

## Physics - ICS Part 2 Physics Chapter 14 Short Questions Preparation

Q1. Define	energy.
------------	---------

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

Q2. How can a current loop be used to determine the pressure of a magnetic field in a given region of space?

**Ans 1:** The torque is experienced by a current carrying loop when placed in magnetic field is t=NIBA cos alpha. If the loop is deflected in a given region, then it confirms the presence of magnetic field otherwise not.

Q3. Distinguished between magnetic flux and magnetic flux density.

**Ans 1:** Magnetic Flux: The number of magnetic lines of force passing through certain elements of area is called magnetic flux. Magnetic flux is a scalar quantity.

**Ans 2:** Magnetic flux density: The magnetic flux per unit area of a surface perpendicular to magnetic field is called magnetic flux density.

Q4. 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

Q5. Define Tesla and write its formula.

**Ans 1:** If a magnetic field exerts a force of 1N on 1m length of the conductor placed at right angles to the magnetic field carrying a current of 1A then the strength of magnetic field is said to be one tesla.

 $1 T = 1 NA^{-1}m^{-1}$ 

Q6. How the beam of electron is focused on the screen of CRO?

**Ans 1:** CRO works by deflecting beam of electrons as they pass through uniform electric field between the two sets of parallel plates, The deflecting beam then falls on a fluorescent screen where it makes a visible spot.

Q7. What should be orientation of a current carrying coil in magnetic field so that the torque acting upon the coil is (a) maximum (b)minimum.

Ans 1: The torque experienced by a current carrying loop when placed in magnetic field is t=NIBA cos alpha. When plane of the coil makes and angle of 0 degree with magnetic field ,the torque on the coil will be maximum.t=NIBA. When plane of the coil makes and angle of 90 degree with magnetic field the torque on the coil will be zero or minimum. t=NIBA cos 90 degree t=0.

Q8. Briefly give the function of Filament, Cathode, Grid and plates in C.R.O.

Ans 1: Filament: It heats the cathode.

Cathode: It emits the electrons.

Grid:lt controls the number of electrons.

Plates: The two sets of plates are used to deflect the beam of electrons along x axis and y axis.

Q9. 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.

Q10. Discuss briefly digital multi meter.

Ans 1: It is an digital version of an AVO meter, It is used to measure resistance voltage and current. It has become very popular testing device because the digital values are displayed automatically with decimal point, polarity and the unit for voltage current and resistance,