

Home Assignment:- Moving charges and magnetism

(1) (i) (a) Some kind of charged particles

(ii) (b) Only magnetic force

(iii) (d) none of the Above

(iv) (a) $v_{max} = \frac{qBR}{m}$

(v) The particle's kinetic energy

(vi) (d) none - of these

(2) (i) ^(a) Italian electricity researcher Luigi Galvani..

(ii) (a) to detect and measure small electric current.

(iii) (a) $S_i = \frac{\theta}{i} = \frac{NBA}{C}$

(iv) (b) may not change the voltage sensitivity.

(v) (a) $i \propto \left(\frac{C}{NBA} \right) \theta$

(vi) Directly proportional to $\sin \theta$.

(ii) Both A and R are true and the Reason is the correct explanation of the assertion.

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(iii) Both Assertion and Reason are true

(iv) Both A and R are false

A \rightarrow Both Force and Torque act on a magnetic dipole in magnetic field

R \rightarrow In uniform magnetic field net force is zero.

(v) Both A and R are true but R is not correct explanation of A.

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(7) (1) (1) - An ammeter is connected in series in a circuit and the current through it is negligible

(2) (c) - Infinity

(3) (a) - None

(4) (a) $i^2 \left(\frac{C}{BNA} \right) \theta$

(5) (a) $i^2 \sim \frac{\theta}{i} \sim \frac{NPA}{i}$