

CL14_Q1. Using the Schrödinger's wave equation find the wave function associated with particle having energy 10 eV travelling along positive x-direction approach a potential step of height 7 eV.

CL14_Q2. Define the terms reflection coefficient and transmission coefficient with respect to step potential.

CL14_Q3 A stream of particles of mass m and total energy E moves towards a potential step of height V_0 , if the energy of the electrons is lesser than the step potential ($E < V_0$) then by applying continuity conditions obtain the expression for reflection coefficient.

CL14_Q4. The probability of reflection from a potential step is given by $\frac{(k_2 - k_1)^2}{(k_2 + k_1)^2}$, where the k 's are the wavenumbers in the two regions. If a 5 eV electron encounters a 2 eV potential step, what is the probability that it will be reflected?