

JEE Main March 18 Shift 1 Memory-Based Questions – Grade Up

An oil drop of radius 2mm with density  $3\text{g cm}^{-3}$  is held stationary under a constant  $\vec{E} = 3.55 \times 10^5 \text{Vm}^{-1}$  in the milikan's drop experiment. What is the number of excess  $e^-$  that oil drop will possess ( $g = 9.81$ )

Ans. ( $N = 61.60 \times 10^{14}$ )

An AC voltage rating 240V, 50Hz. Find the time to change current from max. value to rms value

A. 2.5S

B. 2.5 ms

C. 0.25 ms

D. 25 ms

Ans. B

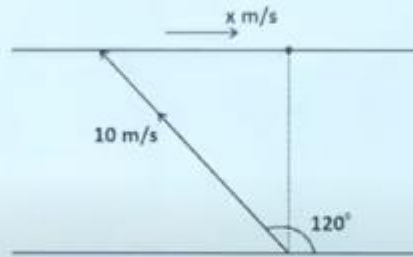
A bullet of mass 0.1kg moves with velocity 10 m/s. It strikes a block and comes to rest after travelling 0.5m inside block. Find retardation of bullet.

Ans.  $a = -100 \text{ m/s}^2$

Radius of orbit of a satellite is R and T is time period. Find  $T^1$ , when orbit radius increase to 9R.

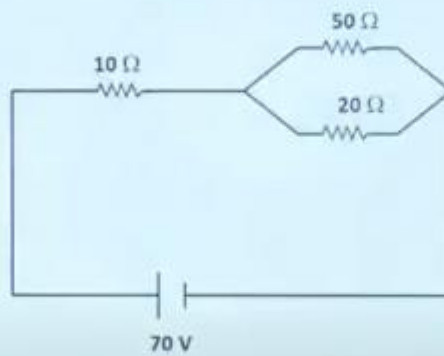
Ans.  $T^1 = 27 T$

A swimmer swims with a speed of 10 m/s at angle of  $120^\circ$  from direction of river flow. Find velocity of river flow such that swimmer reach exactly opposite point of bank.



Ans. 5 m/s

Find voltage across  $10\Omega$



Ans. 28.8V

Angular velocity of a ring is  $\omega$ . If we put two masses each of mass  $m$  at the diametrically opposite points then the resultant angular velocity. (Mass of rings is  $m$ ).

Ans.  $\left(\omega' = \frac{\omega}{3}\right)$

An AC voltage rating 240V, 50Hz. Find the time to change current from max. value to rms value

A. 2.5S

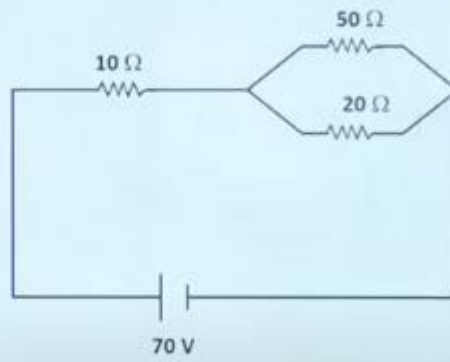
B. 2.5 ms

C. 0.25 ms

D. 25 ms

Ans. B

Find voltage across  $10\Omega$



Ans.  $28.8\text{V}$