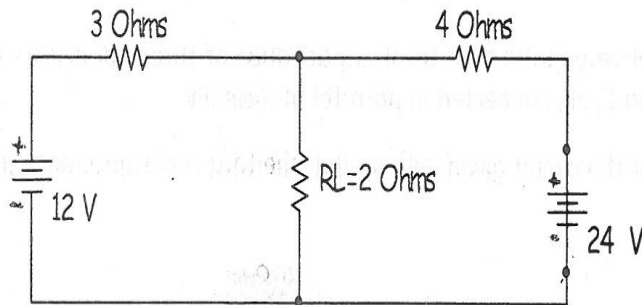


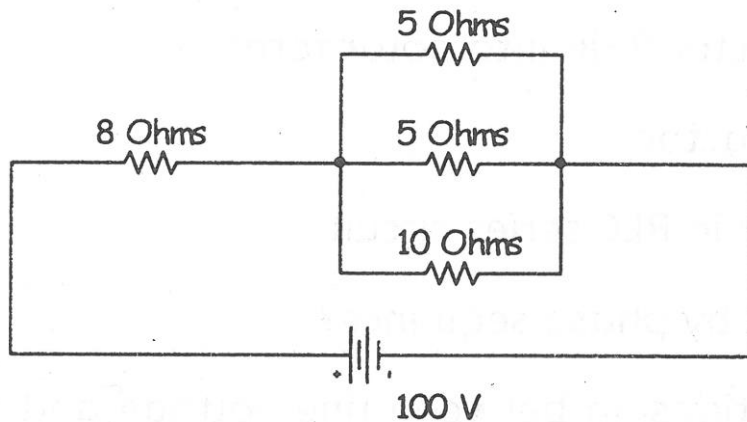
Electrical Circuit Theory
Important 10 Mark questions

Unit I

1. Find the current supplied by the batteries and load current in the following circuit by using Kirchoff's law.

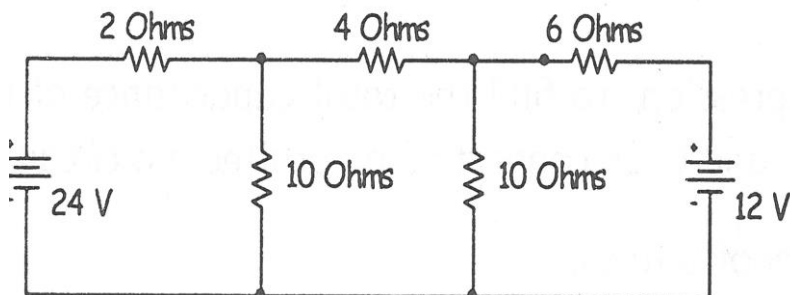


2. For the circuit given below, find (i) Total resistance (ii) Total current (iii) Branch currents and (iv) Total power dissipated in the circuit.



Unit II

1. Derive an expression to convert the delta connected resistors into equivalent star connected resistors.
2. By using mesh current analysis, find current supplied by the batteries.



For Questions, Notes, Syllabus & Results

Unit III

1. Derive the expression to find the average value of AC sinusoidal current.
2. A series RLC circuit consisting of 20Ω resistance, 0.2H inductance and $100\mu\text{F}$ capacitance is connected to 230V , 50Hz Ac supply. Calculate impedance, current, power factor and power consumed in the circuit.

Unit IV

1. Derive the expression for resonance frequency in series RLC resonant circuit.
2. A coil having a resistance of 10Ω and an inductance of 20mH is connected in series with $100\mu\text{F}$ capacitor. Calculate resonance frequency and Q factor of the coil.

Unit V

1. Derive an expression to calculate the power factor of a balanced 3-PH load by using two wattmeter method.
2. The power input to a 400V , 50Hz , 3ϕ motor is measured by two wattmeters, which indicate 2500W and 500W respectively. Find the total power and power factor of the circuit.