Name of the Student:_____

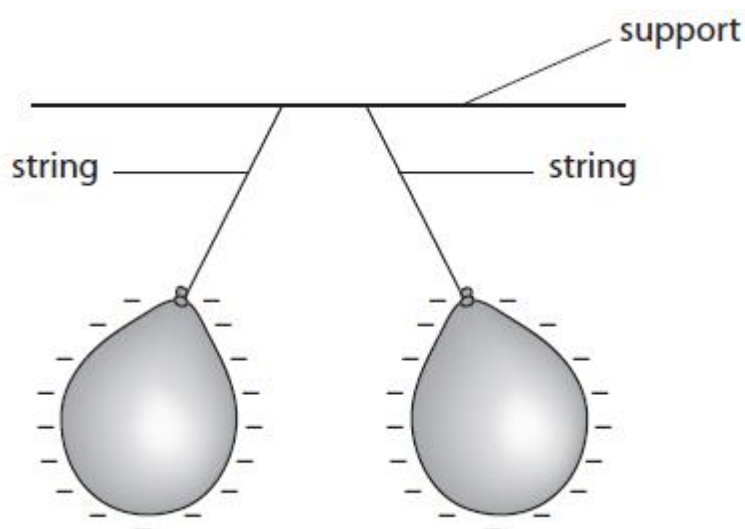**Max**. **Marks : 16 Marks**   **Time : 16 Minutes**

Q1.

(a)   A student ties two balloons to a support with some string.
The student rubs both balloons with a dry cloth which gives the balloons a negative charge.
The diagram shows the balloons after they were rubbed.

Use words from the box to complete the sentences.

(4)

attract	charge	electrons	negative	neutral
neutrons	positive	protons	repel	support

The balloons .... each other because they have the same
....
The cloth is left with a .... charge.
The charged particles that are transferred from the cloth to the balloons are called
....

(b)   The diagram shows an electrostatic insecticide spray being used on a plant. The plant is initially uncharged.
Each droplet of spray is given a positive charge.
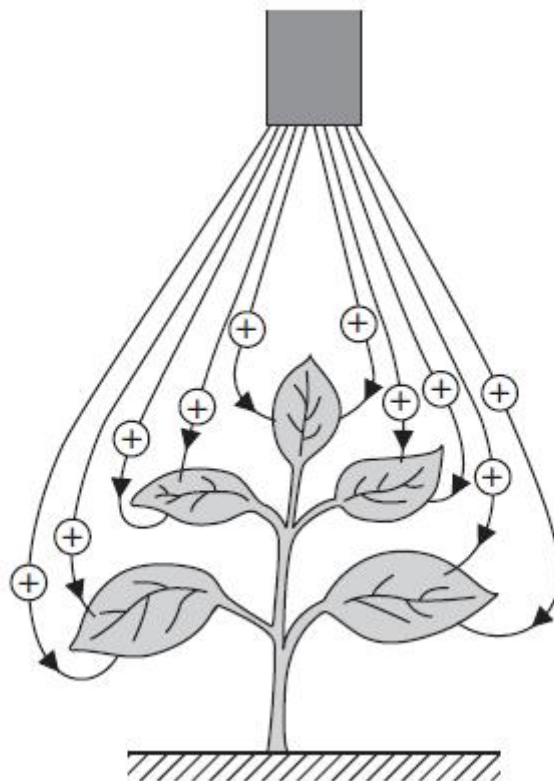
(i) Explain the advantages of using an electrostatic insecticide spray compared to an uncharged insecticide spray.

(3)

....

....

....

....

....

....

(ii) There is a current of 0.008 A in the sprayer for a time of 10 minutes.
   Calculate the charge supplied to the sprayer in this time.

(3)

charge = ... C

(Total for Question = 10 marks)

Q2.

(i) Describe **one** situation where separation of electric charge can create a spark.

(2)

....

....

....

....

(ii) In a spark, the total charge of 0.22 μC (microcoulombs) flows in 2 ms (milliseconds).

Calculate the average current in that time.

(4)

average current = ... A

(Total for question = 6 marks)