

Gaining Apex Coaching Centre

(Where Toppers make..... Toppers)

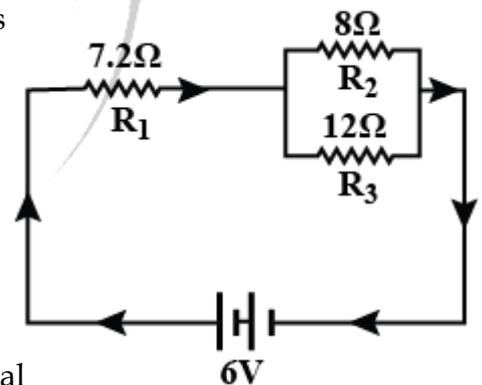
Compiled by: Dapinderjeet Singh

Class Xth (Numericals- Electricity)

- 1) How much energy is given to each coulomb of charge passing through the 6V battery?
- 2) An electric bulb draws a current of 0.25A for 20mts. Calculate the amount of electric charge that flows through the circuit
- 3) Potential difference between the two points of wire carrying 2A current is 0.1V. Calculate the resistance between the two points
- 4) An electric iron draws a current of 3.4A from the 220V supply line. What current will this electric iron draw when connected to 100V supply line?
- 5) What potential difference is needed to send a current of 6A through an electrical appliances having a resistance of 20ohm
- 6) An electrical appliance has a resistance of 25ohm. When the electrical appliance is connected to 230V supply line then what is the current passing through it
- 7) A current of 5A flows through a wire whose ends are at potential difference of 3 volts. Calculate the resistance of the wire
- 8) A copper wire of length 2m and area of cross section $1.7 \times 10^{-6} \text{ m}^2$ has a resistance of 2×10^{-2} ohms. Calculate the resistivity of the copper
- 9) A copper wire has a diameter of 0.5mm and a resistivity of $1.6 \times 10^{-8} \text{ m}$. What will be the length of this wire to make a resistance of 10 ohm?
- 10) A 6ohm resistance wire is doubled up by folding. Calculate the new resistance of the wire
- 11) How does the resistance of the wire change when the length is tripled, the diameter is doubled and its material is changed to one whose resistivity is three times

- 12) Calculate the resistance of the aluminium wire of length 10Km and diameter 2mm, if the resistivity of the aluminium is $2.7 \times 10^{-8} \text{ ohm m}$

- 13) In the circuit diagram calculate the i) total resistance of the circuit ii) total current flowing in the circuit iii) the potential difference across R1



- 14) An electric bulb of resistance 20ohm and a resistance of wire 4ohm are connected on series with 6V battery. Draw the circuit diagram and calculate a) total resistance of the circuit ii)

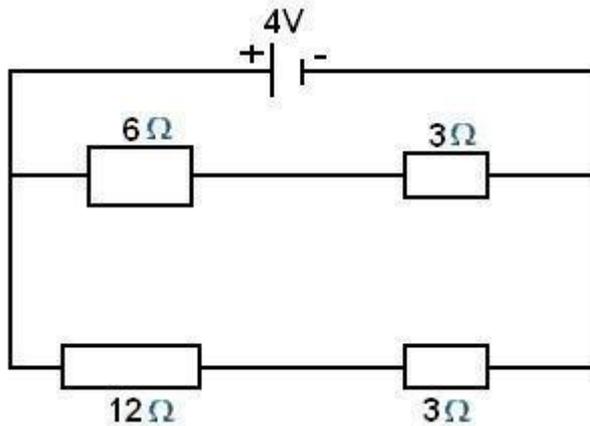
Gaining Apex Coaching Centre

(Where Toppers make..... Toppers)

Compiled by: Dapinderjeet Singh

potential difference across the electric bulb c) potential difference across the resistance wire d) current through the circuit

15) For the circuit diagram given below

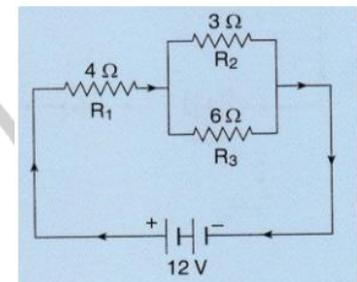


What is the value of current through 6ohm resistance and potential difference across 12 ohm resistor?

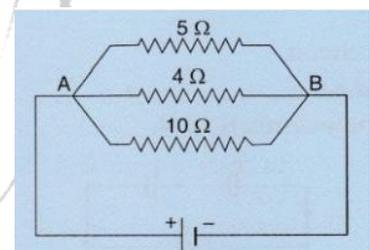
16) Two resistors with resistances 5ohm and 10 ohm respectively are to be connected to a battery of emf 6V so as to obtain i) minimum current flowing ii) maximum current flowing

a) How will you connect the resistances in each case b) calculate the strength of the total current in the circuit in two cases

17) The circuit diagram given below shows the combinations of three resistors R1, R2 and R3. Find the total resistance in the circuit, total current flowing in the circuit and the potential difference across R1



18) In the circuit diagram given below the current flowing through 5ohm resistance is 1A Find the current flowing through the other two resistances



19) A resistor has a resistance of 176ohm. How many of these resistors should be connected in parallel so that their combinations draws a current of 5A from a 220V supply line

20) A 4 ohm coil and 2ohm coil are connected in parallel. What is the combined resistance? A total current of 3A passes through the coil. What current passes through the 2ohm coil ?