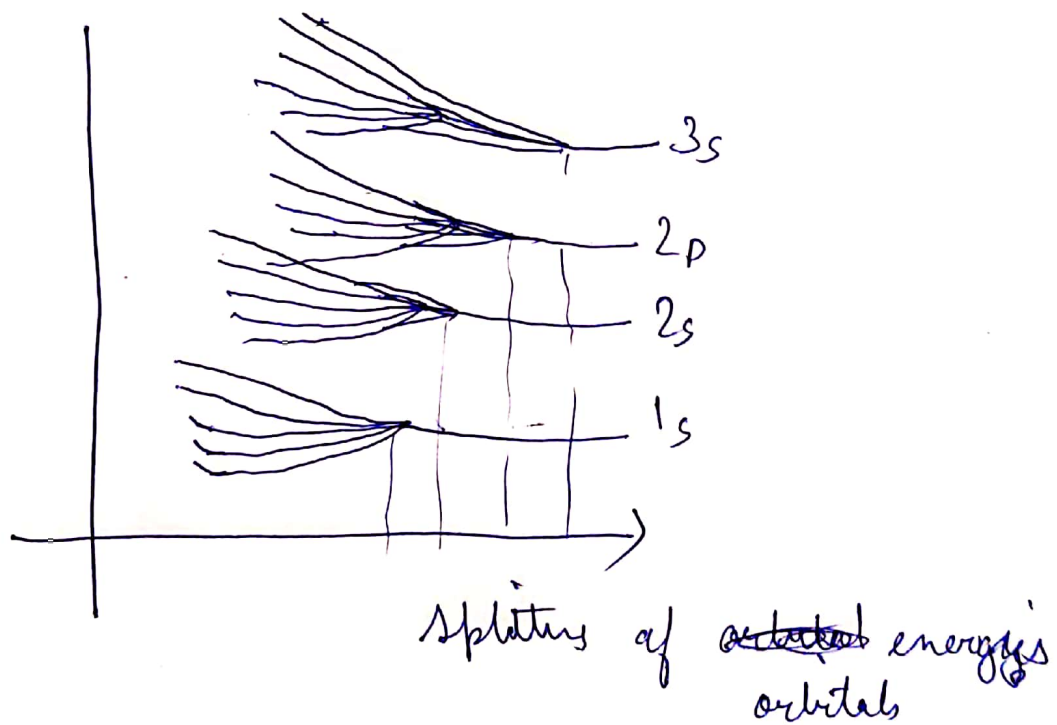


Q4) a) When two atomic orbitals with similar energy come very close to each other there is interaction between them and they form 2 molecular orbitals with distinct energies.

( $\sim 10^{23}$ )

When many such orbitals interact, the gap between the orbitals of lower energy is negligible as the orbitals stack up and therefore a band is formed.



b) A) DC electrical conductivity of metals increases with electron density and relaxation time.