

Code: A-E 730116 - A

I SEMESTER EXAM. - 2023-24

2 x 175

Std.: XI

Sub: Electrical Maintenance - I

Marks: 40

Date: 04/11/23

Roll No.: _____

Time: 2 ½ hrs.

Q 1) Fill in the blanks

6

- a)  is the symbol of _____.
i. Capacitor
ii. Choke
iii. Inductor
- b) The resistance of an electric heater is _____ when it takes a current of 7A at 210V supply.
i. 3 Ω
ii. 6Ω
iii. 10 Ω
- c) The conductors of VIR wires are tinned because
i. Corrosion is restricted
ii. Rubber is prevented to stick up to its conductor,
iii. Increases current carrying capacity.
- d) _____ effect of electric current is used in an electric iron.
i. Chemical effect
ii. Physical effect
iii. Heating effect
- e) Weatherproof wires are used for _____ wiring.
i. Outdoor
ii. Indoor
- f) The fuse-is connected in _____ wire.
i. phase
ii. neutral
iii. earth

Q2) Attempt any three

6

- a) State the different types of wires.
- b) Draw a neat and labelled diagram of staircase wiring.
- c) Draw a neat and labelled diagram of one-point series parallel testing board.
- d) Draw symbols of the following:
i. DC Ammeter
ii. Socket outlet, 3 pin 5A
iii. Main fuse board without switches, power
iv. Siren

Q3) Attempt any four

8

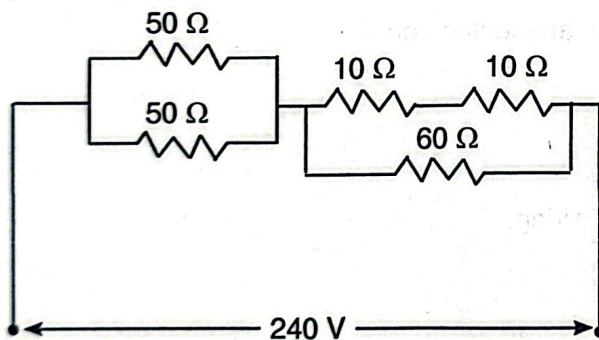
- a) Draw a neat and labelled circuit diagram of Godown wiring.
- b) Explain plug and socket with diagram.
- c) Write a note on weatherproof wires with diagram.

P.T.O

- d) Explain the different types of circuits.
- e) Draw symbols of the following:
 - i. Fan regulator
 - ii. DC Series Motor
 - iii. Bell
 - iv. Variable Resistance

Q4) Attempt any five**15**

- a) Define:
 - i. Resistivity
 - ii. Voltage drop
 - iii. conductance
- b) State the effects of electric current and explain any one in detail.
- c) Define power. Two lamps of 100 W each are connected in i) parallel & ii) series to a 220 Volt supply. Calculate the power taken in each case.
- d) Find the equivalent resistance of the circuit below. Also, find the current if the supply voltage is 240V.



- e) State the different types of switches and give their applications.
- f) State and explain the laws of resistance.

Q5) The electrical installation in a house is used in the following manner.**5**

- i) Lamp 100 W each, 12 nos. 6 hrs a day
- ii) Fan 60 W each, 6 nos. 5 hrs a day
- iii) Electric cooker 1.5 KW each, 2 nos. 4 hrs a day
- iv) Electric Geyser 1 KW each, 2nos. 3 hrs a day

Calculate the cost of electric energy for the month of September, @ Rs. 3.50 per unit.