Foundation

UDAAN 2025

PHYSICS

DHA: 1

Electricity

Q1 How much charge does flow through an electric bulb when a current of 0.5 A flows for an hour?
(A) 1400 C (B) 1600 C
(C) 1800 C (D) 2000 C

Q2 What is electric current?
(A) Rate of change of voltage
(B) Rate of change of resistance
(C) Rate of flow of charge
(D) Rate of flow of power

Q3 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}

Q4 Which is a unit of current?
(A) CV^{-1}
(B) Cs
(C) Cs^{-1}
(D) CV

Q5 If 50 C of charge flows through a point in an electric circuit in 10 s, what is the current passing through that point?
(A) 0.2 A (B) 5 A
(C) 60 A (D) 500 A

Q6 There is no flow of current between two charged bodies when connected because:
(A) they have the same quantity of charge
(B) they have the same potential
(C) they have the same capacity
(D) they have the same ratio of potential per unit charge

Q7 Electron volt is the unit of:
(A) energy
(B) Charge
(C) Potential difference
(D) Charge To Mass

Q8 Charge on one electron is:
(A) $-9.1 \times 10^{-19}\mathrm{C}$
(B) $-1.6 \times 10^{-19}\mathrm{C}$
(C) $+9.1 \times 10^{-19}\mathrm{C}$
(D) $+1.6 \times 10^{-19}\mathrm{C}$

Q9 If ' I ' is the current through a wire and ' e ' is the charge of an electron, then the number of electrons in ' t ' seconds will be given by:
(A) $\frac{Ie}{t}$
(B) Ite
(C) $\frac{e}{It}$
(D) $\frac{It}{e}$

Q10 A flow of 10^7 electrons per second in a conducting wire constitutes a current of
(A) $1.6 \times 10^{-12}\ \mathrm{A}$
(B) $1.6 \times 10^{26}\ \mathrm{A}$
(C) $1.6 \times 10^{-26}\ \mathrm{A}$
(D) $1.6 \times 10^{12}\ \mathrm{A}$

Answer Key

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

Hints & Solutions

Q1 **Text Solution:**

Use Q = It

Video Solution:

Q2 **Text Solution:**

Current is rate of flow of charge.

Video Solution:

Q3 **Text Solution:**

Use Q = It = ne

Video Solution:

Q4 **Text Solution:**

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

Video Solution:

Q5 **Text Solution:**

Use Q = It

Video Solution:

Q6 **Text Solution:**

Current in a circuit always flows from higher potential to lower potential.

Video Solution:

Q7 **Text Solution:**

Electron volt is the unit of energy.

Video Solution:

Q8 **Text Solution:**

Charge on single electron is $-1.6 \times 10^{-19}\,\text{C}$

Video Solution:

Q9 **Text Solution:**

Use Q = ne = It

Video Solution:

Q10 Text Solution:

Use Q = ne = It

Video Solution: