

ASSIGNMENT 5

LASERS

1. Write down the properties of LASER light.
2. What is the wavelength of light of Ruby Laser if the separation between metastable state and lower energy state is 1.79 eV. Given that Planck's constant = 6.64×10^{-34} Js.
3. Describe the construction and working principle of He-Ne LASER with suitable diagrams
4. Derive the relationship between Einstein Coefficients.
5. Write down the various applications of LASER.
6. List the fundamental components of the Laser and draw the block diagram of Laser consists them.
7. Calculate the wavelength of Laser light if the separation between metastable state and lower energy state is 1.80 eV. (consider Planck's constant is 4.14×10^{-15} eVs).
8. Derive the relation between Einstein's coefficients with necessary assumptions.
9. Explain in detail construction and working of Ruby Laser with the help of necessary schematic and energy level diagram.
10. Define: Population Inversion