**Gulistan Academy**

Physics (10th) Max.Marks = 40

Chapter No.13 (Electrostatics) Pass Marks = 20

**Time = 1 Hour** Teacher Name: M.Maaz

**Question No.1: Give short answers. (212 = 24)**

1. *What is electrostatic induction?*
2. *How the Electroscope is helpful in identifying the Conductors and Insulators?*
3. *What is electric field intensity? Explain shortly.*
4. *Describe some uses of capacitors.*
5. *How does electrostatic induction differ from charging by friction?*
6. *Is electric intensity is a vector quantity? What will be its direction?*
7. *How would you define the potential difference between two points? Define its units.*
8. *Describe capacitor as an energy storing device.*
9. *In what direction will a positive charged particle move in an electric field?*
10. *Perhaps you have seen a gasoline truck trailing a metal chain beneath it. What purpose does the chain serve?*
11. *The charge of how many negatively charged particles would be equal to* ***100 µC****. Assume charge on one negative particle is* ***1.6 10-19 C****.*
12. *The capacitance of a parallel plate capacitor is* ***100 pF****. If the potential difference between its plates is* ***50 V****, find the quantity of charge that capacitor can store. What will be the charge on each plate?*

**Question No.2: (5+3 = 8)**

1. *Explain Coulomb’s law of electrostatic and derive its mathematical form.*
2. *The force of repulsion between two identical positive charges is* ***0.8 N****, when the charges are* ***0.1 m*** *apart. Find the value of each charge.*

**Question No.3: (5+3 = 8)**

1. *How can we combine capacitors in parallel fashion? Find the equivalent capacitance of this parallel combination.*
2. *Two capacitors of capacitances* ***6 µF*** *and* ***12 µF*** *are connected in series with* ***12 V*** *battery. Find the equivalent capacitance of the combination. Find the charge and the potential difference across each capacitor.*