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Physics MCQs for Competitive Exams Part 4

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Question:

The instantaneous value of an AC is given by $i = 5 \sin (\omega t + \phi)$. The rms value of current is

1. $5A$
2. $2 \times 5A$
3. $\frac{5}{\sqrt{2}}$
4. $2.5 A$

Question:

Inductive reactance of a coil expressed as

1. Ampere
2. Ohm
3. Volt
4. Weber

Question:

The average value of alternating current over a complete cycle is

1. 0
2. 1 rms
3. $\frac{i}{2}$
4. $\frac{i}{4}$

Question:

An inductor may store energy in

1. Its electric field
2. Its coils

3. Its magnetic field
4. Both electric and magnetic fields

Question:

Two different coils have self-inductance 8 mH and 2 mH . The current in both coils are increased at same constant rate. The ratio of the induced emf in the coil is

1. 4 : 1
2. 1 : 4
3. 1 : 2
4. 2 : 1

Question:

A coil of resistance 50 and inductance 4H is connected to a 10V battery. The energy stored in the coil

1. 0.8 J
2. 8 J
3. 16 J
4. 4 J

Question:

Two coils of self-inductance L_1 and L_2 are placed close together so that effective flux in one coil is completely linked with the other. If M is the mutual inductance between them, then

1. $M = L_1 \times L_2$
2. $M = (L_1 \times L_2)^2$
3. $M = (L_1 + L_2)^2$
4. $M = L_1 + L_2$

Question:

The instrument which works on the principle of mutual induction is

1. Galvanometer
2. Ammeter
3. Potentiometer
4. Transformer

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