

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 $g = 10 \text{ m s}^{-2}$)

1.20 A point charge causes an electric flux of $-1.0 \times 10^3 \text{ Nm}^2/\text{C}$ to pass through a spherical Gaussian surface of 10.0 cm radius centred on the charge. (a) If the radius of the Gaussian surface were doubled, how much flux would pass through the surface? (b) What is the value of the point charge?

20. Given

$$\Phi = -1.0 \times 10^3 \text{ Nm}^2 / \text{C}, R = 10 \text{ cm} = 10^{-1} \text{ m}$$

Key Idea

Same as Q.19

Solution

$$\Phi = \frac{q}{\epsilon_0}; q = (-1.0 \times 10^3)(8.85 \times 10^{-12}) = -8.85 \times 10^{-9} \text{ C}$$

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