BRAINS EDUCATION

Class XI – PHYSICS (Charge & Electric Field)

Full Marks : 21 Duration : 1 Hr

Answer any 7 each carries 3 marks [7x1=7]

1. Define electric charge and state its properties.
2. State Coulomb's law and explain its significance.
3. Two point charges q_1 = +3 µC and q_2 = -5 µC are placed 10 cm apart in vacuum. Calculate the electrostatic force between them.
4. Define electric field strength and explain how it is related to electric force.
5. Two charges, q_1 = +2 µC and q_2 = -4 µC, are placed 5 cm apart. Determine the electric field strength at a point on the line joining the charges, 2 cm away from q1.
6. Explain the concept of electric field lines. How are they useful in understanding electric fields?
7. A charge of +10 µC is placed at a point in an electric field. If it experiences a force of 2 N in the positive x-direction, calculate the electric field strength at that point.
8. State Gauss's law and explain its significance in understanding electric fields.

Good luck with your test!