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

- 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 is

- A.  $8N$
- B.  $2 \times 10^4 N$

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  $100\text{ kg}$  will be

A.  $20\text{kg. } Wt$

B.  $25\text{kg. } Wt$

C.  $5\text{kg. } Wt$

D.  $15\text{kg. } Wt$

**Question:**

The distance 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

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

A.  $\tan \theta$

B.  $\sec \theta$

C.  $\sin \theta$

D.  $\cos \theta$