QUIZEN – Electrostatics CCWS12P01.1

Learning Level 1	***Learning Level 2***	***Learning Level 3***
Q - Remembering (knowledge-based questions) U - Understanding (comprehension-based questions)	I - Applying (application-based questions) Z - Analyzing (analysis-based questions)	*E - Evaluating (evaluation-based questions)* *N - Creating (creation-based questions)*

Learning Level 1:

1. What is the unit of electric charge?
2. Define Coulomb's Law in one sentence.
3. What is the net charge on an electrically neutral object?
4. What is the SI unit of electric field strength?
5. State the principle of conservation of charge.

Learning Level 2:

1. Two point charges of +3μC and +5μC are placed 2m apart. What is the magnitude of the electrostatic force between them?
2. Define the electric field.
3. Calculate the electric field intensity at a distance of 3cm from a point charge of +6μC.
4. Two equal and opposite charges of +2μC and -2μC are separated by a distance of 1m. What is the electric field at a point midway between them?
5. State Gauss's law in one sentence.

Learning Level 3:

1. Three-point charges are placed at the corners of an equilateral triangle of side 2m. Charge +Q is placed at two corners and -2Q is placed at the third corner. Calculate the net electric field at the centroid of the triangle.

2. A solid sphere of radius R has a total charge Q uniformly distributed on its surface. Calculate the electric field at a point outside the sphere, at a distance of 2R from its center.

3. Derive an expression for the electric field intensity at a point due to an infinite line of charge.

4. A charge Q is divided into two parts such that the repulsion between them is maximum. Find the ratio of the two parts.

5. A charge Q is distributed uniformly along a ring of radius R. Calculate the electric field at a point on the axis of the ring at a distance x from the center of the ring.