

Name:		Roll No.		Subject	Physics
Test Type	MCQs, Short & Long question	Class	12	Date	
Chapter	14 CRO to End	Unit	14	Time	

Q. No. 1 Tick the best option

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- The torque on a current carrying coil having one turn is:
(a) $NIBA \cos \alpha$ (b) $BIA \sin \alpha$ (c) $NIBA \sin \alpha$ (d) $BIA \cos \alpha$
- Shunted galvanometer is called:
(a) Ammeter (b) Voltmeter (c) Ohm- meter (d) Avometer
- The resistance of an ideal voltmeter:
(a) Zero (b) Very low (c) Very high (d) Infinite
- When ohm meter gives zero deflection it indicates..... Resistance.
(a) Zero (b) Infinite (c) Small (d) Very high
- The brightness of the spot on CRO screen is controlled by:
(a) Cathode (b) anode (c) Grid (d) plates
- In velocity selector, particle pass through it if:
(a) $\vec{F}_e = \vec{F}_B$ (b) $\vec{F}_e = \vec{F}_g$ (c) $\vec{F}_e = -\vec{F}_B$ (d) $\vec{F}_e = \vec{F}_B^2$
- In case of galvanometer, the magnitude of the deflecting torque is given as:
(A) $\tau = NIBA \sin \alpha$ (b) $\tau = NIBA$ (c) $\tau = NIBA \cos \alpha$ (d) Zero
- Current sensitivity of galvanometer is given by:
(a) $\frac{C}{BAN}$ (b) $\frac{CA}{BN}$ (c) $\frac{BAN}{C}$ (d) $\frac{BN}{CA}$
- In case of torque on a current carrying coil, α is angle between:
(a) $\vec{B}$ and $\vec{A}$ (b) $\vec{B}$ and coil
(c) $\vec{B}$ and plane of coil (d) $\vec{B}$ and current
- Torque on a current carrying coil placed perpendicular to a magnetic field is given by:
(a) $\tau = 0$ (b) $\tau = ILB \sin \alpha$ (c) $\tau = IBA \cos \alpha$ (d) $\tau = IBA \sin \alpha$
- In CRO, the output waveform of time base generator is:
(a) Circular (b) Square (c) Sinusoidal (d) Saw tooth
- The current passing through the coil of galvanometer is directly proportional to:
(a) Angle of deflection (b) Magnetic field (c) Number of turns (d) Resistance of the coil
- The coil of a galvanometer is suspended between the poles of a U-shaped magnet which are:
(a) Concave shaped (b) Convex shaped (c) Plane shaped (d) Spherical shaped
- An AVO meter can measure:
(a) P.D in volt (b) Current in ampere
(c) Resistance in ohm (d) All of above
- The torque on a current carrying rectangular coil placed outside the magnetic field will be:
(a) NIAB (b) Maximum (c) Minimum (d) Zero
- If a high resistance is connected in series to the galvanometer, the resulting is:
(a) Voltmeter (b) Ohmmeter (c) Ammeter (d) Wheatstone bridge
- The effective way to increase the sensitivity of moving coil galvanometer is:
(a) Increase the area of the coil (b) Increase the number of turns
(c) Increase the magnetic field (d) Increase the value of constant C
- The anode in CRO is at:
(a) Lower potential w.r.t cathode (b) Higher potential w.r.t cathode
(c) Same potential as cathode (d) None of these

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Q. No. 2 Write the short answer of these following questions

6 x 2 = 12

- Describe the change in the magnetic field inside a solenoid carrying a steady current I , if (a) the length of the solenoid is doubled but the number of turns remains the same and (b) the number of turns is doubled, but the length remains the same.
- What is sweep or time base generator in CRO and what is its output waveform?
- What should be the orientation of a current carrying coil in magnetic field so that torque acting upon the coils is:
 - Maximum
 - Minimum
- How can use a magnetic field to separate isotopes of chemical element?
- If a charged particle moves in a straight line through some region of space, can you say that the magnetic field in the region is zero?
- How fast must a proton move in a magnetic field of $2.50 \times 10^{-3} \text{ T}$ such that the magnetic force is equal to its weights?

Q. No. 3 Long question

- How will you convert a galvanometer in to
 - Ammeter
 - Voltmeter
- A coil of $0.1 \text{ m} \times 0.1 \text{ m}$ and of 200 turns carrying a current of 1.0 mA is placed in a uniform magnetic field of 0.1 T . calculate the maximum torque that acts on the coil.