

PHYSICS 2401

Lab Homework – Capacitance

This homework will be due when you come to lab the week of March 23.

1. Consider the following capacitors: C_1 has an area of 3.0 cm^2 and a separation distance of 3.0 mm ; C_2 has an area of 3.0 cm^2 and a separation distance of 2.0 mm ; C_3 has an area of 4.0 cm^2 and a separation distance of 2.0 mm ; C_4 has an area of 2.0 cm^2 and a separation distance of 2.0 mm . Rank the capacitors based on their capacitance from highest to lowest. Show one sample calculation of how you determined the capacitance. (15 pts)
2. Each of the capacitors in the previous problem is given a charge of $8.0 \mu\text{C}$. Rank the potential of each capacitor from highest to lowest. Show one sample calculation. (10 pts)