Physics MCQs for NET, IAS, State-SET (KSET, WBSET, MPSET, etc.), GATE, CUET, Olympiads etc. Part 5

Question:

What is the self-inductance of a coil in which an induced emf of $2V$ is set up when the current is

A. $0.5\,mH$

B. $0.05H$

C. $2H$

D. $0.5H$

Question:

Lenz's Law is a consequence of law of conservation of

A. Energy only.

B. Charge only.

C. Momentum only.

D. Energy and momentum.

Question:

Two blocks A $(20kg)$ lying on a friction less table are connected by a light string. The system is pulled horizontally with an acceleration of $2\frac{m}{s^2}$ by a force F on B. The tension in the string is

A. $10N$

B. $40N$

C. $100N$

D. $120N$

Question:

A body of mass 2kg collides with a wall with a speed of $100\frac{m}{s}$ and rebounds with the same speed. If the time of contact is $150s$, the force exerted on the wall s

A. $8N$

B. $2\times10^4\,N$

C. $4N$

D. $10^4\,N$

Question:

The mechanical advantage of a system of pulley is four. The force needed to lift a mass of $100\,kg$ will be

A. $20kg.Wt$

B. $25kg.Wt$

C. $5kg.Wt$

D. $15kg.Wt$

Question:

The distance covered in time by a body having initial velocity and having constant acceleration a is given by $x = ut + 12at^2$. This result follows from

A. Newton's First Law

B. Newton's Second Law

C. Newton's Third Law

D. None of the above

Question:

A plumb bob is hanging from the ceiling of a car. If the car moves with the acceleration 'a' the angle made by the string with the vertical is

A. $\sin^{-1}(ag)$

B. $\sin^{-1}(ga)$

C. $\tan^{-1}(ag)$

D. $\tan^{1}(ga)$

Question:

A weight W can be just supported on a rough inclined plane by a force F either acting along the plane or horizontally. If is the angle of friction, then $\frac{F}{W}$ is

A. $\tan\theta$

B. $\sec\theta$

C. $\sin\theta$

D. $\cos\theta$