

CL19_Q1. The ground state energy of an electron in an infinite potential well is 5.6×10^{-3} eV. What will be the ground state energy if the width of the well is doubled?

CL19_Q2. Elaborate the concept of parity as applied to Eigen functions. When is it possible to describe the parity aspect of Eigen functions?

CL19_Q3. If the Eigen functions of a potential have definite parities, the one of the lowest energies always has even parity. Explain why.

CL19_Q4. Show that $E = \frac{h^2 n^2}{8ma^2}$ for an infinitely deep potential well of width of "a" can be obtained directly from the de-Broglie relation $p = h/\lambda$, by fitting an integral number of half de-Broglie wavelength $\lambda/2$ into the width "a" of the well.

CL19_Q5. Plot the probability densities for the first three excited quantum states of an electron trapped in an infinite potential well of width L.

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