UDAAN 2025

PHYSICS

ELECTRICITY

DHA : 07

Q1 The formula for Ohm's law is

(A) I = V/R
(B) V = IR
(C) R = V/I
(D) All are correct

Q2 According to Ohm's Law, what is the current (I) when 500 Voltage (V) is supplied to a 2K Resistance (R)?

(A) 0.50 Amp (B) 0.25 Amp
(C) 0.75 Amp (D) 4 Amp

Q3 **A cooler of 1500 W, 200 volts and a fan of 500 W, 200 volts are to be used from a household supply. The rating of the fuse to be used is**

(A) 2.5 A (B) 5.0 A
(C) 7.5 A (D) 10 A

Q4 **In an electrical circuit, two resistors of 2 Ω and 4 Ω, respectively, are connected in series to a 6 V battery. The heat dissipated by the 4 Ω resistor in 5 s will be**

(A) 5 J (B) 10 J
(C) 20 J (D) 30 J

Q5 A lamp is connected to a battery. The current in the lamp is $0.32\ \mathrm{A}$. The charge of an electron is $1.6 \times 10^{-19}\mathrm{C}$. How many electrons flow through the lamp in $1\ \mathrm{min}$?

(A) 1.2×10^{19}
(B) 1.2×10^{20}
(C) 1.2×10^{21}
(D) 1.2×10^{21}

Q6 Which is a unit of current?

(A) CV^{-1}
(B) Cs
(C) Cs^{-1}
(D) CV

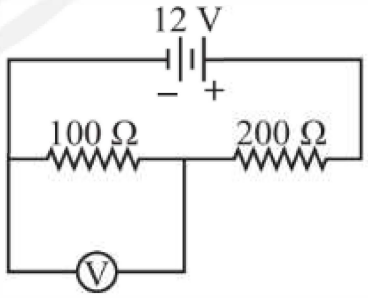
Q7 An electric charge on a body produces:

(A) a magnetic field only
(B) an electric field only
(C) both electric and magnetic field
(D) neither electric nor magnetic field

Q8 If a charged body attracts another body, the charge on he other body:

(A) must be negative
(B) must be positive
(C) must be zero
(D) may be negative or positive

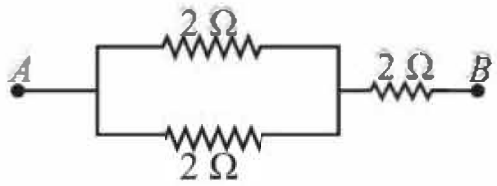
Q9 In the circuit shown in figure. The reading of the voltmeter V will be



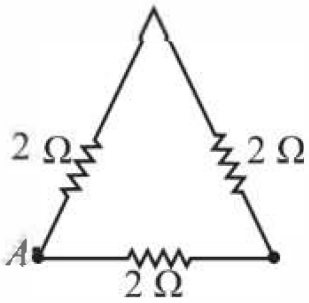
(A) 4 V (B) 2 V
(C) 6 V (D) 3 V

Q10 Which of the following networks yields maximum effective resistance between A and B

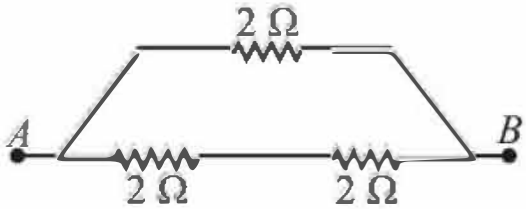
(A)



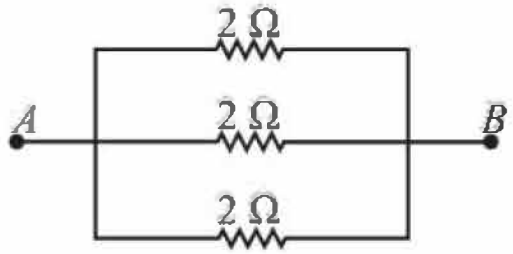
(B)



(C)



(D)



Answer Key

Q1	(D)
Q2	(B)
Q3	(D)
Q4	(C)
Q5	(B)
Q6	(C)
Q7	(B)
Q8	(D)
Q9	(A)
Q10	(A)

Hints & Solutions

Q1 **Text Solution:**
where V is voltage, I is current and R is resistance

Video Solution:

Q2 **Text Solution:**
V=IR is used to solve

Video Solution:

Q3 **Text Solution:**
I= P/V

Video Solution:

Q4 **Text Solution:**
Find the equivalent resistance of the Circuit, Find the current through 4Ω resistor, Heat dissipated through 4Ω resistor by H=I^2RT

Video Solution:

Q5 **Text Solution:**
Use Q = It = ne

Video Solution:

Q6 **Text Solution:**

$$\text{Current (I)} == \frac{Q}{t} = \frac{C}{S} = CS^{-1}$$

Video Solution:

Q7 **Text Solution:**
Charge at rest produces only electric field.

Video Solution:

Q8 **Text Solution:**
Two oppositely charged bodies attract each other.

Video Solution:

Q9 **Text Solution:**
Find current across 100 Ω resistance and then use formula [V = IR] for finding the voltmeter reading.

Video Solution:

Q10 **Text Solution:**

Use concept of series and parallel combination of resistance.

Video Solution: