NET, IAS, State-SET (KSET, WBSET, MPSET, etc.), GATE, CUET, Olympiads etc.: Physics MCQs (Practice_Test 2 of 35)

1. When a charged particle is under the influence of a magnetic field, the path of its motion will be
   a. a circle
   b. along the lines of force
   c. a parabola
   d. a helix
2. A potentiometer is more appropriate for measuring potential difference than a voltmeter because
   a. the sensitivity of a potentiometer is higher than that of a voltmeter
   b. the resistance of potentiometer wire is very low
   c. the potentiometer does not draw any current from the unknown source of emf
   d. the resistance of the voltmeter is high
3. Consider the following statements regarding the network shown in the above figure:
   a. The equivalent resistance of the network between points A and B is independent of the value of R′
   b. The equivalent resistance of the network between points A and B is $\frac{4}{3}$ R.
   c. The current flowing through R′ is zero.
   - Which of the above statement (s) is/are correct?
     a. 1 alone
     b. 2 alone
     c. 2 and 3
     d. 1,2 and 3
4. A galvanometer has a resistance of 1000 R. It gives full scale deflection with 0.2 mA. If it is converted into an ammeter to measure 2A, then the value of the shunt resistance ′s′ required is
   a. 0.1
   b. 10

c. 100

d. 105

5. The production of absorption of heat by the passage of an electric current through the junctions of two dissimilar metals is called

a. Thomson effect

b. Seeback effect

c. Peltier effect

d. Joule heating effect

6. Consider the following statements with regard to two metal strips of a thermocouple:

a. Free electron density is different in different metals.

b. Free electron density in a metal depends on temperature

- Thomson effect in a thermocouple occurs

a. due to both 1 and 2

b. due to 2 but not due to 1

c. due to 1 but not due to 2

d. neither due to 1 nor due to 2

7. A proton of energy 1 MeV moves in a uniform magnetic field along a circular path. The energy for an? -particle to circulate along the same orbit in the same magnetic field is:

a. 1 MeV

b. 2 MeV

c. 3 MeV

d. 4 MeV

8. A rectangular coil having 60 turns with dimensions of 10 cm x 20 cm is set rotating at a constant speed of 1400 rpm in a uniform magnetic field of flux density B = 0.5 Wb/m2. If the axis of the coil is perpendicular to the field, then the maximum emf produced is

a. 110 V

b. 88 V

c. 44 V

d. 28 V

9. The value of current in the armature of a do motor is maximum when the motor

a. starts rotating

b. has gained full speed

c. starts rotating with mean speed

d. is switched off

10. The distance between the ends of the wings of an aeroplane is 3 m. This aeroplane is descending with a speed of 300 km/hour. If the horizontal component of earth's

magnetic field is 0.4 Gauss, then the value of emf induced in the wings of the plane will be

a. 2 V
b. 1 V
c. 0.1 V
d. 0.01 V

11. The magnetic moment of a circular orbit of radius 'r' carrying a charge 'q' and rotating with velocity 'v' is given by

a. qvr/27?
b. qvr/2
c. q v? r
d. q v? r2

12. If R, X and Z represent, respectively, the resistance, reactance and impedance of an electric circuit carrying ac, then the power factor of the circuit is given by

a. R/Z
b. Z/R
c. R/X
d. X. /R

13. If the frequency is 60 Hz. Then the capacitance of a capacitor, which must be connected in series with a resistance of 5? and inductance of 200 mH to bring the current in phase with voltage will be

a. 30.2? F
b. 32? F
c. 35.2? F
d. 40.4? F

14. If E is an electric field and B is the magnetic induction, then the energy flow per unit area per unit time in an electromagnetic field is given by

a. E x B
b. E. B
c. E2 + B2
d. E/B

15. The magnetisation (M) of a paramagnetic substance is proportional to external magnetic field strength (B) and temperature (T) . If C = Curie constant, then the correct relationship among M, B and T is

a. M = C B
b. M = C T T2 B

c. M = C BT

d. M = C B T

Frequently Asked Questions (FAQs)

- **Physics competitive level class 11 questions**

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1 Answer

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