$l = 0 \rightarrow S$
$l = 1 \rightarrow P$
$l = 2 \rightarrow d$
$l = 3 \rightarrow f$
} orbitals

Quantum Numbers :

1. Principal Q. No.
2. Azimuthal Q. No
3. Magnetic Q. No.
4. Spin Q No

Spin angular momentum - $\sqrt{s(s+1)}\ h/2\pi$

Pauli Exclusion Principle

Total no. electrons in main shell
$2n^2$

Russel-Saunders rule,
Term Symbols.

$^{2S+1}L_J$

Orbital occupancy order
Aufbau Principle

Limitations of Bohr's Model:

(i) Involvement of both classical and quantum mechanics.

(ii) Fine spectra of the spectral lines

(iii) Intensity of the spectral line

(iv) Polyelectronic atoms :- applicable only for hydrogen or hydrogen like atom system He^+, Li^{2+}, Be^{3+} etc. For systems of multielectron the theory is not at all promising

(v) Quantisation of angular momentum:

$$mvr = n h/2\pi$$

(vi) Hiesenberg's uncertainity principle.

(vii) Zeeman Effect & Stark effect: The single line in the spectrum is found to split into a number of closely spaced lines in the presence of external magnetic field (Zeeman effect) and electrical field (Stark Effect). Such splittings cannot find any support from the Bohr's theory.