

PAPER – I  
ELECTRICIAN  
(THEORY)  
SEMESTER – II  
(SESSION 2017-2018) NSQF - LEVEL 5

TIME: 3 HRS.

MARKS: 150

**Note:** Attempt all the questions. All questions carry equal marks.

Choose the correct answer.

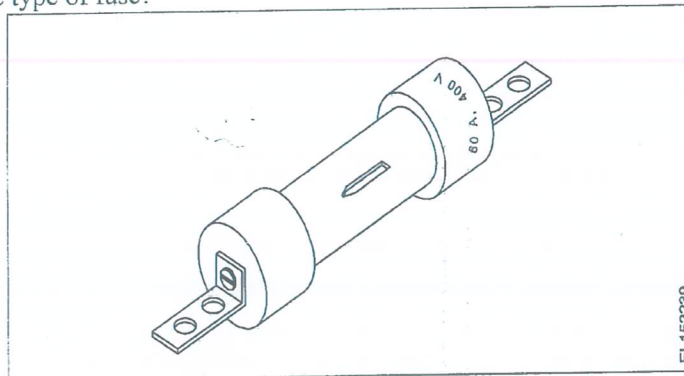
1. What is the minimum size of Aluminum earth continuity conductor used in single phase domestic wiring as per BIS?
 

a) 3 Sq.mm	b) 3.5 Sq.mm
c) 2.5 Sq.mm	d) 1.5 Sq.mm
2. How the conduit pipes are specified?
 

a) Length in metre	b) Outer diameter in mm
c) Inner diameter in mm	d) Wall thickness in mm
3. What is the fusing factor for rewirable fuse?
 

a) 1.1	b) 2.1
c) 1.4	d) 2.5
4. What is the purpose of underwriter's knot for pendent holder connection?
  - a) Reduce the strain from the terminals of accessories
  - b) Increase mechanical strength
  - c) Prevent excessive cap cover pressure
  - d) Avoid loose connections
5. Which device converts sunlight into electrical energy?
 

a) Light emitting diode	b) Liquid crystal diode
c) Photo voltaic cell	d) Light dependent resistor
6. What is the type of fuse?

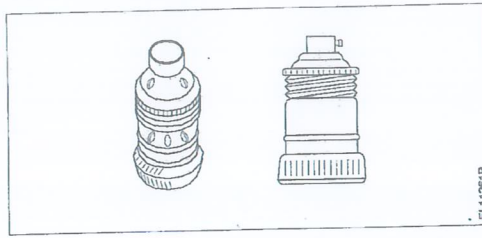


- |                                   |                                     |
|-----------------------------------|-------------------------------------|
| a) Knife edge cartridge fuse      | b) Diazed screw type cartridge fuse |
| c) Ferrule contact cartridge fuse | d) High rupturing capacity fuse     |

Contd....2/-

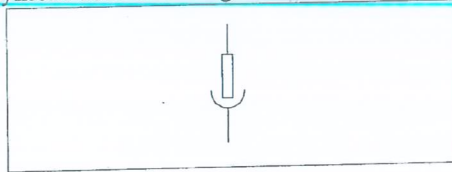
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7. What is the name of electrical accessory?



- a) Bracket holder  
b) Edison screw type holder  
c) Angle swivel lamp holder  
d) Goliath Edison screw lamp holder

8. What is the name of symbol used in wiring circuit?

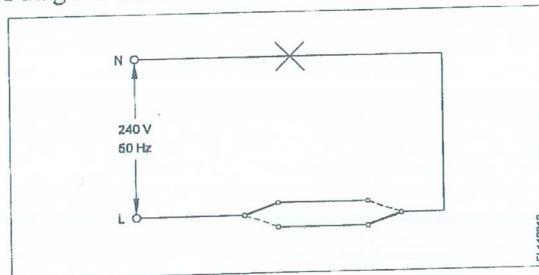


- a) Plug and socket  
b) Fuse  
c) Pull switch  
d) Link

9. Which type of load is protected by the L-series MCB?

- a) Motors  
b) Hand tools  
c) Geyser  
d) Air conditioner

10. What is the type of diagram used in domestic wiring?

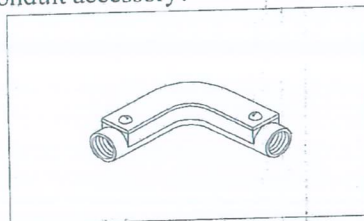


- a) Installation plan  
b) Wiring diagram  
c) Layout diagram  
d) Circuit diagram

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

- a) Cable damage due to heat  
b) Load current increases  
c) Voltage drop decreases  
d) Voltage drop increases

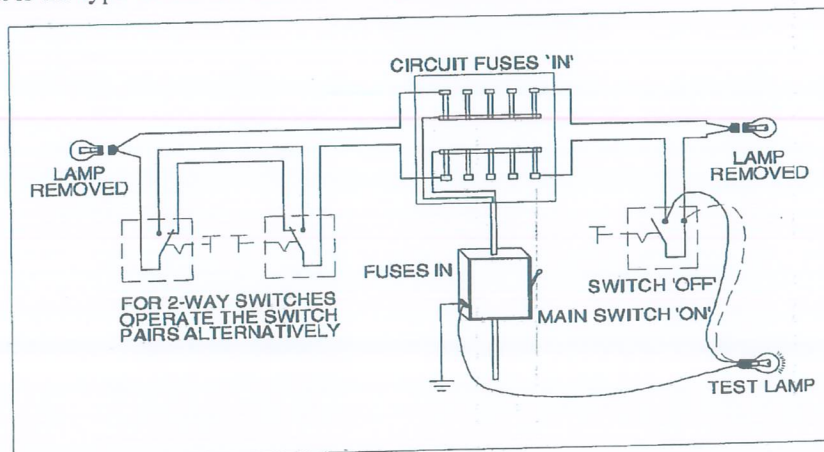
12. What is the name of the conduit accessory?



- a) Inspection Bend  
b) Solid elbow  
c) Solid bend  
d) Inspection elbow

Contd....3/-

13. How many two way switches with intermediate switch are used to control one lamp from three different places?  
 a) 1  
 b) 4  
 c) 3  
 d) 2
14. Which method is used to reduce earth resistance value in an existing earth?  
 a) Increasing the length of electrode  
 b) Adding more sand and charcoal in earth pits  
 c) Keeping wet condition in earth pits always  
 d) Increasing the diameter of earth electrode
15. Why A.C is required to measure the earth resistance by using earth resistance tester?  
 a) Regulate the current  
 b) Avoid electrolytic emf interference  
 c) Decrease the voltage drop  
 d) Increase the voltage drop
16. What is the advantage of concealed wiring?  
 a) Easy to maintain  
 b) Less voltage drop  
 c) High insulation resistance  
 d) Protection against moisture
17. 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 =  $\frac{IR}{2}$  volt
18. What is the maximum permissible load for a power sub circuit as per I.E rules?  
 a) 800 Watt  
 b) 3000 Watt  
 c) 2000 Watt  
 d) 1500 Watt
19. Which location the service connection supply leads to be connected at consumer main board?  
 a) IC cut out  
 b) Main switch  
 c) Energy meter  
 d) Distribution board
20. What is the type of test in domestic wiring installation?

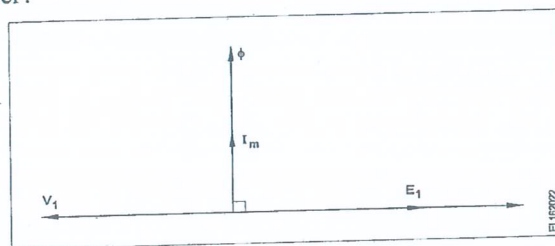


- a) Insulation resistance test between conductors  
 b) Continuity (or) open circuit test  
 c) Polarity test  
 d) Insulation resistance test between conductors and earth

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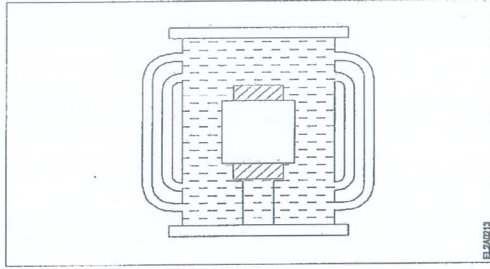
21. Which law secondary cell works?  
 a) Faradays laws of electromagnetic induction  
 b) Joule's law  
 c) Faradays laws of electrolysis  
 d) Lenz's law
22. What is the formula to calculate the Mass deposited during electrolysis?  
 a)  $M = zit \text{ gm}$   
 b)  $M = it \text{ gm}$   
 c)  $M = \frac{it}{z} \text{ gm}$   
 d)  $M = \frac{z}{it} \text{ gm}$
23. How the capacity of battery is specified?  
 a) Volt  
 b) Watt  
 c) Volt Ampere  
 d) Ampere hour
24. What is the name of defect that bending of plates in secondary cells?  
 a) Partial short  
 b) Local action  
 c) Buckling  
 d) Hard sulphation
25. Which type of transformer is used for high frequency application?  
 a) Ring core transformer  
 b) Ferrite core transformer  
 c) Silicon steel core transformer  
 d) Grain oriented core transformer
26. What is the relationship between primary voltage ( $E_1, V_1$ ) and secondary voltage ( $E_2, V_2$ ) in a ideal transformer?



- a)  $E_1 > V_1$  and  $E_2 > V_2$   
 b)  $E_1 = V_1$  and  $E_2 = V_2$   
 c)  $E_1 < V_1$  and  $E_2 < V_2$   
 d)  $E_1 = V_2$  and  $E_2 = V_1$
27. What is the function of conservator in transformer?  
 a) Allows expansion of oil level due to load variation  
 b) Transfers the heat to atmosphere  
 c) Allows to release internal pressure  
 d) Prevents the moisture entry
28. Which loss of transformer is determined by short circuit test?  
 a) Eddy current loss  
 b) Windage loss  
 c) Hysteresis loss  
 d) Copper loss
29. Calculate the voltage regulation in percentage of the transformer if the no load voltage is 240 volt and full load voltage is 220 volt?  
 a) 7.2 %  
 b) 9.09 %  
 c) 8.71 %  
 d) 8.3 %
30. What is the purpose of using laminated core in transformer?  
 a) Reduce eddy current loss  
 b) Reduce hysteresis loss  
 c) Reduce mechanical loss  
 d) Reduce copper loss

Contd....5/-

31. What is the cooling method of transformer?



- a) Oil forced air forced cooling  
 b) Oil natural air forced cooling  
 c) Oil natural cooling  
 d) Oil natural water forced cooling

32. What is the S.I unit of luminous intensity?

- a) Lux  
 b) Lumen  
 c) Candela  
 d) Steradian

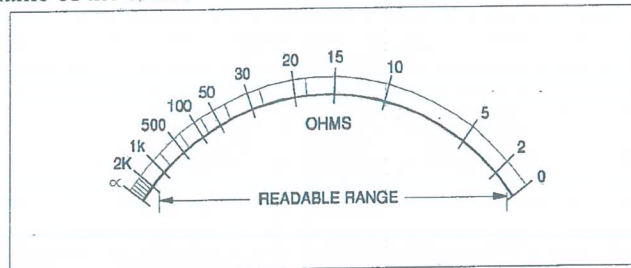
33. Which force is required to move the pointer from zero position in an indicating instrument?

- a) Deflecting force  
 b) Controlling force  
 c) Air friction damping  
 d) Eddy current damping

34. Which is the position to use the instrument provided with gravity control?

- a) Any position  
 b) Vertical position  
 c) Inclined position  
 d) Horizontal position

35. What is the name of the scale?



- a) Linear scale  
 b) Coarse scale  
 c) Extended scale  
 d) Non-linear scale

36. Which error is caused by the incorrect position of instrument reading?

- a) Device error  
 b) Human error  
 c) Influence error  
 d) Switching error

37. Which instrument is used to measure one ohm and below one ohm resistance value accurately?

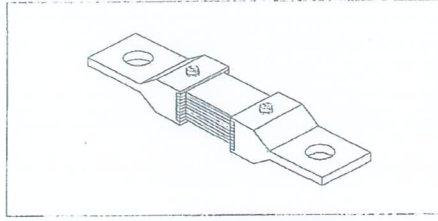
- a) Megohm meter  
 b) Shunt type ohm meter  
 c) Multimeter (analog)  
 d) Series type ohm meter

38. What is the purpose of the 3<sup>rd</sup> terminal provided in a advanced megohm meter?

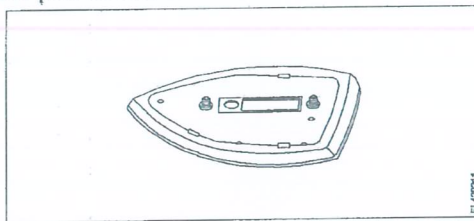
- a) Get higher ohmic values  
 b) Get accurate readings without oscillation  
 c) Pass the excess current to ground  
 d) Pass the excess voltage to ground

Contd....6/-

39. What is the name of the shunt resistance material?



- a) Copper  
b) Manganin  
c) Nichrome  
d) Eureka
40. What is the working temperature of filament lamp?  
a) 2300°C  
b) 1800°C  
c) 2000°C  
d) 1500°C
41. Which material is used to make heating element?  
a) Silver  
b) Copper  
c) Nichrome  
d) Aluminium
42. Which material is coated in tungsten electrode of a fluorescent tube lamp?  
a) Barium and strontium oxide  
b) Phosphor powder  
c) Fluorescent powder  
d) Silver oxide
43. Which position MB type high pressure mercury vapour lamps are operated?  
a) Any position  
b) Inclined  
c) Horizontal  
d) Vertical
44. What is the function of leak transformer in high pressure sodium vapour lamp circuit?  
a) Ignite the high voltage initially  
b) Reduce the working voltage  
c) Increase the working voltage  
d) Reduce the starting current
45. How stroboscopic effect in industrial twin tube light fitting is reduced?  
a) Connecting capacitor parallel to supply  
b) Connecting capacitor in series with one tube light  
c) Connecting capacitor in series with supply  
d) Connecting two capacitors in series to each tube light
46. What is the name of the part of electric iron?

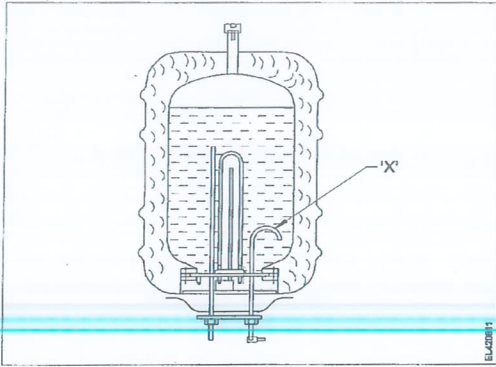


- a) Sole plate  
b) Pressure plate  
c) Mica insulation  
d) Asbestos sheet
47. What is the function of stirrer motor in micro wave oven?  
a) Draws cooling air inside  
b) Revolves and reflects the electromagnetic energy  
c) Exhausts the hot air outside  
d) Spreads the heat uniformly

Contd....7/-



48. What is the purpose of U bend marked as 'X' in geyser?

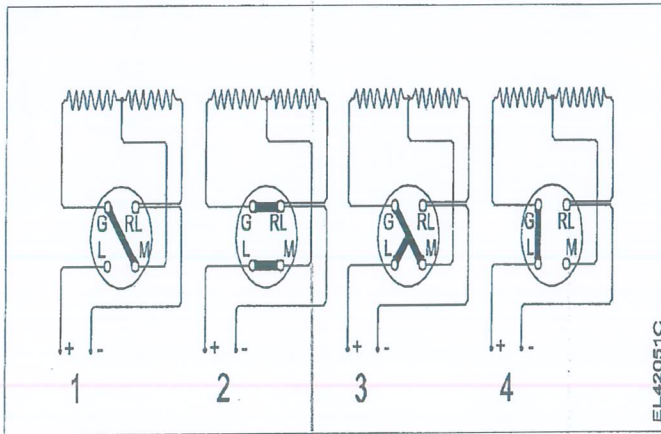


- a) Restricts the air locking inside the tank
- b) Avoids the forming of scales
- c) Reduces the pressure of outlet pipe
- d) Prevents draining of water

49. Which type of A.C single phase motor is used in food mixer?

- a) Universal motor
- b) Repulsion motor
- c) Split phase motor
- d) Shaded pole motor

50. Which is the position for maximum output of the heater?



- a) Position 1
  - b) Position 4
  - c) Position 3
  - d) Position 2
- \*\*\*\*\*