

Physics - ICS Part 2 Physics Chapter 14 Short Questions Preparation

Q1. Define magnetic flux and solenoid.

Ans 1: The number of magnetic field lines passing through certain elements of area is known as magnetic flux through that surface. A solenoid is a long tightly wound, cylindrical coil of wire, when current passes through such a coil, it behaves like a bar magnet.

Q2. What is Time base generator?

Ans 1: A voltage that is applied across x plates is usually provided by a circuit that is built in CRO and is called sweep or time base generator. Its output waveform is a sawtooth voltage of period T.

Q3. On what factors the induced currents due to motional emf depend.

Ans 1: The current can be increased by the following factors :

1. Using a stronger magnetic field
2. Moving the loop faster
3. Replacing the loop with a coil of many turns

Q4. Define energy.

Ans 1: The magnetic energy stored in the inductor per unit is referred as energy density.

Q5. Define magnetic flux and write its unit.

Ans 1: The number of magnetic lines of force passing through certain area element is called magnetic flux. Magnetic flux is a scalar quantity and its SI unit is NmA^{-1} which also called weber (Wb).

Q6. A current in a conductor produce a magnetic field, which can be calculated by using Ampere's law. Since current is defined as the rate of flow of charge, what can you conclude about the magnetic field due to stationary charges? What about moving charges?

Ans 1: In case of stationary charges, the rate of flow of charges is zero. So there will be no magnetic field. But the moving charges produce current so the magnetic field produced around a current carrying conductor.

Q7. Define ammeter and voltmeter.

Ans 1: An ammeter is an electrical instrument which is used to measure current in amperes. A voltmeter is an electrical device which measure the potential difference in volts between two points.

Q8. Why the resistance of an ammeter should be very low?

Ans 1: An ammeter is connected in a series with a circuit to measure the current, it is connected in series so that total current passing through the circuit should pass through it. If the resistance of the ammeter will be large, it will alter the current of the circuit to great extent and the measurement of current will not be accurate.

Q9. What is dead beat galvanometer?

Ans 1: The galvanometer in which the coil comes to rest quickly after current passed through it or the current is stopped from flowing through it, it is called stable or a dead beat galvanometer.

Q10. How can galvanometer be made more sensitive?

Ans 1: Since $\theta = \frac{c}{BAN}$
A galvanometer can be made more sensitive if $\frac{c}{BAN}$ is made small.
Thus, to increase the sensitivity of galvanometer, c may be decreased or B, A and N may be increased.
