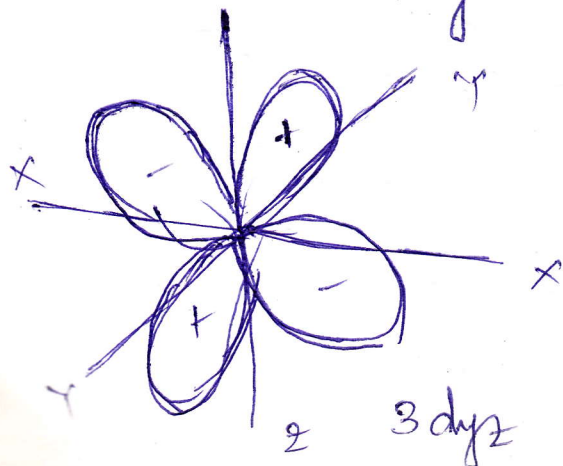
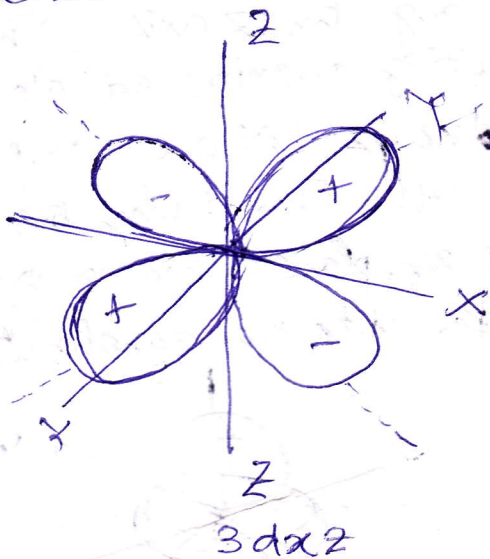
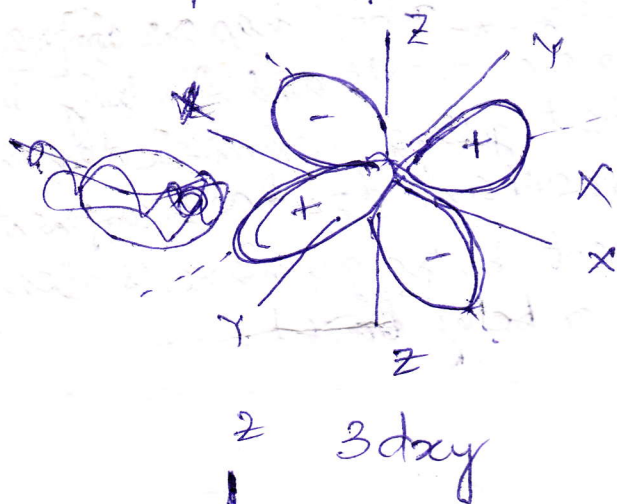


Angular part of the wave function for hydrogen-like ^{have} $2p$ orbitals. The '+' and '-' signs of the wave functions ^{are} been put arbitrarily. All of them possess a nodal plane passing through the nucleus.

The five d -orbitals developed from the real spherical harmonics are not equivalent. Each of the three d -orbitals namely d_{xy} , d_{yz} and d_{zx} having four lobes lies symmetrically between corresponding axial directions. The d_{xy} orbital lies between the x - and y -axes, similarly the d_{yz} and d_{zx} lie in the yz - and Zx -plane respectively in the same manner.



refers to cartesian orbital then on the Z -axis the origin will have