

NCERT/CBSE PHYSICS CLASS 11 textbook

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Answers to NCERT/CBSE PHYSICS Class 12 (Class XI) textbook Exercise and Additional exercise

CHAPTER ONE ELECTRIC CHARGES AND FIELDS

EXERCISES

(For simplicity in numerical calculations, take $g = 10 \text{ m s}^{-2}$)

1.14 Figure 1.33 shows tracks of three charged particles in a uniform electrostatic field. Give the signs of the three charges. Which particle has the highest charge to mass ratio?

Positive particle will get attracted to negative plate and vice-versa

$a = \frac{F}{m} = \frac{qE}{m} \Rightarrow$ acceleration depends on charge to mass (or q/m) ratio of the particles.

Solution: Particle 3 positively charged.

It undergoes maximum deviation in its path or acceleration so it has the highest $\frac{q}{m}$ ratio.

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