Code: A-E223115-A	**I SEMESTER EXAM - 2024-25**	2 x 155
Std.: XI	Sub: Electrical Maintenance - I	Marks: 40
Date:	Roll No.: _____	Time: 2½ hrs.

Q.1 **Fill in the blanks with correct options.** **(6)**

a) is the symbol of ..... .

i) Capacitor ii) Variable resistance iii) Inductor

b) ..... effect of electric current is used in electric iron.

i) Chemical ii) Physical iii) Heating

c) ..... wires retain their shape even after bending and twisting.

i) VIR ii) Weather-proof iii) Flexible

d) The fuse is connected in _____ wire.s

i) phase ii) neutral iii) earth

e) The resistance of an electric heater is _____ when it takes a current of 5A at 250V supply.

i) 25Ω ii) 50Ω iii) 5Ω

f) _____ wires are used for outdoor wiring.

i) Weatherproof ii) VIR iii) CTS / TRS

Q.2 **Attempt any three.** **(6)**

a) Draw symbols of the following.

i) Bell ii) D.O.L. starter iii) Earth fault

iv) Siren

b) Draw a neat and labelled diagram of staircase wiring.

c) State the different types of wires.

d) Draw a neat and labelled diagram of one point series parallel testing board.

Q.3 **Attempt any four.** **(8)**

a) Draw a neat and labelled circuit diagram of Godown wiring.

b) Write a note on PVC wires with diagram.

c) Explain plug and socket with diagram.

d) A voltage of 500V is applied across a load which takes a current of 50 Amps. Find the resistance of the load.

e) Draw symbols of the following :

i) Battery ii) Kit-Kat fuse

iii) DC series motor iv) AC Generator

Q.4 **Attempt any five.** **(15)**

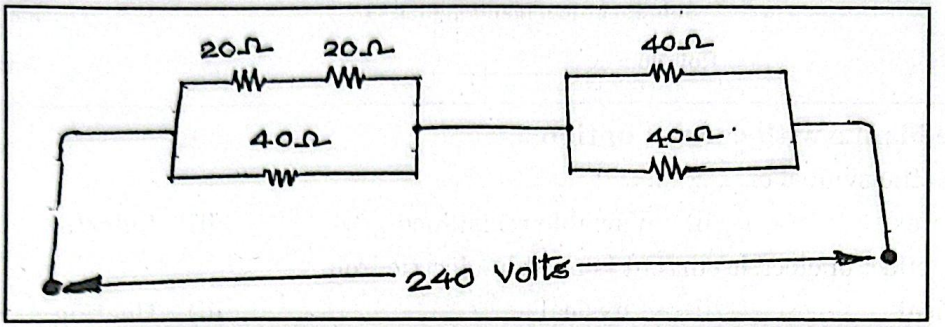
a) Compare series and parallel circuit.

b) Explain the factors on which resistance of material depends.

c) State the different types of switches and give their applications.

d) State the effects of electric current and explain any one in detail.

e) Calculate the total resistance and total current in the circuit given below.



f) Define power. Two lamps of 100 W each are connected. (i) in series (ii) Parallel. Find out the current in each case. Take the supply voltage 250 V in both cases consider voltage rating of lamps 250V.

Q.5 Calculate the energy consumption for the month of October for the following load. **(5)**

Find the bill @ Rs 3.50 per unit.

i) Two lamps each of 100W working 4 hrs a day.

ii) Electric heter of 1KW working 2 hrs a day.

iii) Fan 60W each, 6 nos. working 5 hrs a day.

iv) Electric cooker 1.5 KW each, 2 nos., 4 hrs a day.