

Element of Modern Physics

- Q1 Radiations of wavelength 5400\AA fall on a metal plate whose work function is 1.9eV . Find the K.E. of the emitted photo electrons and their stopping potential?
- Q.2 An x ray wave length 0.3\AA undergoes a 60° Compton scattering. Find the wavelength of the scattered photon and the energy of the electron after scattering.
- Q.3 What will be the de Broglie wavelength of an electron having K.E. of 550eV ?
- Q.4 Find the velocity of the particle at which its Compton wavelength is equal to its de-Broglie wave length?
- Q.5. Light of wave length 4560\AA and power 1mW is incident on a caesium surface. Calculate the Photoelectric current, assuming a quantum efficiency of 0.5% . Work function of cesium = 1.93eV .
 $h = 6.62 \times 10^{-34} \text{ J s}$.