We analyze the instability zones and multiplicities of eigenvalues of Hill operator with a two term potential $Ly = -y'' + a \cos 2x + b \cos 4x$, with parametrization of its coefficients $a = -4qt$, $b = -2q^2$. A proper gauge transform (W. Magnus and S. Winkler) kills a higher frequency and gives us a chance to realize the similar to $L$ operator with a thridiagonal matrix $K$. We sharpen Magnus/Winkler results on multiplicity of the $L$’s eigenvalues and give complete structure of the spectrum $Sp(L)$ with periodic and antiperiodic boundary conditions. (Received August 27, 2004)