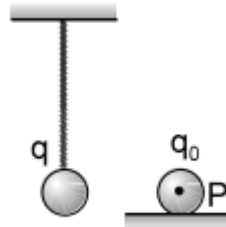


Problem 1) A positively charged ball hangs from a long silk thread. We wish to measure E at a point P in the same horizontal plane as that of the hanging charge. To do so, we put a positive test charge q_0 at the point and measure F/q_0 . Will F/q_0 be less than, equal to, or greater than E at the point in question?



Solution : When we try to measure the electric field at point P then after placing the test charge at P , it repels the source charge (suspended charge) and the measured value of electric field $E_{\text{measured}} = F/q_0$ will be less than the actual value E_{act} , that we wanted to measure