

CL53_Q1: Establish a relation between electric field E , polarization P and susceptibility χ .

CL53_Q2. What is meant by dielectric polarization? List the various kinds of polarization mechanism that prevail in dielectric materials and how do those polarization mechanism vary with temperature?

CL53_Q3. A dielectric slab of constant 6 is kept between the plates of a parallel plate capacitor. If the charge on the plates is $10\mu\text{C}$ and the area of the plates is 1cm^2 what is the polarization induced in the specimen?

CL53_Q4. The atomic weight and density of sulphur are 32 and 2.08 gm/cm^3 respectively. The electronic polarizability of the atom is $3.28 \times 10^{-40} \text{ Fm}^2$. If sulphur solid has cubical symmetry, what will be its relative dielectric constant?