

Question 2. There are materials which absorb photons of shorter wavelength and emit photons of longer wavelength. Can there be stable substances which absorb photons of larger wavelength and emit light of shorter wavelength?

Solution:

We know that shorter wavelengths have higher energies as compared to longer wavelengths.

Therefore, in first case materials absorb more energy as compared to emission while in second case material release more energy as compared to absorbing due to which matter cannot be stable in the second case.