CL18_Q1. Obtain the energy Eigen values for a particle bound in an infinite potential well. Comment on why the particle cannot have zero energy?

CL18_Q2. Show that the probability of locating the particle between the limits 0 to 0.5L is the same in any quantum state. Here L is the width of the well.

CL18_Q3. Plot the first two states Eigen functions for a particle in an infinite potential well.

CL18_Q4. Plot the probability densities for the first three excited quantum states of an electron trapped in an infinite potential well of width L. Calculate the probability of locating the electron in the third excited state between the limits ⅜L and ⅝L where L is the width of the well?

CL18_Q5. Show that the energy of an electron confined in a 1-D symmetric potential well of length 'L' and infinite depth is quantized. Is the electron trapped in a potential well allowed to take zero energy? If not, why?