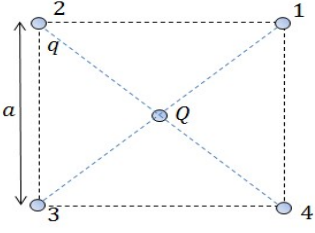


Class Test (SET 6), Course PHY 103: Electromagnetism and Optics  
 Answer the following questions. Total marks 10, Time: 40 minutes.

1.	What is the unit of Electric charge explain it.	2
2.	State explain Coulomb's Law.	2
3.	 <p>Four equal charges <math>q = 6 \times 10^{-6} \text{ C}</math> are situated at the corners of a square as shown in the above diagram. What is the net force on the test charge <math>Q = 6 \times 10^{-6} \text{ C}</math> at the center?</p>	4
4.	Consider an infinitely long, very thin metal tube with radius $R = 2.90 \text{ cm}$ . The above figure shows a section of it. If the linear charge density of the cylinder is $\lambda = 1.50 \times 10^{-8} \text{ C/m}$ , what is the approximate magnitude of the electric field at radial distance $r = 2R$ ?	2