

Examrace: Downloaded from examrace.com

For solved question bank visit doorsteptutor.com and for free video lectures visit
Examrace YouTube Channel

Competitive Exams: Physics MCQs (Practice_Test 28 of 35)

Glide to success with Doorsteptutor material for IAS : [fully solved questions with step-by-step explanation](#)- practice your way to success.

1. Twelve equal wires each of resistance $6\ \Omega$ form a cube. The resistance between the two diagonally opposite corners will be
 - a. $3\ \Omega$
 - b. $4\ \Omega$
 - c. $5\ \Omega$
 - d. $6\ \Omega$
2. The area of circular coil with 2000 turns is $10\ \text{cm}^2$. Its plane perpendicular to a magnetic field of $0.3\ \text{Wb/m}^2$, is rotated by 180° . The change in the magnetic flux is
 - a. $1.2\ \text{Wb}$
 - b. $-1.2\ \text{Wb}$
 - c. $0.6\ \text{Wb}$
 - d. $-0.6\ \text{Wb}$
3. Radio waves of wavelength $360\ \text{m}$ are transmitted from a transmitter. The inductance of the coil which must be connected with a capacitor of capacity $1.2\ \text{nF}$ in a resonant circuit to receive these waves will be approximately.
 - a. $10^3\ \text{H}$
 - b. $10^2\ \text{H}$
 - c. $10^{-4}\ \text{H}$
 - d. $10^{-8}\ \text{H}$
4. Which of the following Law illustrate the fact that the strength of the induced emf developed from a magnetic field depends upon the rate of change of magnetic flux or magnetic induction?
 - a. Faraday's law of electromagnetic induction

- b. Lenz's law
- c. Newman's law

Select the correct answer using the codes given below

- a. 1 alone
 - b. 1,2 and 3
 - c. 2 and 3
 - d. 1 and 3
5. The natural frequency of a circuit containing a condenser, resistance and inductance, all in series, is given by Consider the following statements in this regard.
- a. When $R^2 > 4L/C$ the discharge is dead beat or non-oscillatory.
 - b. When $R^2 = C$ the discharge is critically damped.
 - c. When $R^2 < C$, the discharge is oscillatory.

Of these statements

- a. 1,2 and 3 are correct
 - b. 1 and 2 are correct
 - c. 2 and 3 are correct
 - d. 1 and 3 are correct
6. Consider the following statements regarding ac circuit having an inductance and a capacitance
- a. Parallel resonance circuit is used for wireless reception.
 - b. Parallel resonance circuit works as a perfect choke for ac and therefore is called a rejector.
 - c. Series resonance circuits have special importance in transmission systems.
 - d. It, series resonance circuit, current and emf are in phase and hence called acceptor circuit.

Of those statements

- a. 1,2 and 4 are correct
- b. 2,3 and 4 are correct
- c. 1 and 3 are correct
- d. 2 and 4 are correct

7. Current in a coil of 1.5 H increases as $I = 4 \sin (2t)$ amperes. During the time the current changes from 0 to 4 A, the amount of energy spent will be
- a. 24 J
 - b. 12J
 - c. 8 J
 - d. 6 J

Developed by: [Mindsprite Solutions](#)