CBSE NCERT Based Chapter wise Questions (2025-2026)

Class-XII

Subject: Physics

Chapter Name : *Current Electricity* (Chapter : 4)

Total : 07 Marks (expected) [MCQ(2)-1 Mark, SA(1)-2 Marks, LA(1)-3 Marks]

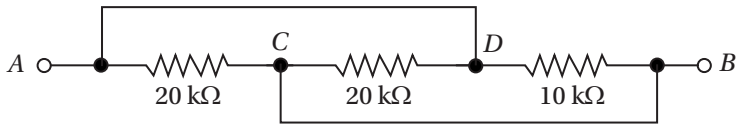
Level - 2(Higher Order)

MCQ Type Questions :

1. Resistance of the wire is measured as 2 Ω and 3 Ω at 10°C and 30°C respectively. Temperature coefficient of resistance of the material is

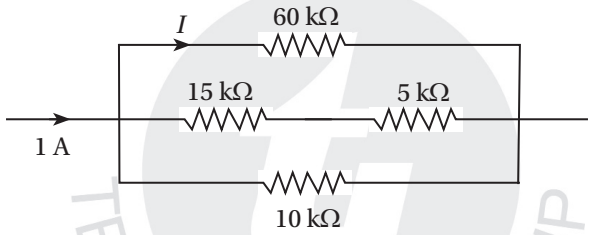
Ⓐ $0.033°C^{-1}$ Ⓑ $-0.033°C^{-1}$ Ⓒ $0.011°C^{-1}$ Ⓓ $-0.055°C^{-1}$

2. Find the equivalent resistance between *A* and *B*.



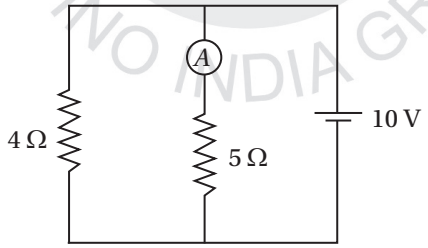
Ⓐ 5 kΩ Ⓑ 30 kΩ Ⓒ 10 kΩ Ⓓ 20 kΩ

3. The magnitude of *I* in ampere is



Ⓐ 0.1 Ⓑ 0.3 Ⓒ 0.6 Ⓓ none of these

4. In the given diagram, the reading of the ammeter is



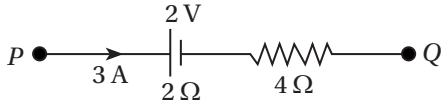
Ⓐ $\frac{40}{29}$ A Ⓑ $\frac{10}{9}$ A Ⓒ $\frac{5}{3}$ A Ⓓ 2 A

5. To supply maximum current, cells should be arranged in

Ⓐ series Ⓑ parallel

Ⓒ mixed grouping Ⓓ depends on the internal and external resistance

6. Find the potential difference between *P* and *Q*?



Ⓐ 30 V Ⓑ 22 V Ⓒ 20 V Ⓓ 15 V

7. The ratio of thermal energy released in two resistors R and $3R$ connected in parallel in an electrical circuit is
Ⓐ 3 : 1 Ⓑ 1 : 1 Ⓒ 1 : 3 Ⓓ 1 : 27

8. Resistances in the two gaps of a meter bridge are 10 Ω and 30 Ω respectively. If the resistances are interchanged, the balance point shifts by
Ⓐ 33.3 cm Ⓑ 66.67 cm Ⓒ 25 cm Ⓓ 50 cm

Very Short Answer Type Questions (2 marks)

9. Why does a bulb becomes dim when an electric heater in parallel circuit is switched on? Why dimness decreases after some time?

10. Two 120 V light bulbs, one of 25 W and other of 200 W were connected in series across a 240 V line. One bulb burnt out almost instantaneously, which one was burnt and why?

11. Why is metre bridge method considered unsuitable for the measurement of very high resistance?

12. What is end error in a meter bridge? How is it overcome?

13. Plot a graph showing the variation of resistance of a conducting wire as a function of its radius, keeping the length of the wire and its temperature as constant.

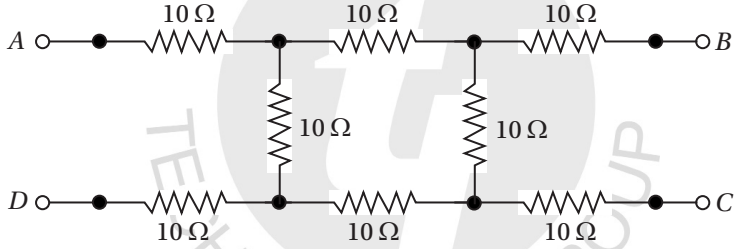
14. How does the drift velocity of electrons in a metallic conductor vary with the increase in temperature?

15. Two wires of equal cross sectional area, one of copper and other of manganin have the same resistance. Which one will be longer?

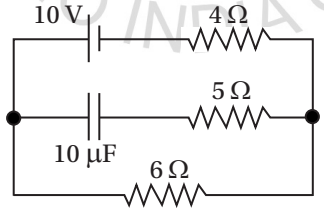
16. Is a wire carrying current charged?

Short Answer Type Questions (3 marks)

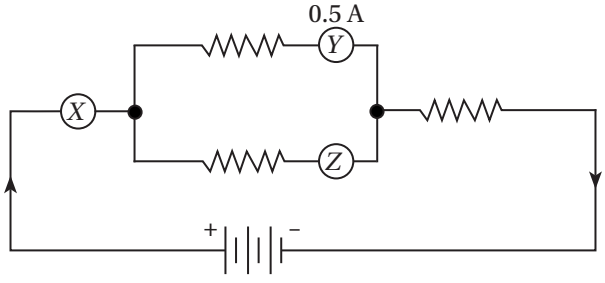
17. Find the resistance between the points
(i) A and B
(ii) A and C of the network shown in figure.



18. In an electrical circuit shown below, the amount of charge stored in the capacitor is

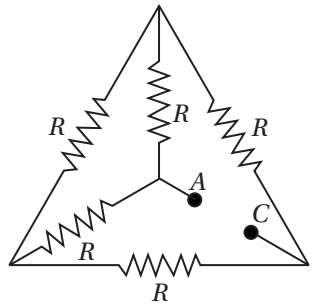


19. In the figure X, Y and Z are ammeters and Y reads 0.5 A
(i) What are the readings in ammeters X and Z?
(ii) What is the total resistance of the circuit?



20. A motor operating on 120 V draws a current of 2 A. If the heat is developed in the motor at the rate of 9 cal/s. What is its efficiency?

21. Find the equivalent resistance between *A* and *C*.



ANSWER

1.	Ⓐ	**6.**	Ⓒ	**11.**		**16.**		**20.**	
2.	Ⓐ	**7.**	Ⓐ	**12.**		**17.**	(i) 27.5 Ω (ii) 30 Ω	**21.**	$R\,\Omega$
3.	Ⓐ	**8.**	Ⓓ	**13.**		**18.**	60 μC		
4.	Ⓓ	**9.**		**14.**		**19.**	(i) 1.5 A, 1 A (ii) 4Ω		
5.	Ⓓ	**10.**		**15.**					