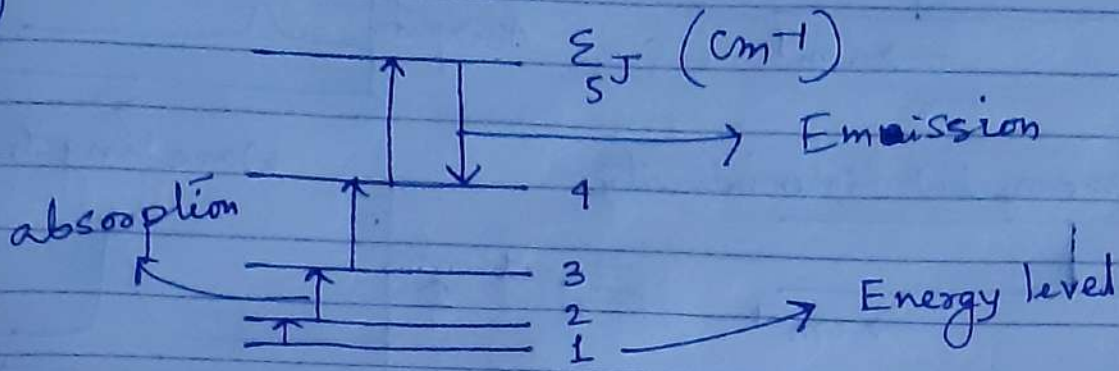
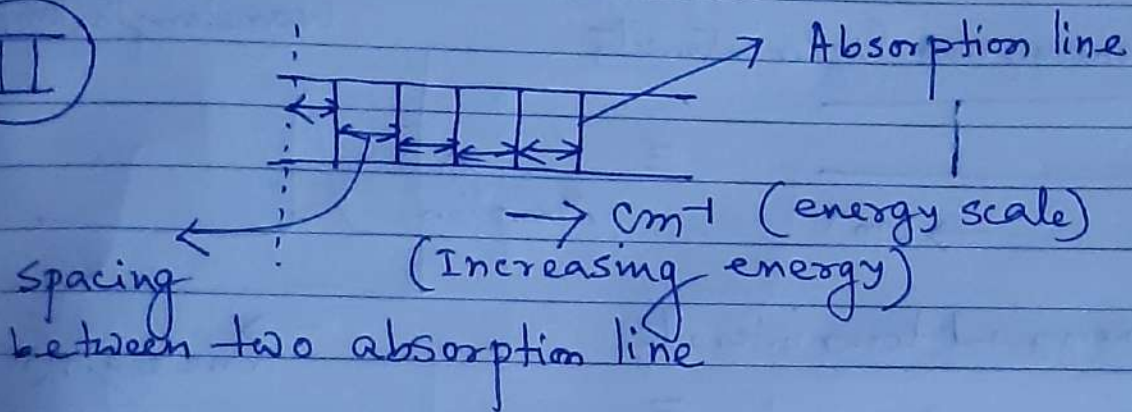


Spectroscopy : Commonly used terminology and plots

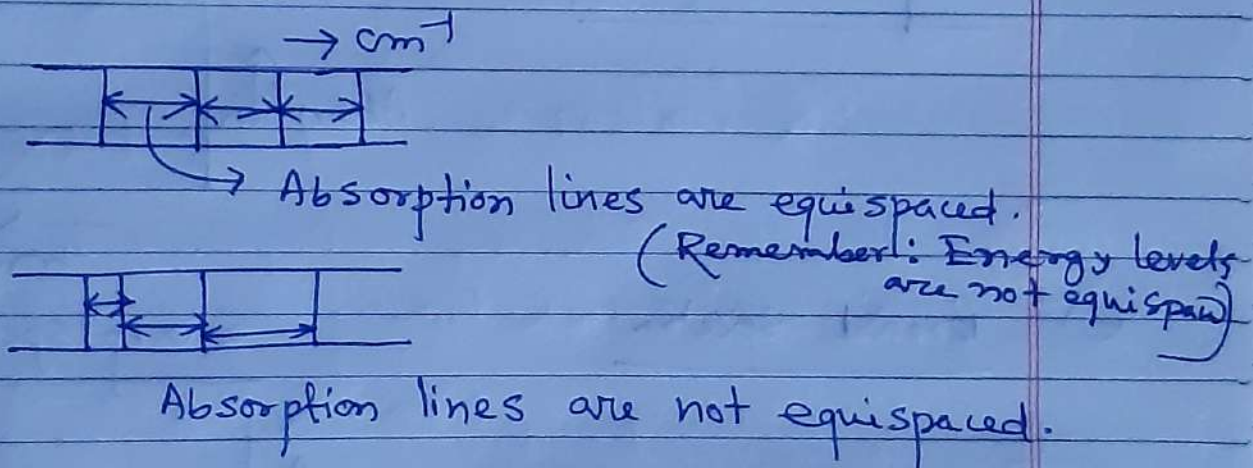
(I)



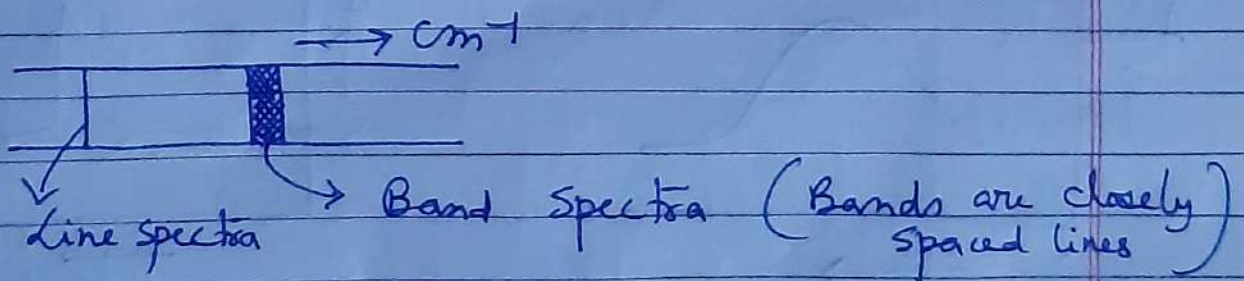
(II)



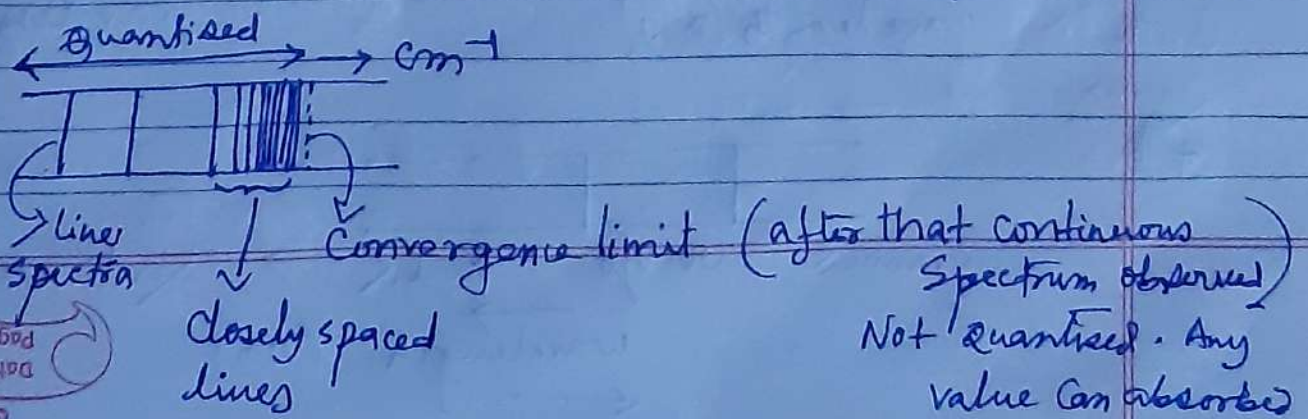
(III)



(IV)



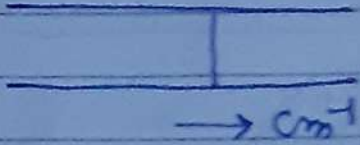
(V)



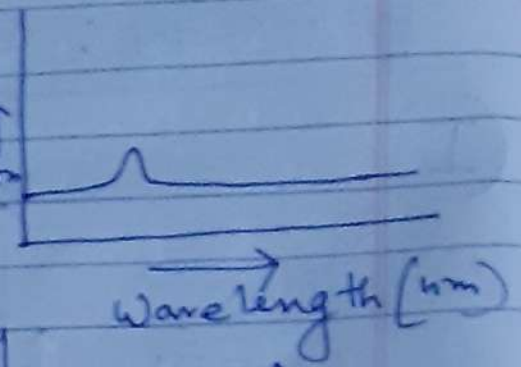
(VI)

a)

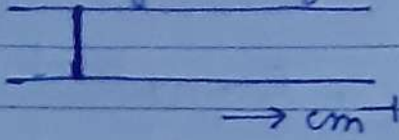
Higher energy but lower intensity



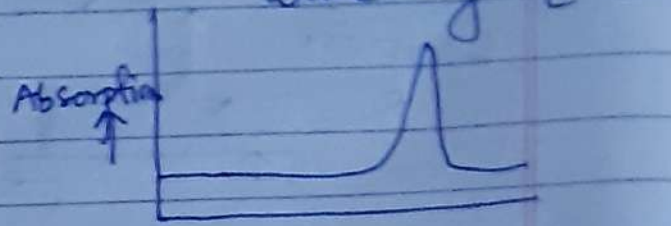
Absorption



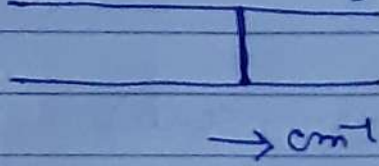
b) Lower energy but higher intensity



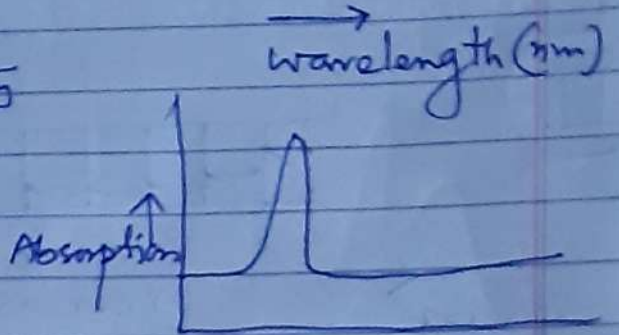
Absorption



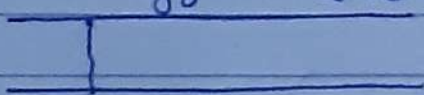
c) Higher energy and higher intensity



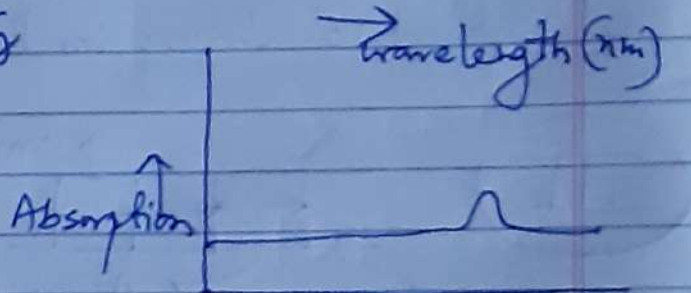
Absorption



d) Lower energy and lower intensity

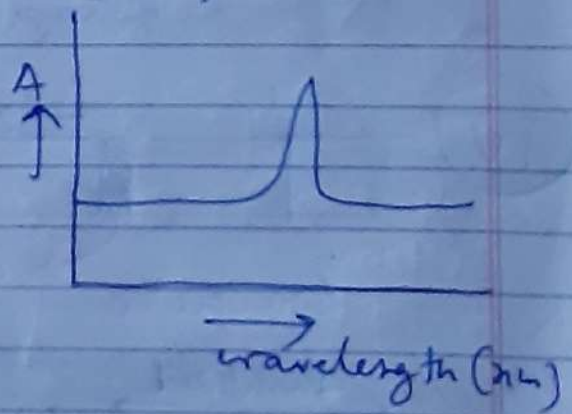
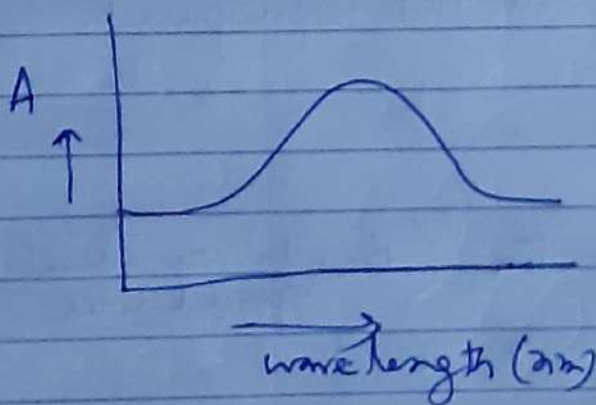


Absorption

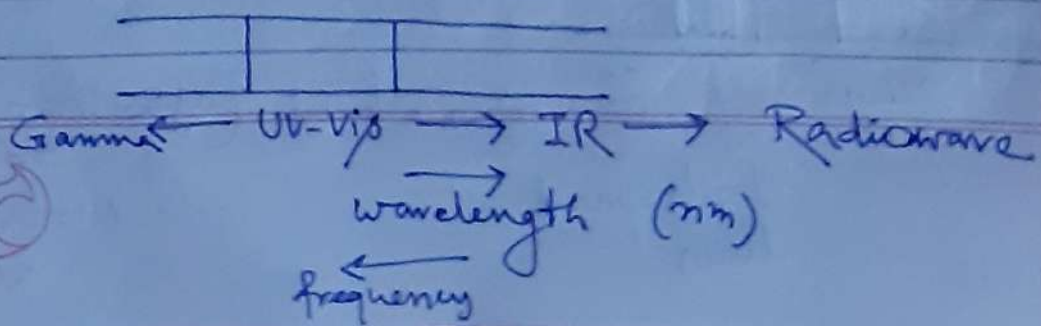


e) Broad Spectra

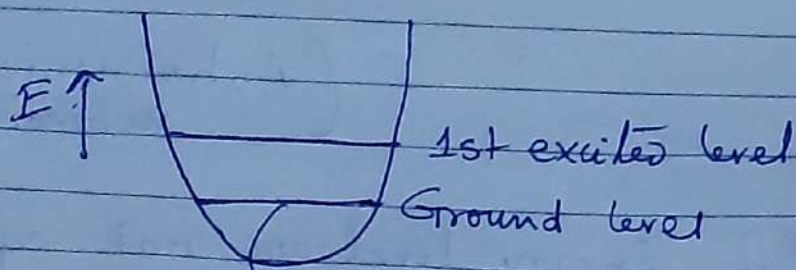
Sharp Spectra



f)

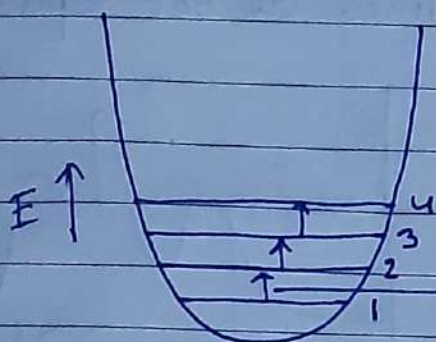


VII



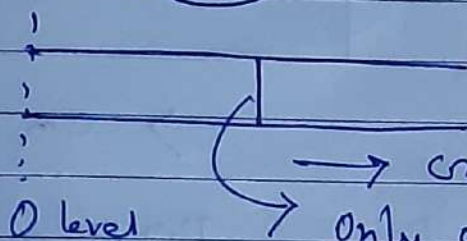
Population in ground level is higher than excited level.

VIII



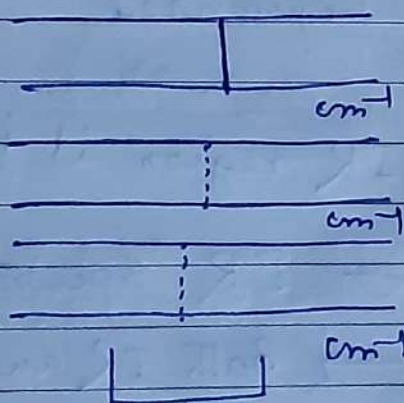
Harmonic vibration

space between two level
All levels are equispaced.

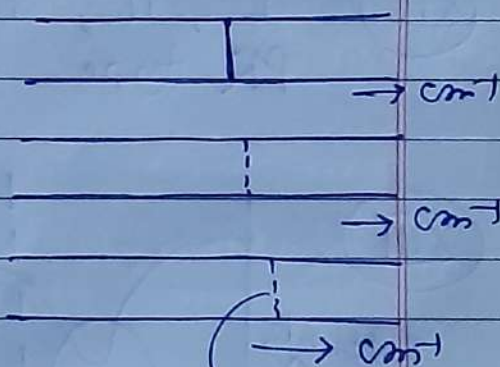


Only one line is expected

IX



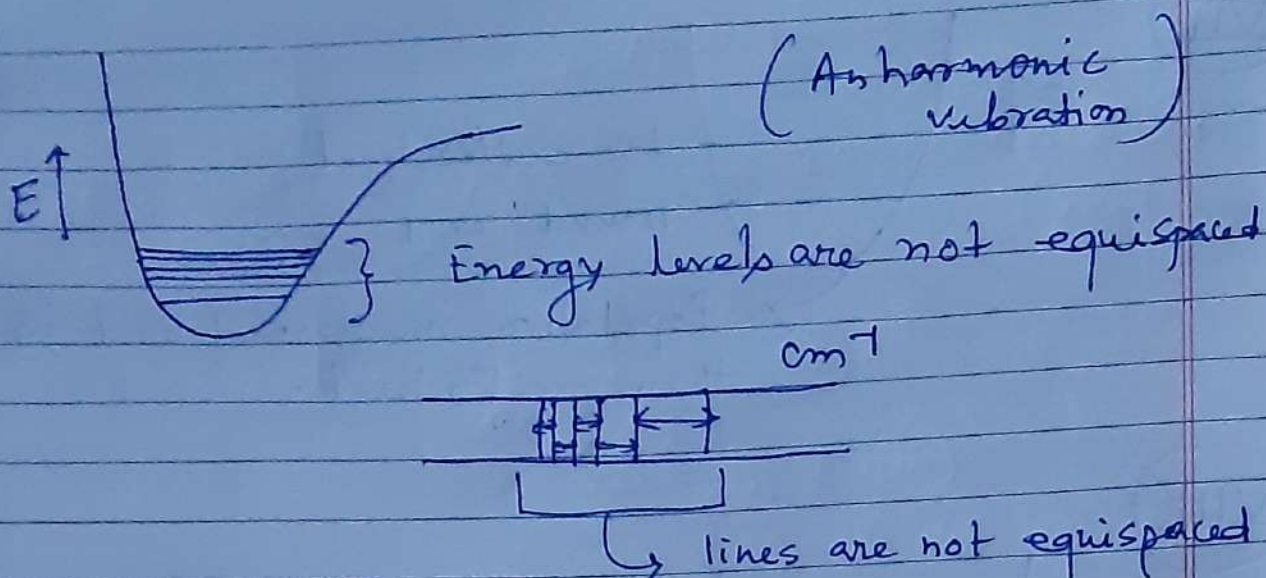
Band shifting
towards lower energy
(Red Shift)



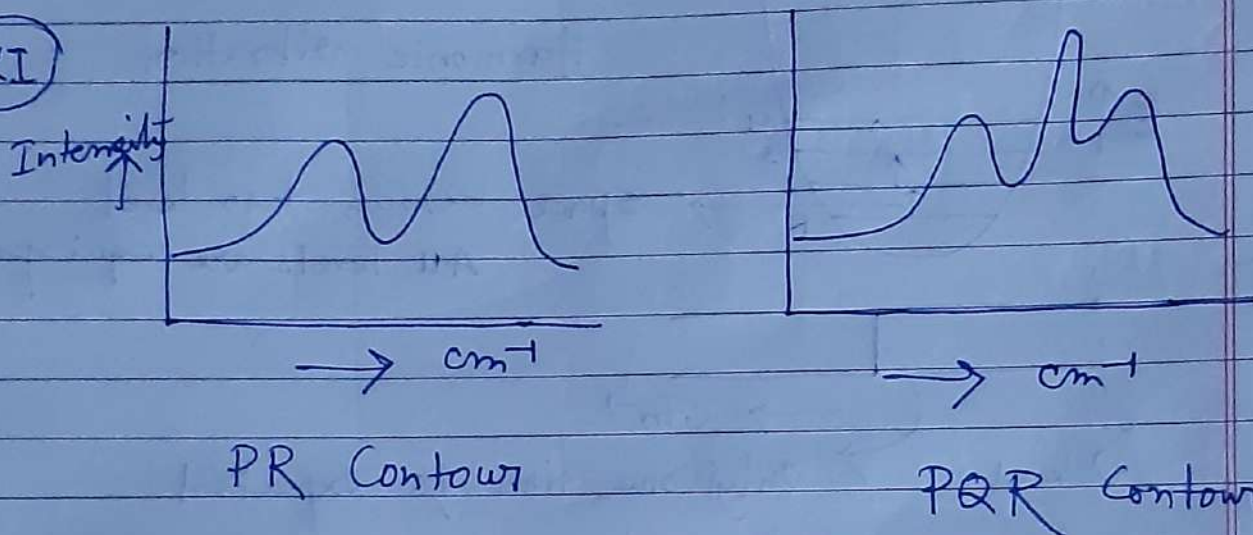
Band shifting
towards higher energy
(Blue Shift)

Absorption line

(X)



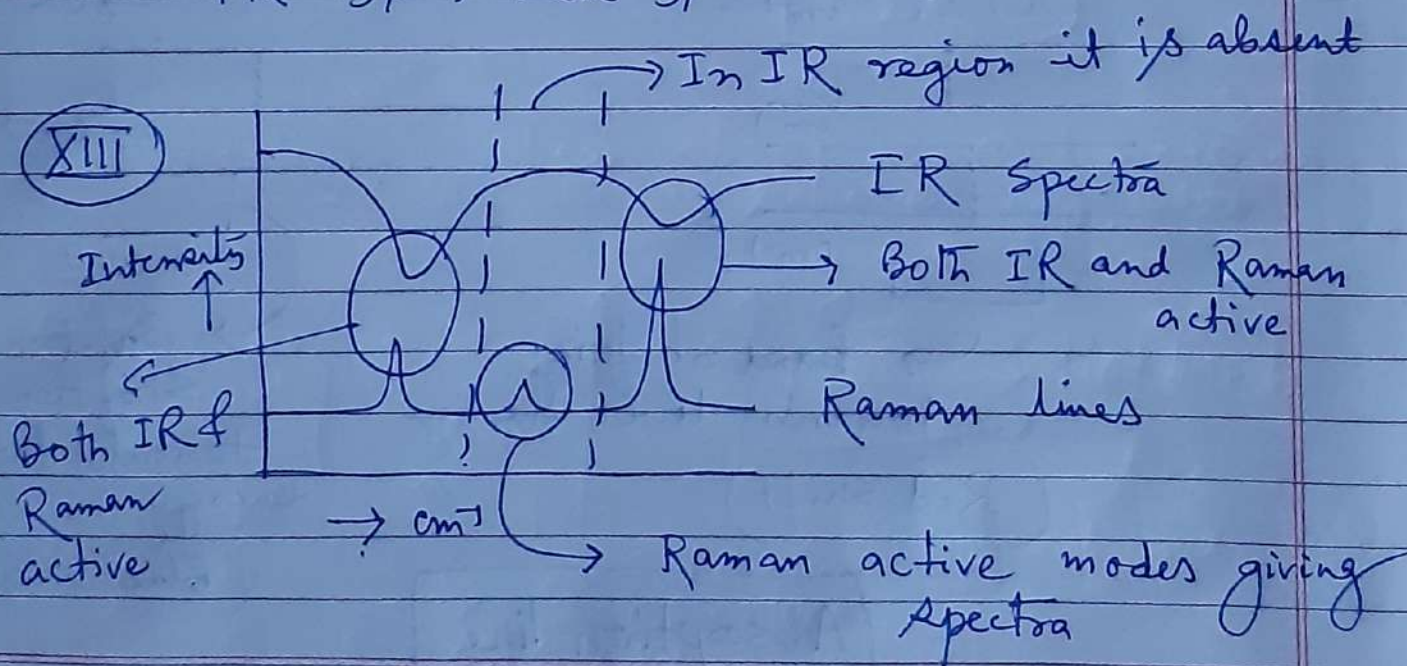
(XI)



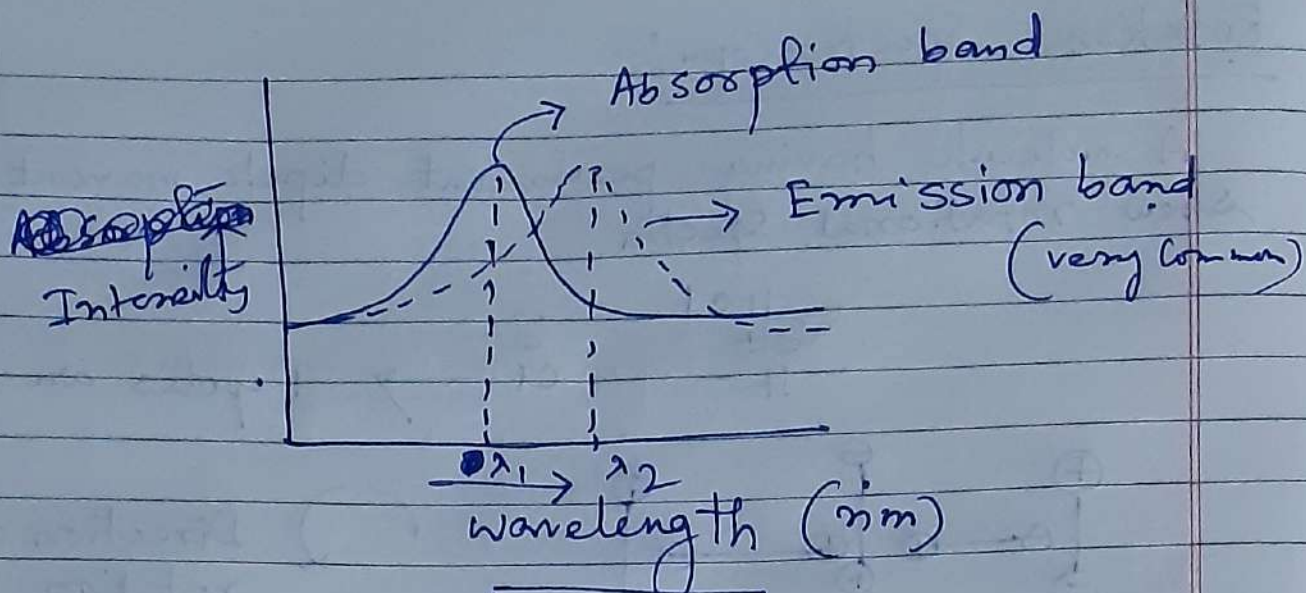
(XII)

\perp , \parallel , Polarised, Depolarised
PR type, PQR type

(XIII)

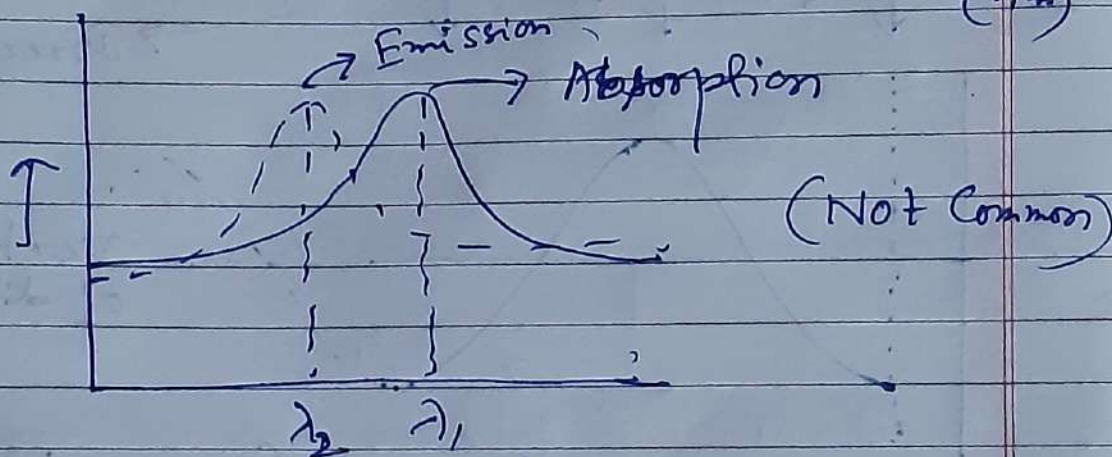


(XIV)



$$\lambda_2 > \lambda_1$$

$\lambda = \text{wavelength (nm)}$



$$\lambda_2 < \lambda_1$$

Question: When absorption and emissions are nearly same energy? ~~not~~

(XV)

