Class 12 Physics Chapter 4 Moving Charges and Magnetism MCQs

1. The magnetic moment of a current I carrying a circular coil of radius r and number of turns N varies as

(a) r^4
(b) r^2
(c) $1/r^4$
(d) r

2. Magnetic field at the centre of a circular current-carrying conductor/coil is given by

(a) $B = \mu_0 I/2r$
(b) $B = \mu_0 + I / (2 + r)$
(c) $B = I / 2r$
(d) $B = \mu_0 rI/2$

3. SI unit of the magnetic field is

(a) Dyne
(b) Ohm
(c) Tesla
(d) Volt

4. When the charged particles move in a combined magnetic and electric field, then the force acting is known as

(a) Centripetal force
(b) Centrifugal force
(c) Lorentz force
(d) Orbital force

5. Magnetic field at any point inside the straight solenoid is given as

(a) $B = \mu_0 + nI$
(b) $B = \mu_0 + n + I$
(c) $B = \mu_0 / nI$
(d) $B = \mu_0 nI$

6. Cyclotron is a device used to

(a) Slow down charged particles
(b) Accelerate the positively charged particles
(c) Stop the charged particles
(d) None of the options

7. 1 Gauss =

(a) 10^4 Tesla
(b) 10^{-4} Tesla
(c) 10^2 Tesla
(d) 10^{-2} Tesla

8. State true or false: Cyclotron is a device used to accelerate uncharged particles like neutrons.

(a) True
(b) False

9. Lorentz force is given by the formula

(a) F= q(v + B + E)
(b) F= q(v - B - E)
(c) F= q(v * B * E)
(d) F= q(v * B + E)

10. The concept of displacement current was introduced by

(a) Newton
(b) Ampere
(c) Maxwell
(d) Fleming

**********Answer Key**********

1-(b)	2-(a)	3-(c)	4-(c)	5-(d)
6-(b)	7-(b)	8-(b)	9-(d)	10-(c)