D High current carrying capacity

11 What is the output voltage if the centre tap of transformer is open circuited in a full wave rectifier circuit?

A Zero voltage
B Full rated output
C Half of the rated output
D One fourth of rated output

12 What is the characteristic property of base material in a transistor?

A Lightly doped and very thin
B Heavily doped and very thin
C Lightly doped and very larger
D Heavily doped and very larger

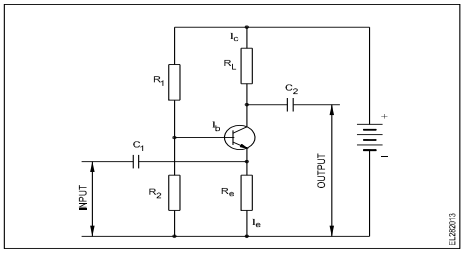
13 Why the collector region is physically made larger than emitter region in a transistor?

A It has to dissipate more heat
B Output taken from collector terminal
C Base collector region is reverse biased
D Collector region always operate with high voltage

14 What is the function of a transistor if emitter to base and collector to base are forward biased?

A Acts as an amplifier
B Acts as an oscillator
C Acts as an open circuit
D Acts as a closed switch

15 What is the type of amplifier circuit?



A Common base amplifier
B Common emitter amplifier
C Class B push pull amplifier
D Common collector amplifier

Questions : Level 3

1 How the input impedance of CRO can be increased?

A By adding resistance to CRO probe

B By adding resistance to trigger level circuit

C By increasing time/base attenuator switch position

D By increasing volts/cm attenuator switch position

---

2 Which defect will occur in the radio, if the pulsations are not removed from the input of the rectifier?

A Improper tuning

B No response

C Humming sound

D Works with low volume

---

3 How does the depletion region behave?

A As resistor

B As insulator

C As conductor

D As semi conductor

---

4 What is the reason for blowing of fuse in a bridge rectifier, if one of the defective diode is replaced with a new diode?

A leads are not properly soldered

B leads are reverse connected

C is higher voltage rating

D is of higher current rating

Module 7 : Basic Electronic Practice - Key paper

Questions: Level 1

SL.No	Key
1	C
2	D
3	D
4	C
5	C
6	B

Questions: Level 2

SL.No	Key
1	A
2	D
3	A
4	A
5	B
6	A
7	C
8	A
9	D
10	A
11	A
12	A
13	A
14	D
15	D

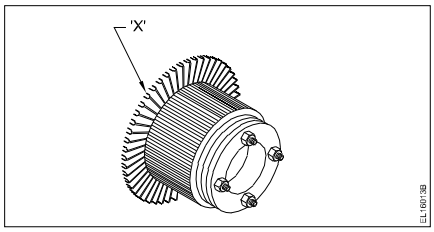
Question: Level 3

SL.No	Key
1	A
2	C
3	B
4	B

Electrician - Block 1 - Module 8 : DC Machines

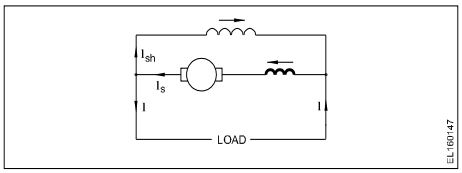
Questions: Level 1

1 What is the name of the part marked 'X' in DC generator?



A Armature core
B Armature slot
C Commutator raiser
D Commutator segment

2 What is the name of D.C generator?

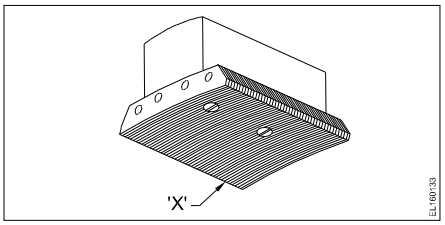


A Differential long shunt compound
B Differential short shunt compound
C Cumulative long shunt compound
D Cumulative short shunt compound

3 Which rule is used to find the direction of induced emf in D.C generator?

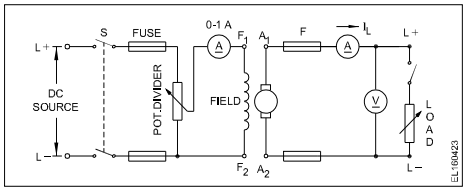
A Cork screw rule
B Right hand palm rule
C Fleming's left hand rule
D Fleming's right hand rule

4 What is the name of the part marked 'X' in DC generator?



A Pole tip
B Pole stamping
C Pole coil
D Pole shoe

5 What is the name of the D.C generator?

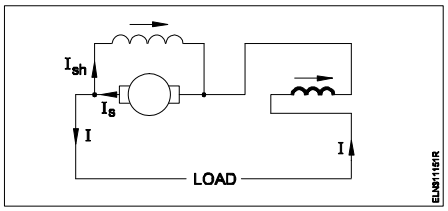


A Shunt generator
B Series generator
C Compound generator
D Separately excited generator

6 Which energy is converted into electrical energy by generator?

A Heat
B Kinetic
C Chemical
D Mechanical

7 What is the name of D.C generator?



A Short shunt compound generator
B Long shunt compound generator
C Differential compound generator
D Cumulative compound generator

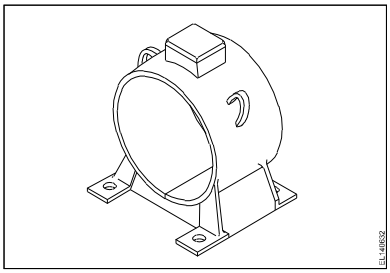
8 What is the principle of D.C generator?

A Cork screw rule
B Fleming's left hand rule
C Fleming's right hand rule
D Faradays laws of electromagnetic induction

9 Which rule is used to find direction of magnetic field ?

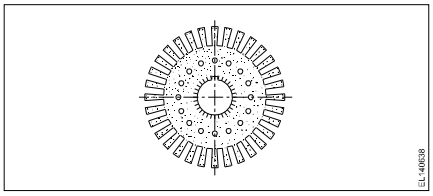
A Cork screw rule
B Right hand palm rule
C Fleming's left hand rule
D Fleming's right hand rule

10 What is the name of the part of DC generator?



A Stator
B Pole core
C Pole shoes
D Yoke (or) frame

11 Name the part of DC generator?



A Side end plates
B Pole shoe lamination
C Commutator segment
D Armature core lamination

12 Which instrument is used to measure armature winding resistance?
A Megger
B Multimeter
C Series type Ohm meter
D Kelvin bridge

13 Which formula is used to calculate the speed of DC motor?

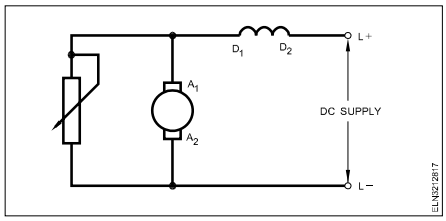
A $N = \frac{E_b}{\phi}$

B $N = \frac{\phi}{E_b}$

C $N = \frac{E_b \cdot \phi}{120}$

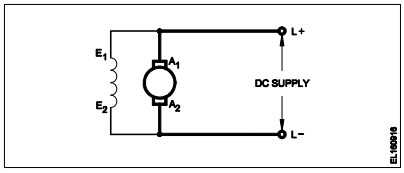
D $N = \frac{E_b \cdot \phi}{60}$

14 What is the name of the speed control method of DC motor?



A Field diverter method
B Field tapping method
C Voltage control method
D Armature diverter method

15 What is the name of D.C motor?

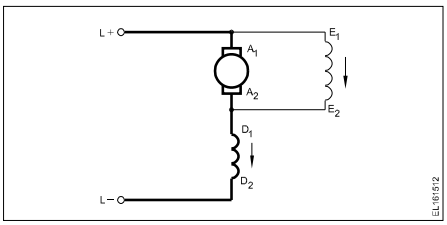


A D.C shunt motor
B D.C series motor
C D.C differential compound motor
D D.C cumulative compound motor

16 Which rule is applied to identify the direction of rotation in DC motor?
A Cork's screw rule
B Right hand grip rule
C Fleming's left hand rule
D Fleming's right hand rule

17 Which rule determines the direction of back emf in D.C motor?
A Right hand grip rule
B Right hand palm rule
C Fleming's left hand rule
D Fleming's right hand rule

18 Name the type of DC motor.



A Shunt motor
B Series motor
C Long shunt compound motor
D Short shunt compound motor

Questions: Level 2

1 How interpoles are connected in a DC generator?
A In series with armature
B In parallel with armature
C In series with shunt field
D In parallel with shunt field

2 What is the necessity of residual magnetism in a self excited DC generator?
A Build up the voltage
B Reduce the field current
C Reduce armature current
D Maintain constant output voltage

3 What is the name of the compound generator, if the shunt field is connected in parallel with armature?
A Long shunt compound
B Cumulative compound
C Differential compound
D Short shunt compound

4 Why the armature core of a DC generator is laminated?
A Reduce the copper loss
B Reduce the friction loss
C Reduce the hysteresis loss
D Reduce the eddy current loss

5 Why armature resistance of a D.C generator is very low?
A Reduce armature current
B Reduce armature voltage drop
C Run armature with less weight
D Reduce the temperature of armature

6 Why the D.C generator should run in clockwise direction only?
A Protect brushes from damage
B Protect the residual magnetism
C Avoid short circuit in armature
D Avoid over loading of generator

7 Why compensating winding is provided in large DC generators?
A Connect more loads
B Reduce commutation effect
C Neutralize armature reaction effect
D Increase the efficiency of generator

8 What is the reason for DC generator fails to build up voltage?
A Loose brush contract
B Armature resistance is more
C Field resistance is above critical resistance
D Prime mover is running at above rated speed

9 What is the name of generator, if its field is connected in parallel with armature?
A Shunt generator
B Series generator
C Compound generator
D Self excited generator

10 What is the purpose of pole shoe in DC generator?
A Reduce the air gap
B Increase the field strength
C Minimize the magnetic losses
D Spread out flux uniformly in the air gap

11 What is the function of split rings in DC generator?
A Maintain constant voltage
B Collects the current unidirectionally
C Reduces the voltage drop at brushes
D Increases the terminal voltage than rated

12 Which material is used to make brush in generator?
A Steel and graphite
B Carbon and graphite
C Cast iron and graphite
D Aluminium and graphite

13 Why DC generators are loosing their residual magnetism?
A Heavy short circuit in load
B Running without load continuous
C Continuous running without break
D Change of direction of rotation very often

14 How does the magnetic circuit complete through the yoke and poles in a generator?
A By field coils
B By armature core
C By laminated pole core
D By winding conductors in armature

15 Why the terminal voltage decreases if load increases in DC shunt generator?
A Because of armature reaction effect
B Due to increased in armature resistance
C Because of brush voltage drop decreases
D Due to increased in shunt field inductance

16 Which type of DC generator is used for long distance distribution lines?

A Shunt generator
B Series generator
C Differential compound generator
D Cumulative compound generator

17 Which method is used to improve the insulation resistance in DC generator?

A Replacing the brushes frequently
B Heating the machine by running periodically
C Cleaning the commutator segments regularly
D Blowing hot air in to the machine during maintenance

18 Which type of D.C Generator works in absence of residual magnetism?

A Shunt generator
B Series generator
C Compound generator
D Separately excited generator

19 Which type of D.C generator is used for arc welding?

A Shunt generator
B Series generator
C Differential compound generator
D Cumulative compound generator

20 Why solid pole shoes are used in D.C generator?

A To reduce the copper loss
B To increase the residual magnetism
C To decrease the residual magnetism
D To reduce the reluctance of magnetic path

21 Which metal is used to make large capacity DC generator yoke?

A Cast iron
B Soft iron
C Aluminium
D Rolled Steel

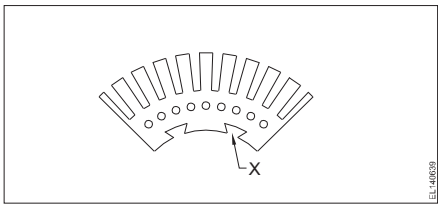
22 Which type of DC motor is used in steel cutting machine ?

A DC Shunt motor
B DC Cumulative compound motor
C DC Differential compound motor
D DC Series motor

23 Which type of voltage is induced dynamically in a D.C generator?

A Pulsating voltage
B Oscillating voltage
C Alternating voltage
D Direct current voltage

24 What is the purpose of slot marked as 'X'?



A To fix the key way
B To make air circulation
C For lubrication purpose
D For easy removal from shaft

25 What is the purpose of field coils in D.C generator?

A To increase the flux in air gap
B To decrease the magnetizing current
C To magnetize the poles to produce coil flux
D To increase the reluctance of magnetic path

26 Which metal is used to make pole core of large DC generator machines?

A Soft iron
B Cast iron
C Cast steel
D Stainless steel

27 Why the pole core stampings are laminated in DC generator?

A Reduce the friction loss
B Reduce the windage loss
C Reduce the hysteresis loss
D Reduce the eddy current loss

28 Which type of DC generator is used for electroplating process?

A Shunt generator
B Series generator
C Differential compound generator
D Cumulative compound generator

29 What is the effect on torque of dofferential compound motor if the load is increased?

A Decreases
B Increases
C Remains same
D Becomes zero

30 What is the purpose of series resistor connected with holding coil in a D.C four point starter?

A Limit the current in holding coil
B Increase the current in holding coil
C Increase the voltage in holding coil
D Decrease the voltage in holding coil

31 Which speed control method of D.C series motor is used for electric train?

A Field diverter method
B Field tapping method
C Armature diverter method
D Supply voltage control method

32 Why shunt field coil is connected in series with holding coil in D.C three point starter?

A Increase the holding coil current
B Decrease the holding coil current
C Protect the shunt field from over current
D Protect the motor in case of open in shunt field

33 Why the direction of rotation is changed only by changing the armature current direction in a D.C compound motor?

A Maintain rated speed
B Maintain motor characteristics
C Avoid armature reaction effect
D Prevent motor from over loading

34 Which speed control methods offers below normal speed in DC shunt motor?

A Field control method
B Voltage control method
C Armature control method
D Ward Leonard system of speed control

35 Why starters are required to start D.C motors in industries?

A Regulate the field voltage
B Reduce the armature current
C Control the armature reaction
D Smooth operation of motors

36 Which insulating material belongs to class 'B' insulation?

A Cotton
B Bamboo
C Fibre glass
D Leatheroid paper

37 Which type of D.C motor is used for constant speed drives?

A DC series motor
B DC shunt motor
C Differential long shunt compound motor
D Differential short shunt compound motor

38 Which type of DC motor is used in elevators?

A DC series motor
B DC shunt motor
C DC differential compound motor
D DC cumulative compound motor

39 Which method of speed control gives below the rated speed in DC series motor?

A Field diverter method
B Tapped field method
C Voltage control method
D Armature diverter method

40 What is the effect, if a four point starter resistance is cutoff during running?

A Motor stopped
B Runs at slow speed
C Runs at very high speed
D Runs at reverse direction

41 Why carbon composition brush requires in the armature circuit to operate the D.C motor?

A Increases the starting torque
B Protects from armature reaction
C Protects armature from over loading
D Reduces the spark in the commutator segment

42 Why series motor produce high torque and speed initialy without load?

A Absence of back emf
B Load current flows through field winding
C Armature current and field current are same
D Series field winding wound with thick wire

43 Why the series field is short circuted at the time of starting in differential compound motor?

A To reduce the starting current
B To increase the speed of motor
C To decrease the speed of motor
D To maintain proper direction of rotation

44 Which is the most effective method of balancing armature?

A Static balancing
B Dynamic balancing
C Attached with counter balancing
D Plugged with lead weight balancing

45 Which material is used for starting resistance of DC motor starters?

A Eureka
B Nichrome
C Manganin
D Constantine

46 Which DC compound motor is operated at constant speed under varying load?

A Differential long shunt
B Cumulative long shunt
C Differential short shunt
D Cumulative short shunt

47 How No volt coil is connected in a three point starter with DC shunt motor?

A Directly connected to supply
B Connected in series with armature
C Connected in parallel with armature
D Connected in series with shunt field

48 Which speed control methods offers above normal speed in DC shunt motor?

A Field control method
B Voltage control method
C Armature control method
D Ward Leonard system of speed control

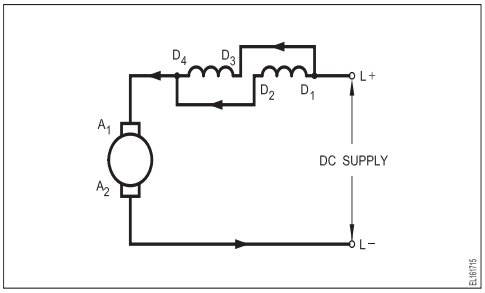
49 What is the purpose of resistor connected with holding coil in 4 point starter?

A Limit current in NVC
B Protect the coil from short circuit
C Protect the motor from overload
D Protect the armature from short circuit

50 Why the D.C series motor field winding is wound with thick wire?

A To regulate field voltage
B To carry the load current
C To keep maximum inductance
D To reduce the armature reaction

51 Which type of speed control of D.C series motor?



A Field parallel method
B Field diverter method
C Field tapping method
D Armature diverter method

52 Which type of D.C motor is suitable for shearing machines?

A Shunt motor
B Series motor
C Cumulative compound motor
D Differential compound motor

53 What is the necessity of starter for D.C motor?

A Limit the field current
B Limit the field voltage
C Control the motor speed
D Limit the armature current

54 Which type of instrument is used to test the armature winding?

A Megger
B Growler
C Multimeter
D Ohmmeter

55 Why the holding coil of a 3 point starter is connected in series with shunt field?

A To limit the load current
B To run motor at low voltages
C To hold the handle plunger firmly
D To protect the motor from high speed

56 What is the best method to change the DOR of a compound motor without change of its characteristics?

A Change armature current direction
B Change shunt field current direction
C Change series field current direction
D Change the current in armature and shunt field together

57 Which type of DC motor is used for hoists and cranes ?

A Differential compound motor
B Cummulative compound motor
C Shunt motor
D Series motor

58 Which type of DC motor is used for sudden application of heavy loads?

A Shunt motor
B Series motor
C Differential compound motors
D Cumulative compound motors

59 Which speed control method is used in food mixture motors?

A Voltage control method
B Field diverter control method
C Armature diverter method
D Series field tapping method

60 Which speed control system provides a smooth variation of speed from zero to above normal?

A Field control
B Armature control
C Field diverter control
D Ward-Leonard system control

Questions: Level 3

1 What is the effect if the shunt field resistance is above critical resistance value in a D.C generator?

A Output voltage is pulsating
B Output voltage is above normal
C Generator fails to build up voltage
D Generator builds up voltage normally

2 What is the effect of armature reaction in DC generator?

A Output voltage increases
B Output voltage decreases
C Output voltage is pulsating
D Output voltage will become zero

3 What is the effect in D.C generator, if it is kept ideal for long time?

A Field coil resistance increases
B Armature resistance increases
C Increase the armature reaction
D Looses its residual magnetism

4 What is the effect on induced emf if the main field flux get distorted in DC generator?

A Induced EMF increases
B Induced EMF decreases
C No change in induced EMF
D Induced EMF becomes zero

5 What is the cause for heavy sparking in brushes of DC generator?

A Short circuit in field winding
B Short circuit in armature winding
C MNA and GNA position changed
D Too much spring tension in brush

6 How the direction of rotation of a DC compound motor is changed?

A By changing the direction of armature current
B By interchanging the supply terminals
C By changing the direction of both field and armature current
D By changing the direction of series field current

7 What is the effect, if a four point starter resistance is cutoff during running?

A Motor stopped
B Runs at slow speed
C Runs at very high speed
D Runs at reverse direction

8 What is the effect in a D.C shunt motor, if its supply terminals are interchanged?

A Runs in slow speed
B Runs in high speed
C Runs in the same direction
D Runs in the reverse direction

9 What is the speed, if field winding of a DC shunt motor is in open circuit?

A Stop running
B Motor runs normally
C Runs at slow speed
D Runs in very high speed

Module 8 : DC Machines - Key paper

Questions: Level 1

SL.No	Key
1	C
2	A
3	D
4	D
5	D
6	D
7	D
8	D
9	D
10	D
11	D
12	D
13	A
14	D
15	A
16	C
17	D
18	D

Questions: Level 2

SL.No	Key
1	A
2	A
3	D
4	D
5	B
6	B
7	C
8	C
9	A
10	D
11	A
12	B
13	D
14	B
15	A
16	D
17	D
18	D
19	C
20	D
21	D
22	B
23	C
24	A
25	C
26	C
27	D
28	A
29	B
30	A
31	A
32	D
33	B
34	C
35	B

SL.No	Key
36	C
37	B
38	D
39	D
40	B
41	D
42	A
43	D
44	B
45	A
46	B
47	D
48	A
49	A
50	B
51	A
52	C
53	D
54	B
55	D
56	A
57	D
58	D
59	D
60	D

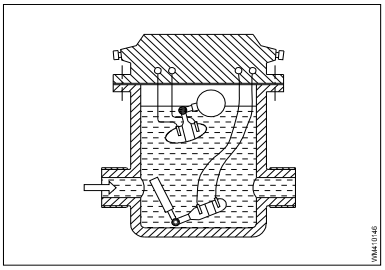
Questions: Level 3

SL.No	Key
1	C
2	B
3	D
4	B
5	C
6	A
7	C
8	C
9	D

Electrician - Block 1 - Module 9 : Transformer

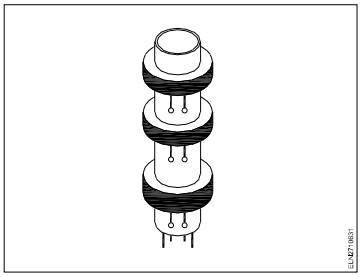
Questions: Level 1

1 What is the name of the part in power transformer?



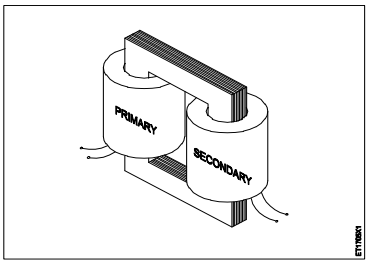
A Breather
B Tap charger
C Explosion vent
D Buchholz relay

2 What is the name of transformer?



A Air core transformer
B Iron core transformer
C Ring core transformer
D Ferrite core transformer

3 What is the name of transformer?



A Auto transformer
B Core type transformer
C Shell type transformer
D Audio frequency transformer

4 What is the composition of steel and silicon steel in transformer core?

A Steel 97% and silicon 3%
B Steel 95% and silicon 5%
C Steel 93% and silicon 7%
D Steel 90% and silicon 10%

5 How the transformers are rated ?

A KW
B KVA
C KWH
D KV

Questions: Level 2

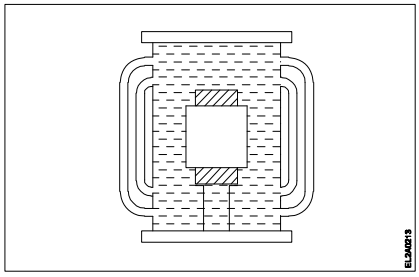
1 Which principle the transformer works?
A Len'z law
B Fleming's left hand rule
C Mutual induction
D Cork's screw rule

2 What is the function of conservator in transformer?
A Prevents the moisture entry
B Transfers the heat to atmosphere
C Allows to release internal pressure
D Allows expansion of oil level due to load variation

3 Which loss of transformer is determined by short circuit test?
A Copper loss
B Windage loss
C Hysteresis loss
D Eddy current loss

4 What is the purpose of using laminated core in transformer?
A Reduce copper loss
B Reduce hysteresis loss
C Reduce mechanical loss
D Reduce eddy current loss

5 What is the cooling method of transformer?



A Oil natural cooling
B Oil natural air forced cooling
C Oil forced air forced cooling
D Oil natural water forced cooling

6 What is the condition for obtaining maximum efficiency from transformer?
A Copper loss > Iron loss
B Copper loss < Iron loss
C Copper loss = Iron loss
D Copper loss =Eddy current loss

7 What is the function of top float switch of buchholz relay in transformer?
A Activate in moisture presence
B Activate at overloading condition
C Activate at open circuit condition
D Activate at low temperature condition

8 Why the core of current transformer is having low reactance and low core losses?
A To minimise the burden
B To maintain constant output
C To prevent high static shield
D To minimise the error in reading

9 Why the load is disconnected before the OFF load tap changing operation?
A To disconnect the tappings from neutral point
B To disconnect the moving contact of the diverter
C To avoid heavy sparking at the contact points
D To provide an electrical isolation for the windings

10 Which transformer is used to measure high voltage installations?
A Pulse transformers
B Ignition transformers
C Potential transformers
D Constant voltage transformers

11 Which power loss is assessed by open-circuit test on transformer?
A Hysteresis loss only
B Eddy current loss only
C Copper loss
D Core loss

12 Which is determined by the crackle test of transformer oil?
A Acidity
B Moisture
C Viscosity
D Dielectric strength

13 Which material is used to make core of power transformer?
A Soft iron
B Rolled steel
C Copper alloy
D Cold rolled grain oriented steel

14 What is the purpose of providing explosion vent in a power transformer?

A Air releasing
B Heat releasing
C Pressure releasing
D Moisture releasing

15 What is the function of buchholz relay in power transformer?

A Protection from high temperature
B Protection from moisture entering in oil
C Protection from pressure loading in tank
D Protection from both overloading and short circuit

16 Why distribution transformers are normally connected as primary in delta and secondary in star?

A To avoid over loading
B To maintain constant voltage
C To reduce transformer losses
D To easy distribution of 3 phase 4 wire system

17 Which type of emf is induced in secondary an ideal two winding transformer?

A Self induced emf
B Mutually induced emf
C Statically induced em
D Dynamically induced emf

18 How to determine copper loss in a transformer?

A Ratio test
B Impulse test
C Short circuit test
D Open circuit test

19 What is the advantage of stepped core arrangement in larger transformers?

A Minimizes copper use
B Reduces hysteresis loss
C Reduces eddy current loss
D Reduces the space for core

20 Which material is used in breather to prevent moisture entering in the transformer oil?

A Silica gel
B Sodium chloride
C Ammonium chloride
D Charcoal and salt mixture

21 What is the disadvantage of auto transformer?

A More losses
B Heavier in weight
C Poor voltage regulation
D Cannot isolate the secondary winding

22 Which cooling method is used in pole mounting distribution transformer?

A Air natural
B Oil natural air blast
C Oil forced air forced
D Oil natural air natural

23 What is the purpose of tap changing in power transformers?

A Maintain primary voltage constant
B Maintain voltage ratio in distribution
C Maintain secondary voltage constant
D Load the transformer for maximum efficiency

Questions: Level 3

1 How the error in reading of a potential transformer can be reduced?

A Using thick laminated core

B Providing long magnetic path

C Using low flux density material

D Providing good quality core material

2 Which construction technique is used to reduce copper loss in larger transformers?

A Use of laminated core

B By reducing core thickness

C By using grain oriented core

D Use stepped core arrangement

3 How does the moisture is controlled in breather fitted on power transformers?

A Using silica gel

B Using transformer oil

C Using sodium chloride

D Using ammonium jelly

4 Which transformer oil test is to be conducted to determine the break down voltage of transformer oil?

A Di electric test

B Acidity test

C Crackle test

D Field test

Module 9 : Transformer - Key paper

Questions: Level 1

SL.No	Key
1	D
2	A
3	B
4	C
5	B

Questions: Level 2

SL.No	Key
1	C
2	D
3	A
4	D
5	A
6	C
7	B
8	D
9	C
10	C
11	D
12	B
13	D
14	C
15	D
16	D
17	B
18	C
19	A
20	A
21	D
22	D
23	B

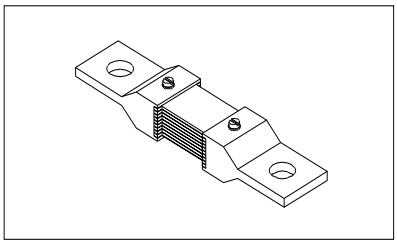
Question: Level 3

SL.No	Key
1	D
2	D
3	A
4	A

Electrician - Block 1 - Module 10 : Measuring Instruments

Questions: Level 1

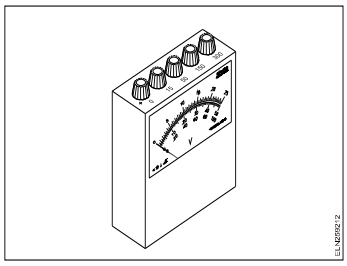
1 What is the name of the shunt resistance material?



A Copper
B Eureka
C Nichrome
D Manganin

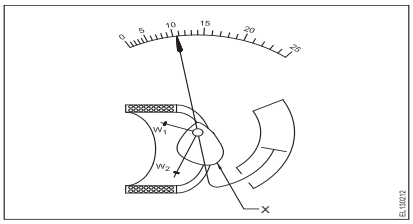
2 Which electrical effect that the single phase energy meter works?
A Heating effect
B Induction effect
C Chemical effect
D Electrostatic effect

3 What is the name of meter?



A AC multirange ammeter
B DC multirange voltmeter
C AC and DC multirange ammeter
D AC and DC multirange voltmeter

4 Name the type of instrument.



A Attraction type moving iron
B Repulsion type moving iron
C Permanent magnet moving coil
D Dynamo meter type moving coil

5 Which is an absolute instrument?
A Ammeter
B Volt meter
C Energy meter
D Tangent galvanometer

6 Which quantity is measured by an electrodynamo type instrument?
A Power
B Current
C Voltage
D Resistance

Questions: Level 2

1 What is the reason for the moving coil meter having uniform scale?

A Deflecting torque is directly proportional to the current

B Deflecting torque is inversely proportional to the current

C Deflecting torque is inversely proportional to the square of the current

D Deflecting torque is directly proportional to the square of the current

---

2 Which instrument is an example of an integrating instrument?

A AC voltmeter

B DC voltmeter

C Energy meter

D Tangent galvanometer

---

3 Why the scale of the moving iron instrument is having un-uniform scale?

A Deflecting force is directly proportional to the Current

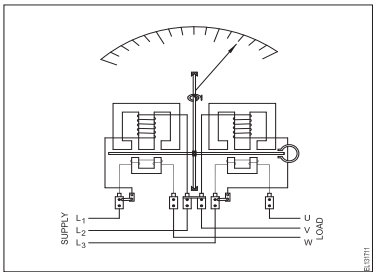
B Deflecting force is inversely proportional to the Current

C Deflection of force is directly proportional to the square of the Current

D Deflection force is inversely proportional to the square of the Current

---

4 Which type wattmeter is illustrated?



A Three element 4 wire wattmeter

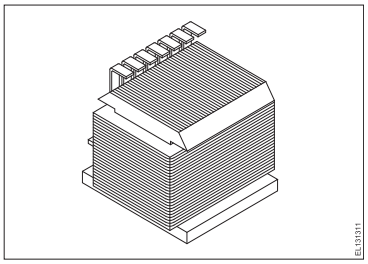
B Two element 3 phase wattmeter

C Three element 3 phase wattmeter

D Three phase two element with C.T & P.T

---

5 What is the type of frequency meter is illustrated?



A Weston type

B Ratio meter type

C Electro dynamic type

D Mechanical resonance type

---

6 Which type of meter is having cramped scale in the beginning?

A MC instrument

B Ohm meter

C Energy meter

D MI instrument

---

7 What is the function of soft iron core in a moving coil instrument?

A Strengthens the deflection force

B Controls the needle's movement

C Provides meter with maximum sensitivity

D Provide uniform distribution of magnetic flux in air gap

---

8 Which meter is used to measure revolution per minute of a motor?

A Tachometer

B Energy meter

C Ampere hour meter

D Centre zero ammeter

---

9 How to identify the moving iron type instrument?

A No terminal marking

B Terminal marked (+) only

C One terminal coloured red

D Terminal marked (+) and (-)

---

10 What is the function of integrating instrument?

A Displays the quantity

B Indicates the quantity

C Registers the quantity

D Measures the quantity

Questions: Level 3

1 Why two straight holes are provided in the aluminium disc in energy meter?

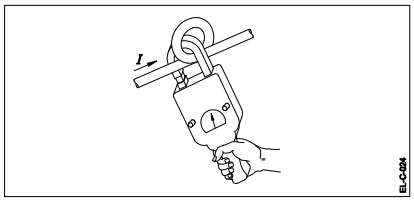
A To reduce the disc weight

B For power factor correction

C To prevent the flux leakage

D To arrest the creeping erro

2 What will be the reading in this meter for a selected range if the conductor is looped (double pass)?



A Double the current which pass through the conductor

B 4 times (i.e.,22) the current which pass through the conductor

C Half the current which pass through the conductor

D Same as the conductor current

3 What is the reason for flashing continuously of display on digital milli voltmeter ?

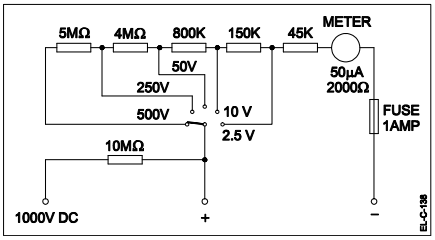
A the battery in the instrument is weak

B there is no battery in the instrument

C the measured value is over range

D the display is damaged

4 Which range is to be selected in multi range DC voltmeter if the 4MΩ resistor is opened in the circuit ?



A 2.5V,10V,50V

B 2.5V,250V,50V

C 10V,50V,250V

D 50V,250V,500V

5 Calculate the current and voltage in the main circuit, if the wattmeter current coil reading is 5A, and pressure coil reading is 110V, connected with C.T having the ratio of 20:1 and P.T ratio 100:1?

A 20A, 100V

B 40A, 1100V

C 80A, 110V

D 100A, 11000V

Module 10 : Measuring Instruments - Key paper

Questions: Level 1

SL.No	Key
1	D
2	B
3	B
4	A
5	D
6	A

Questions: Level 2

SL.No	Key
1	A
2	C
3	C
4	B
5	D
6	D
7	D
8	A
9	A
10	C

Question: Level 3

SL.No	Key
1	D
2	A
3	C
4	A
5	D