Delhi public school Jammu
## Session 2024-2025

ASSIGNMENT   MONTH : MAY
Class XII   Subject: Physics

1. What is the relation between electric current and drift velocity of electrons in a conductor?
2. Derive the expression for the resistance of a conductor in terms of its length, area of cross-section, and specific resistance.
3. State Kirchhoff's first and second laws. Use them to find the current in each branch of the circuit shown in the diagram.
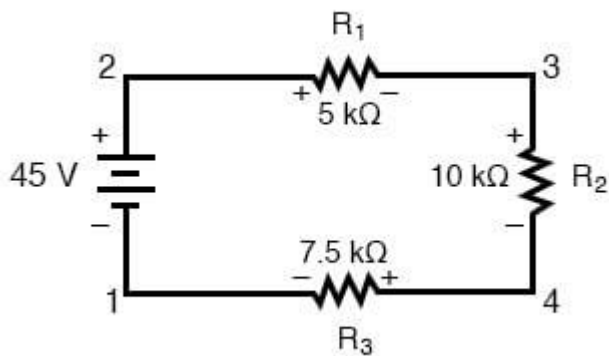
4. A cell of emf E and internal resistance r is connected to a resistance R. Derive an expression for the current in the circuit. Also, find the condition for maximum power transfer in the circuit.
5. Explain the working of a wheastone bridge. How can it be used to find unknown resistance of a circuit.
6. A wire of length l and radius r has resistance R. What will be the resistance of another wire of the same material, length 2l and radius 2r?
7. Derive an expression for the heat produced in a conductor of resistance R carrying a current I for a time t.
8. What is the principle of a Wheatstone bridge? Derive an expression for the unknown resistance in terms of the other resistances.

Subject coordinator   Academic coordinator