CL19_Q1. Find the least energy of an electron moving in a one-dimensional potential box (infinite height) of width 0.05 nm.

Answer

Eigen energy values for particle in a 1D potential box is given by $E_n = \frac{h^2 n^2}{8mL^2}$

For lowest state, n=1

Thus, $E_{least} = \frac{h^2}{8mL^2}$ = 2.41x10^{-17} J = 151 eV

CL19_Q2. Plot the probability densities for the first three excited quantum states of an electron trapped in an infinite potential well of width L.

Answer