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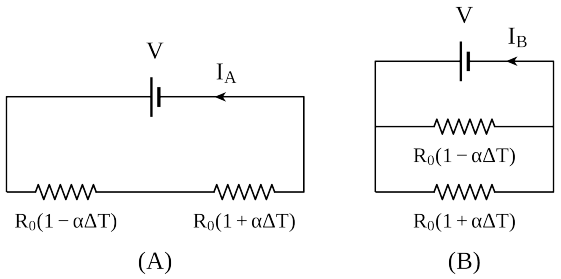
# NEET CURRENT ELECTRICITY — TEMPERATURE DEPENDENCE OF RESISTIVITY — PYQS

**Max. Marks:** 28 **Questions:** 7

## Section A (MCQ) — 7 questions

**Q.1** Consider two circuits, (A) and (B), each having two resistors. One of them has a positive temperature coefficient of resistance, +α, while the other one has a negative temperature of coefficient, −α, as shown in the figure. The current through these circuits are denoted by $I_A$ and $I_B$. At initial temperature, the resistance of the two resistors is $R_0$. As the temperature is increased, the correct option that describes the variation of current in these circuits is: [RE-NEET (UG) 2026]




(1) both $I_A$ and $I_B$ remain constant
(2) $I_A$ remains constant while $I_B$ increases
(3) $I_A$ decreases while $I_B$ increases
(4) $I_A$ increases while $I_B$ decreases

Scan or tap for the full solution

**Q.2** The resistance of platinum wire at 0°C is 2 Ω and 6.8 Ω at 80°C. The temperature coefficient of resistance of the wire is : [NEET (UG) 2023]

(1) $3 \times 10^{-3}$ °C$^{-1}$ (2) $3 \times 10^{-2}$ °C$^{-1}$
(3) $3 \times 10^{-10}$ °C$^{-1}$ (4) $3 \times 10^{-4}$ °C$^{-1}$

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**Q.3** As the temperature increases, the electrical resistance [NEET (UG) 2022]

(1) Increases for both conductors and semiconductors
(2) Decreases for both conductors and semiconductors
(3) Increases for conductors but decreases for semiconductors
(4) Decreases for conductors but increases for semiconductors

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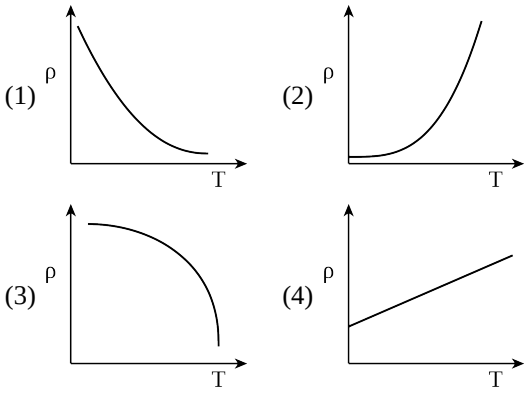
**Q.4** Which of the following graph represents the variation of resistivity (ρ) with temperature (T) for copper? [NEET (UG) 2020]

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**Q.5** The solids which have the negative temperature coefficient of resistance are : [NEET (UG) 2020]

(1) insulators only
(2) semiconductors only
(3) insulators and semiconductors
(4) metals

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**Q.6** Specific resistance of a conductor increases with [AIPMT 2002]

(1) increase in temperature
(2) increase in cross-section area
(3) increase in cross-section and decrease in length
(4) decrease in cross-section area.

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**Q.7** Copper and silicon are cooled from 300 K to 60 K, the specific resistance [AIPMT 2001]

(1) decrease in copper but increase in silicon

(2) increase in copper but decrease in silicon

(3) increase in both

(4) decrease in both

Scan or tap for the full solution

## ANSWER KEY

| Ques. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ans.** | **2** | **2** | **3** | **2** | **3** | **1** | **1** | | | | |