Numerical Problems on LASER

Q.1 .Find the ratio of the population of the two energy states of the active medium producing laser transition between which has wavelength 694.3nm at room temperature. Comment on the result.

Q.2. A LASER source is emitting a laser beam with an average power of 4.5 mW. Find the number of photons emitted per sec by the laser .The wavelength emitted is 6328 Å .

Q.3.A pulsed LASER emit photons of wavelength 780.nm with 20 mW average power/pulse. Calculate the number of photons contained in each pulse if pulse duration is 10 ns .