Assignment # 1

Applied Physics

Course Code: PHY-106

Problem 1. Find force between a proton and an electron placed at the distance 1μm.

Problem 2. Two electrons are placed at a distance 10μm between each other? The force between them is:

Problem 3. Two +1 C charges are separated by 30000 m, what is the magnitude of the force?

Problem 4. If the electrical force of repulsion between two same amount of charges is 10 N, and they are 30000 m apart. What is the magnitude of each charge?

Problem 5. Two charges, one is 5 C and another is unknown but force between them is 6.75x10^13 N and they are separated by 10 cm. What is the other charge?

Problem 6. How many electrons must be removed from each of two 5.0-kg copper spheres to make the electronic force of repulsion between them equal in magnitude to the gravitational attraction between them?

Problem 7. What is the ratio of the electric force to the gravitational force between a proton and an electron separated by 5.3 x 10^{-11} m (the radius of a hydrogen atom)?