

## Examrace

### Physics MCQs for Competitive Exams Part 5

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**Question:**

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

1.  $0.5 \text{ mH}$
2.  $0.05H$
3.  $2H$
4.  $0.5H$

**Question:**

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

1. Energy only.
2. Charge only.
3. Momentum only.
4. Energy and momentum.

**Question:**

Two blocks A ( $20 \text{ kg}$ ) 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

1.  $10N$
2.  $40N$
3.  $100N$
4.  $120N$

**Question:**

A body of mass  $2\text{kg}$  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 is

1.  $8N$
2.  $2 \times 10^4 N$
3.  $4N$
4.  $10^4 N$

**Question:**

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

1. 20 kg . Wt
2. 25 kg . Wt
3. 5 kg . Wt
4. 15 kg . Wt

**Question:**

The distance  $x$  covered in time  $t$  by a body having initial velocity  $u$  and having constant acceleration  $a$  is given by  $x = ut + \frac{1}{2} at^2$  . This result follows from

1. Newton's First Law
2. Newton's Second Law
3. Newton's Third Law
4. 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

1.  $\sin^{-1} (ag)$
2.  $\sin^{-1} (ga)$
3.  $\tan^{-1} (ag)$
4.  $\tan^{-1} (ga)$

**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  $\theta$  is the angle of friction, then  $\frac{F}{W}$  is

1.  $\tan \theta$

2.  $\sec \theta$

3.  $\sin \theta$

4.  $\cos \theta$

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