Physics - 12th Class Physics Chapter 3 Short Questions Preparation

Q1. What modification is required to convert a galvanometer into ammeter?

Ans 1: A shunt is connected in parallel with galvanometer to convert it into ammeter.

Q2. 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,

Q3. What is digital multimeter?Give its two advantage over AVO meter.

Ans 1: It is a digital version of AVO meter.It is used to measure resistance,voltage and current.
Advantage:

1. The digital values are displayed automatically with decimal point,polarity and the unit for voltage ,current and resistance.
2. These meters are generally easier to use because they eliminate the human error that often occur in reading the dial of an ordinary AVO meter.

Q4. Define energy.

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

Q5. What is the function of grid in cathode ray oscilloscope?

Ans 1: Grid is a negative potential relative to cathode.It controls the number of electrons reaching the screen and thus controls the brightness of spot on the screen.

Q6. Define galvanometer and cathode ray oscilloscope,

Ans 1: Galvanometer: Galvanometer is a device used to detect the passage of current.
Cathode ray oscilloscope:Cathode ray oscilloscope is a high speed graph plotting device.

Q7. 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.

Q8. State ampere's law.

Ans 1: Ampere's law states that the sum of the quantity for all path elements into which the complete loop has been divided equal times the total current enclosed by the loop.

Q9. Write the formula used to convert a galvanometer into voltmeter.Why the resistance of voltmeter should be high?

Ans 1: Galvanometer can be converted into ammeter using this relation/
$R_h=V/I_g-R_g$
A voltmeter is connected in parallel to the resistor to measure potential difference across it.It should have very high resistance so that practically a very little current should pass through it and the current of the circuit should almost remain constant ,so that it might measure the potential difference across a resistor accurately.

Q10. 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