

16 July 2021

1. (i) a. Some kind of ~~the~~ charged particle.
- (ii) (c) BOTH electrostatic and magnetic force called Lorentz force.
- (iii) (i) Conductors shields any charge within it from electric fields created outside the conductor.
- (iv)
- (v) (c) $V_{max} = \frac{qR}{Bm}$
- (vi) (b) maximum speed attained by a charged particle is limited by the relativistic variation of mass with speed.

2.

- (i) (a) Italian electricity researcher Luigi Galvani
- (ii) (a) to detect and measure small electric currents.
- (iii) (a) $\mathcal{E}_i = \frac{\mathcal{Q}}{l} = \frac{NBA}{c}$
- (iv) (c) never the change the voltage sensitivity.
- (v) (d) none of these
- (vi) (c) zero.

3. (i) (a) Both assertion are true and the reason is the correct explanation of the assertion.
- (ii) (a) Both assertion are true and the reason is the correct explanation of the assertion.

- (iii) (d) Both assertion and reason are false
- (iv) (b) Both assertion and reason are true but reason is not the correct explanation of the assertion
- (v) (a) Both assertion and reason are true and reason is the correct explanation of the assertion.

4.

(1) (d) An ammeter is connected in series in a circuit and the current through it is negligible.

2) (c) Infinity

3) (c) less

4) (d) none of these

5) (a)
$$S_i = \frac{Q}{i} = \frac{NBA}{c}$$