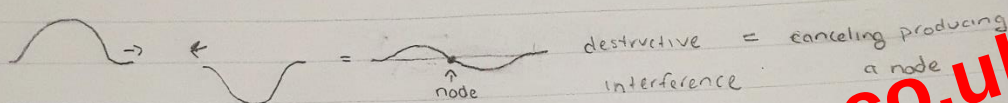
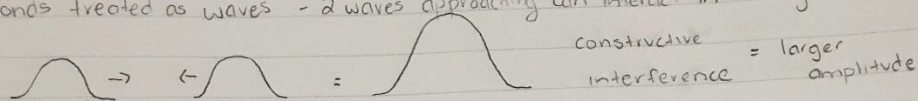


Organic Chemistry Review

First Unit:

Valence Bond Theory:

- covalent bond formed from overlap of atomic orbitals
- more simplistic than ~~the~~ MOT in its treatment of bonds
- bonds treated as waves - 2 waves approaching can interact in 2 ways: constructively or destructively



- bond is ~~is~~ sharing of electron density ~~between~~ atoms because of constructive interference

example H_2 - formed from overlap of 1s orbitals

- electron density of H_2 is ~~is~~ along bond axis - referred to as sigma bond - has circular symmetry ~~with~~ with respect to bond axis

- all single bonds are σ (sigma) bonds - specifically pure ~~sigma~~ single bonds

MOT

- VBT is at times inadequate - molecular bond theory works for more complicated cases
- MOT also describes bonds in terms of constructive interference - but also uses mathematics

- mathematic method is linear combination of atomic orbitals

- ^{in theory} - atomic orbitals are combined to form ~~an~~ molecular orbitals

atomic orbitals are associated with only ~~1~~ 1 atom

molecular orbital associated with entire molecule

molecule is considered ~~as~~ 1 entity made up of several electron clouds

↳ molecular orbitals filled with electrons in a particular order