

18.3.19

Home Assignment

i) d) none of these

It is used to accelerate both positive and negatively charged particles but a neutral particle cannot be accelerated in cyclotron

ii) c) both Electrostatic and magnetic force called Lorentz force

iii) c) A conductor shields any charge within it from both electric and magnetic field

iv) c) The particles velocity does not change

v) a) $v_{max} = \frac{qBr}{m}$

iii) a) conductor shields any charge within it from electric fields created by outside the conductor

vi) b) Maximum speed attained by a charged particle is limited by the relativistic variation of mass with speed

13 a) Italian electricity researcher
Luigi Galvani

14 a) to detect and measure
small electric current

$$i) \mathcal{E}_i = \frac{\Delta \Phi}{\Delta t} = \frac{N \Delta B A}{\Delta t}$$

14 b) may not change the
voltage sensitivity

$$v) \mathcal{E}_i = \left(\frac{C}{BNA} \right) \Theta$$

vii) a) directly proportional to
 $\sin \theta$

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i)

ii) A) Both Assertion and Reason are true and the Reason is the correct Explanation of Assertion

iii) A) Both Assertion and Reason are true and the Reason is correct Explanation of Assertion

iv) D) Both Assertion and Reason are false

v) B) Both Assertion and Reason are true but Reason is not a correct explanation of assertion

vi) A) Both Assertion and Reason are true and the Reason is correct Explanation for Assertion

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1. a)

2. c)

3. a)

4. a)

5. c)

4.

1. a) A Voltmeter is connected in parallel and current through it is negligible

2. c) infinity

3. a) more

4. a)
$$i = \left(\frac{C}{BNA} \right) \theta$$

5. a)
$$S_i = \frac{\theta}{i} = \frac{NBA}{C}$$