



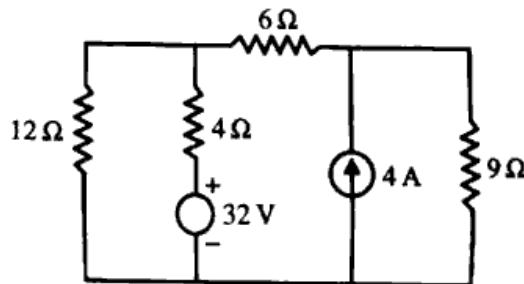
## **PART – B**

[5×4=20]

**(Analytical/Problem solving questions)**

**Attempt any five questions**

- Q.1 Formulate the Maximum power transfer theorems.  
Q.2 Compute the power dissipated in the 12 ohm resistor by applying the superposition theorem.



- Q.3 Differentiate the Ideal and Practical transformer in detail.  
Q.4 Enlighten the torque-slip characteristic of three phase induction motor with proper diagram/graph.  
Q.5 Discuss the framework of the single phase rectifier with R load.  
Q.6 Describe the construction and working of synchronous generators.  
Q.7 A 100V, 80W lamp is to be operate on 230V, 50Hz supply. Calculate the value of a pure inductance to be connected in series with the lamp so that the lamp may run on its correct voltage. If the power factor of lamp is to be improved to unity, calculate the value of capacitor which is to be connected across the circuit.

## **PART – C**

[3×10=30]

**(Descriptive/Analytical/Problem Solving/Design Questions)**

**Attempt any three questions**

- Q.1 Formulate the voltage and current relations in star and delta connections.  
Q.2 Deliberate the Single phase Inverter in detail with suitable diagram(s).  
Q.3 Describe the equivalent circuit of transformer.  
Q.4 Discuss the construction and working of single-phase induction motor.  
Q.5 Describe the different types of earthing to protect the different electrical system/circuit(s).