Phys 448 HW 6

1) BD 5.1
2) BD 5.2
3) BD 5.3
4) BD 5.4
5) An atom has states *{g1, e, g2}* with energies *{0,Δ,0}.* Two light waves of the same frequency are shown upon the atom. The interaction with the light is given by $V = \begin{matrix} 0 & \varepsilon & 0 \\ \varepsilon^* & 0 & \varepsilon \\ 0 & \varepsilon^* & 0 \end{matrix}$. Find the eigenvalues and eigenvectors of *H.* One the three eigenstates is called a "dark" state. Which one is it, and why?