



INDIAN SCHOOL NIZWA - WORKSHEET

PHYSICS

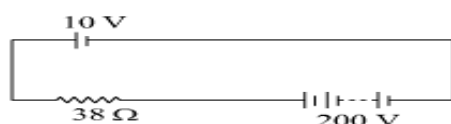
CH: 3 CURRENT ELECTRICITY- BOARD QUESTIONS

Name: _____

Date: _____

Class: XII Sec: A _____

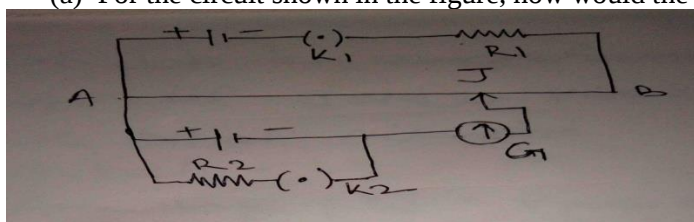
1. Two materials Si and Cu are cooled from 300K to 60K. What will be the effect on their resistivity? 1
2. Give an example of a material each for which the temperature coefficient of resistivity is (i) Positive, (ii) negative. 1
3. Name the charge carriers for the flow of current in a (i) conductor and (ii) electrolyte. (2019 CBSE) 1
4. Why is the terminal voltage of a cell generally less than the emf of the cell? (2019 CBSE) 1
5. Two electric bulbs P and Q have their resistances in the ratio 1: 2. They are connected in series across a battery. Find the ratio of power dissipation in these bulbs. (2018 CBSE) 2
6. A 10 V cell of negligible internal resistance is connected parallel across a battery of emf 200V and internal resistance 38Ω as shown. 2



Find the value of current in the circuit.

(2018 CBSE)

7. In a potentiometer arrangement for determining the emf of a cell, the balance point of the cell in open circuit is 350cm. When a resistance of 9Ω is used in the external circuit of the cell, the balance point shifts to 300cm. Determine the internal resistance of the cell. (2018 CBSE) 2
8. (a) Define the term conductivity of a metallic wire. Write its SI unit. 3
(b) Using the concept of free electrons in a conductor derive the expression for the conductivity of a wire in terms of number density and relaxation time. Hence obtain the relation between current density and applied electric field. (2018 CBSE)
9. (a) For the circuit shown in the figure, how would the balancing length be effected if, 3





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(i) R_1 is decreased

(ii) R_2 is increased

the other factors remaining same in the circuit? Justify your answer in each case.

(b) Why is the potentiometer preferred over voltmeter? Give reason. **(2019-CBSE)**

10. State the underlying principle of meter bridge. Draw the circuit diagram and explain how unknown resistance of a conductor can be determined by this method. **(2019- CBSE)** 3