

## # Electronic transitions:-

:- when UV-visible light of desired wavelength passed through the sample, a part of radiations are absorbed and cause electronic transitions

:- It  $e^-$ s are promoted from bonding to an anti-bonding orbit

### (1) $\sigma - \sigma^*$ transitions:-

:- These are high energy transitions. as  $\sigma$ -bonds are very strong.

:- They occurs in saturated hydrocarbons.  
eg + methane, propane etc.

### (2) $n - \sigma^*$ transitions:-

:- They need less energy than  $\sigma - \sigma^*$  transitions.

:- They occurs in saturated molecules containing hetero atom.  
eg + saturated alcohol, aldehyde etc.

### (3) $\pi - \pi^*$ transitions:-

:- They occurs in unsaturated compounds eg  
eg + alkenes, alkynes, azo etc.

④  $n \rightarrow \pi^*$  Transitions:

- ↳ These are least energy transitions.
- ↳ They occur in saturated aldehydes.

