Code: A-E223115-M	**I SEMESTER EXAM – 2024-25**	2 x 50
Std.: XI	Sub: ELECTRICAL MAINTENANCE-I	Marks: 40
Date:	Roll No.: _____	Time:

Q.1 **Fill in the blanks with correct options.** **(06)**

a) (000) 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 Ii. Flexible

d) The fuse is connected in _____ wire.
i. phase ii. neutral iii. earth

e) The resistance of an electric heater is _____ when it takes a current of 5A at 250V supply.
a) 25 Ω b) 50 Ω c) 5 Ω

f) _____ wires are used for outdoor wiring.
a) Weatherproof b) VIR c)CTS/TRS

Q.2 **Attempt any three** **(06)**

a) Draw symbols of the following.
1) Fixed Resistance 2) Inductive coil 3) Earth fault 4) Lamp in Parallel

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.** **(08)**

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

b) Write a note on VIR wires with diagram.

c) Explain plug and socket with diagram.

d) A voltage of 250V is applied across a load which takes a current of 65 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)**

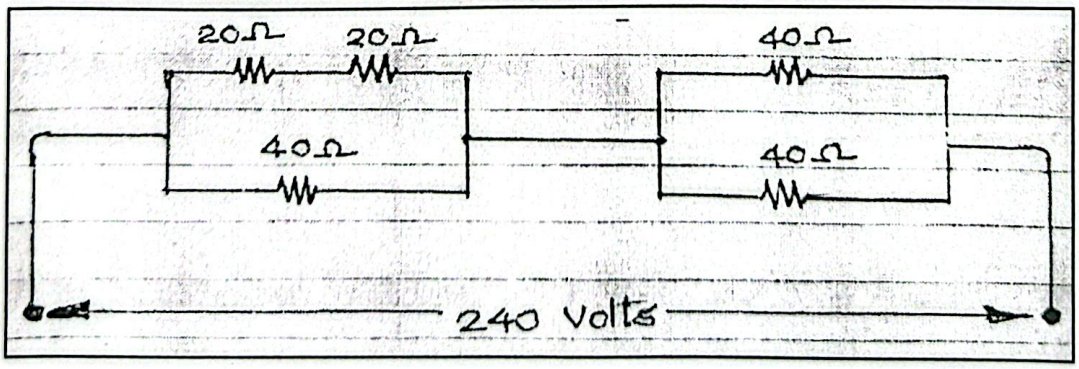
a) Compare Series and Parallel circuit.

b) Explain the factors on which resistance of the materials depends?

c) State the different types of the 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.



P.T.O

f) Define power. Two lamps of 100 W each are connected (i) in series (1) parallel. Find out the current in each case. Take the supply voltage 250 V in both cases. Consider voltage racing of lamps 250V.

Q.5 Calculate the energy consumption for the month of October for the following load. Find the bill @ Rs. 4.50 per unit. **(05)**

(i) Two lamps each of 100 W working 4 hrs a day.
(ii) Electric heater 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.