

CL53\_Q1: Establish a relation between electric field  $E$ , polarization  $P$  and susceptibility  $\chi$ .

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  $1\text{cm}^2$  what is the polarization induced in the specimen?

CL53\_Q4. The atomic weight and density of sulphur are 32 and  $2.08\text{ gm/cm}^3$  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?