WELCOME

BOHR ATOMIC MODEL

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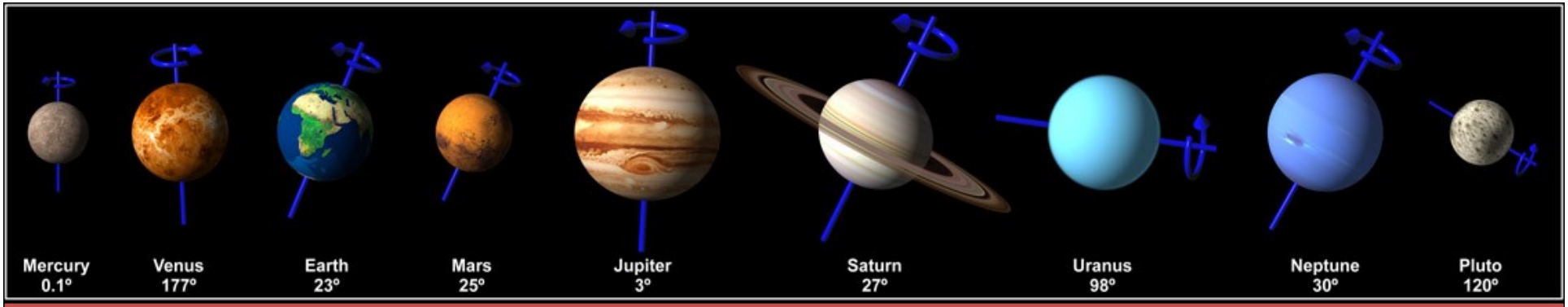
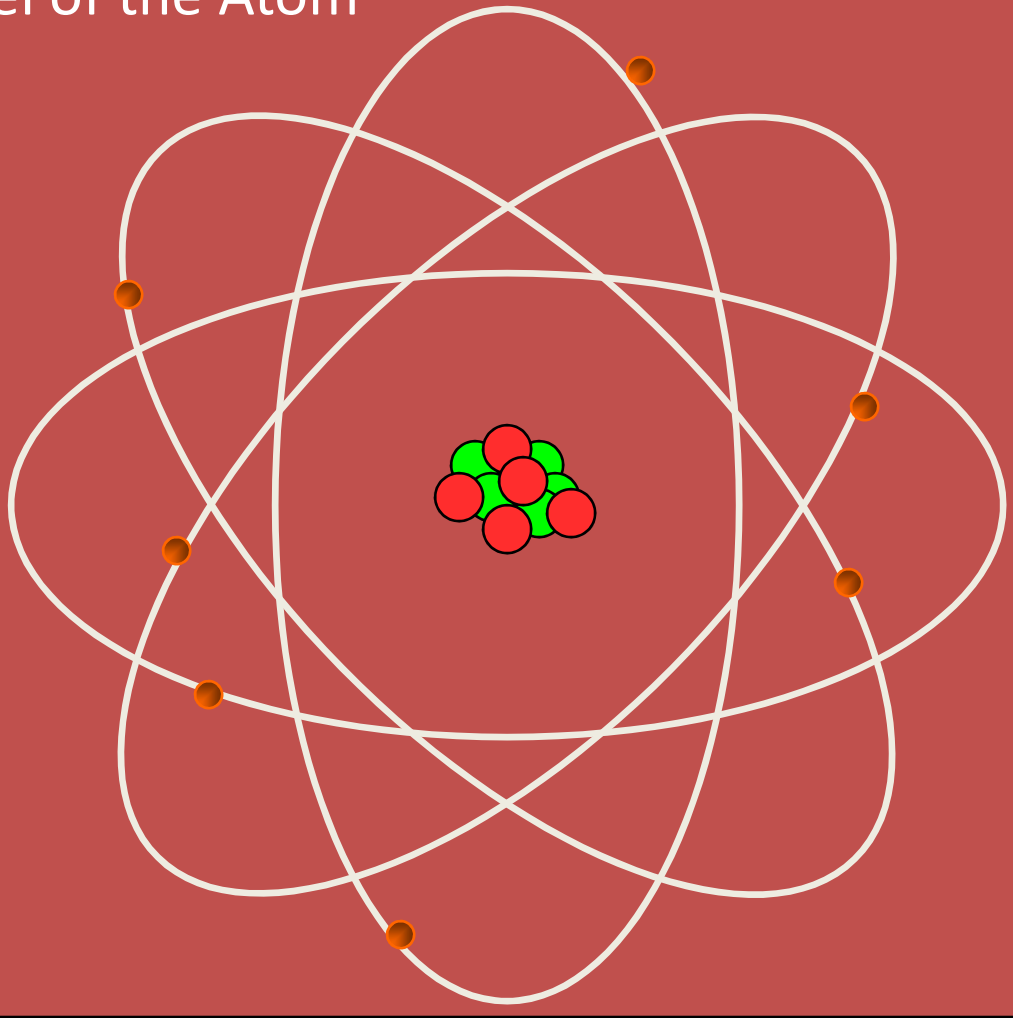
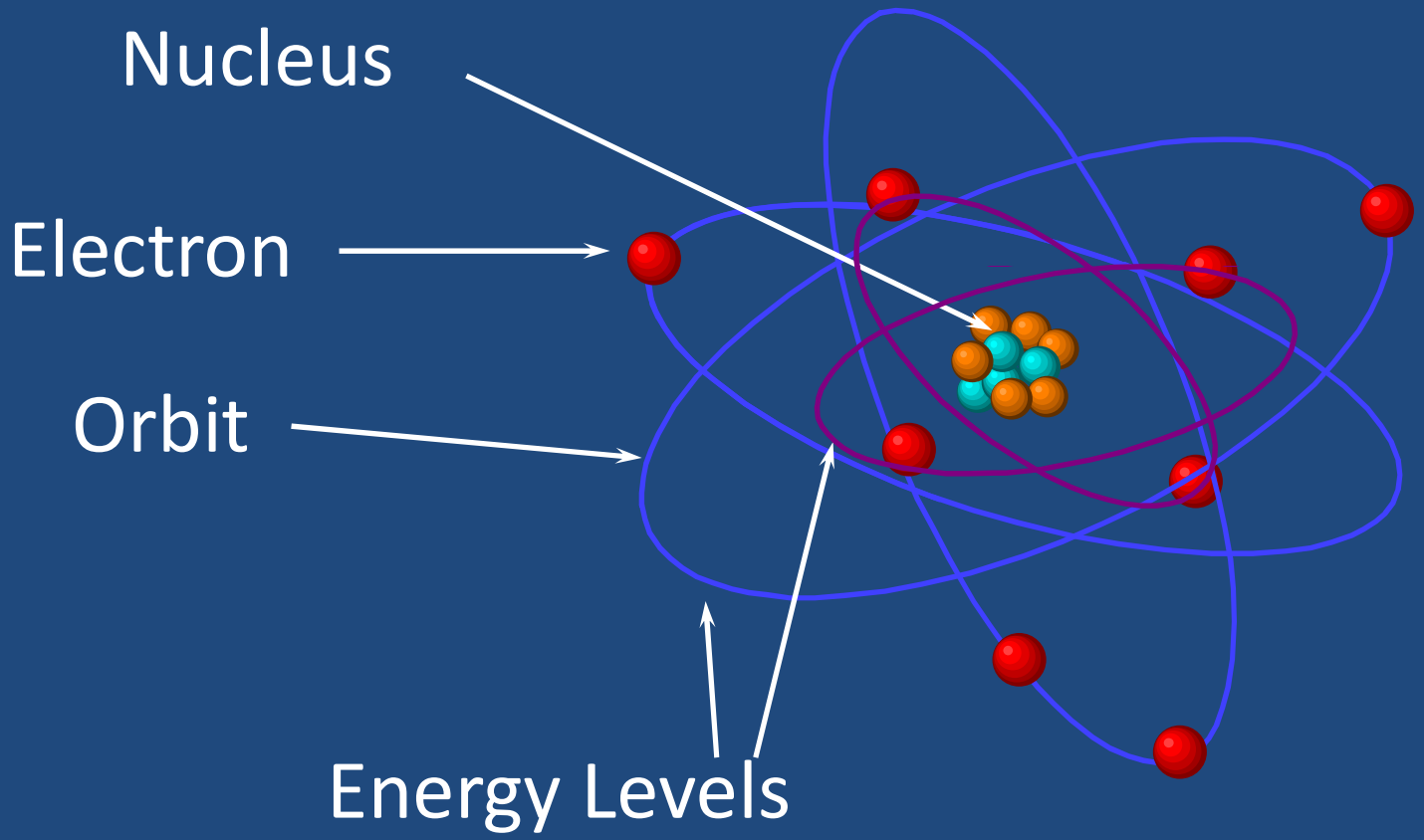
Human Bohr Model



The Planetary Model of the Atom

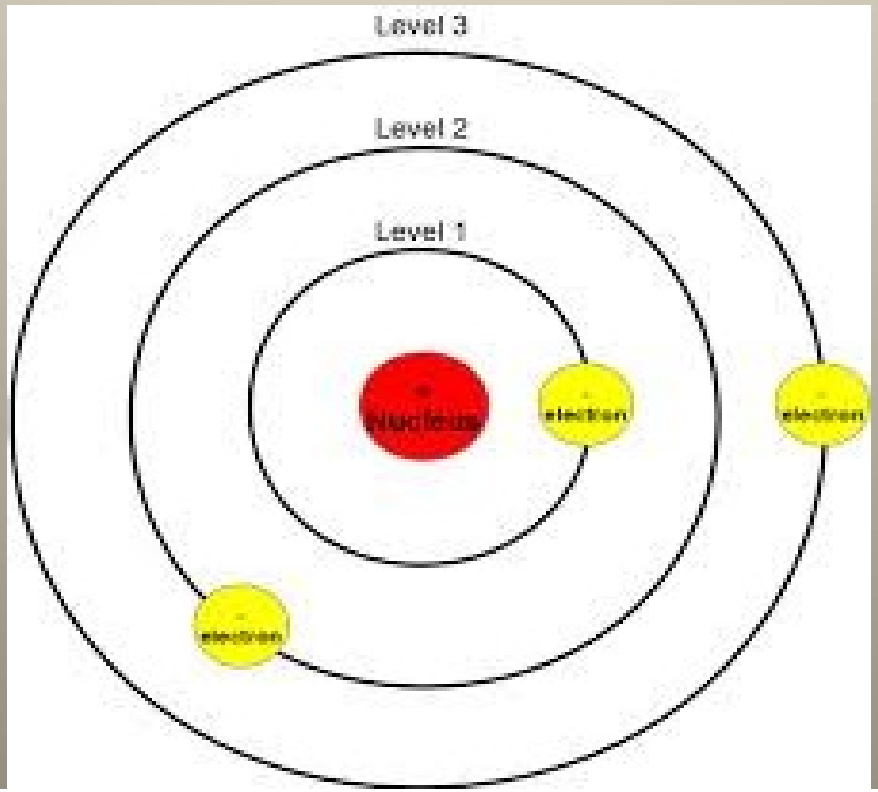


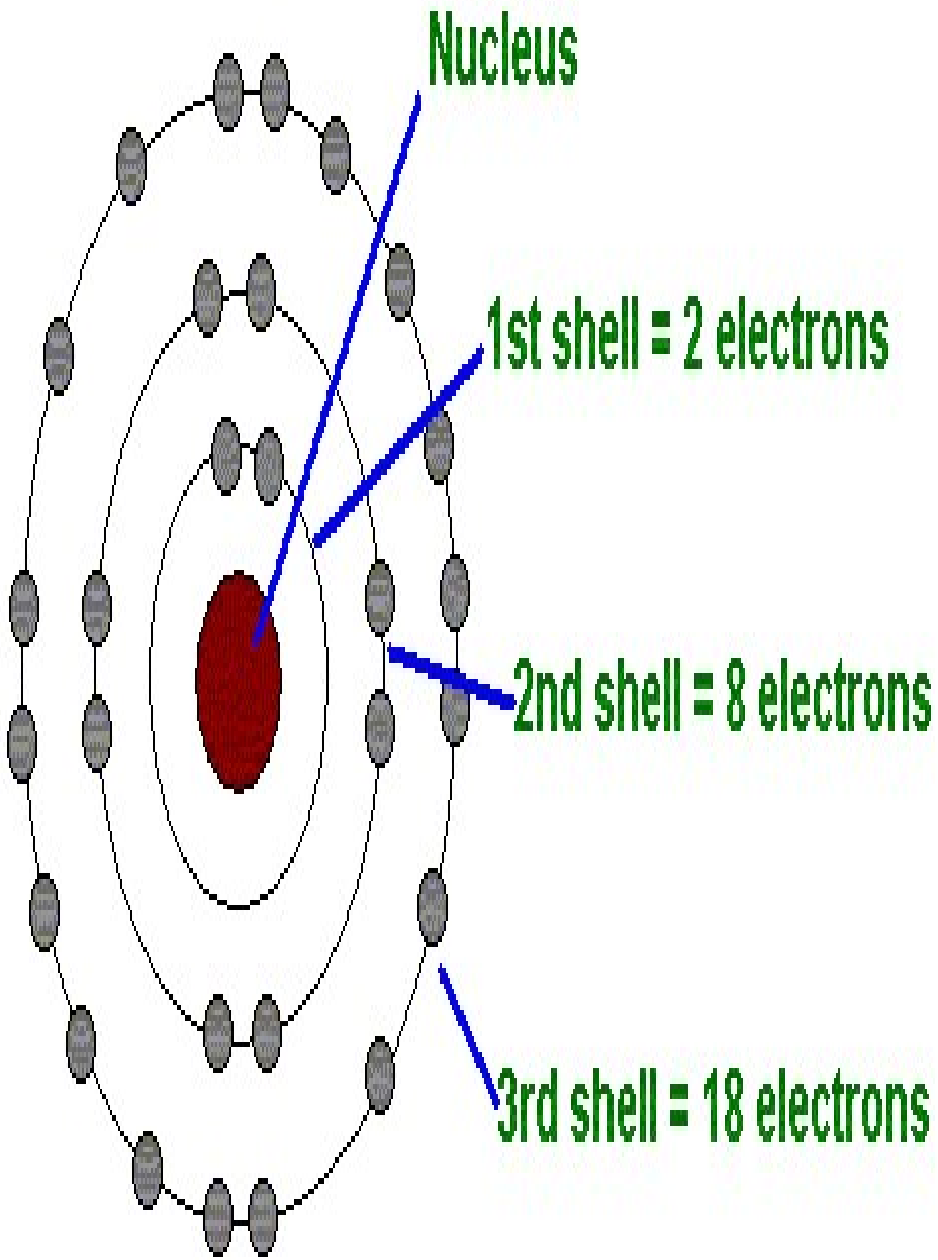
Bohr's Model



BOHR 'S MODEL OF ATOM

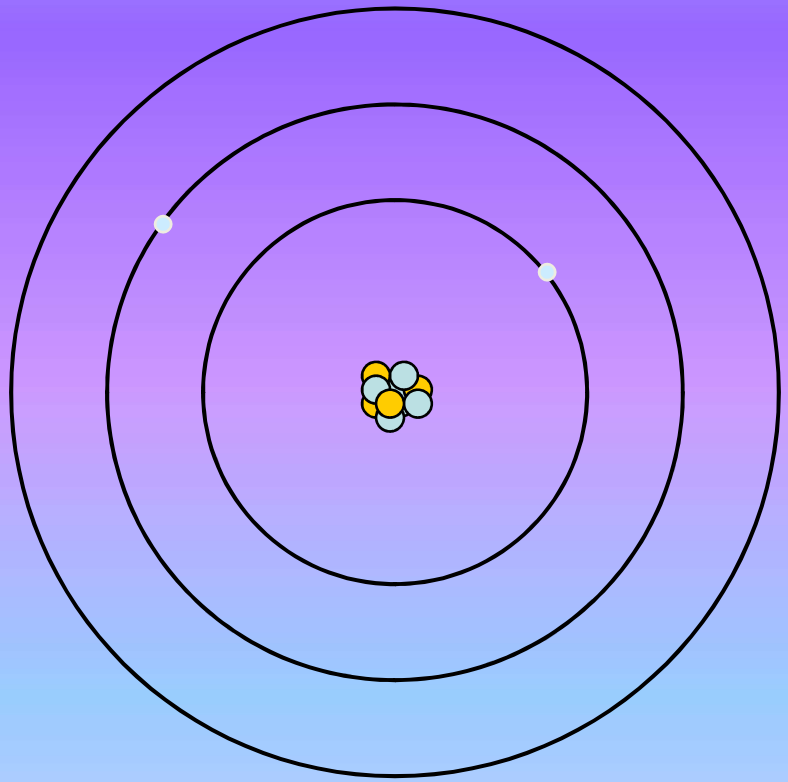
Niels bohr proposed that electrons in an atom occupy 'stationary' orbits(states) of fixed energy at different distances from the nucleus.

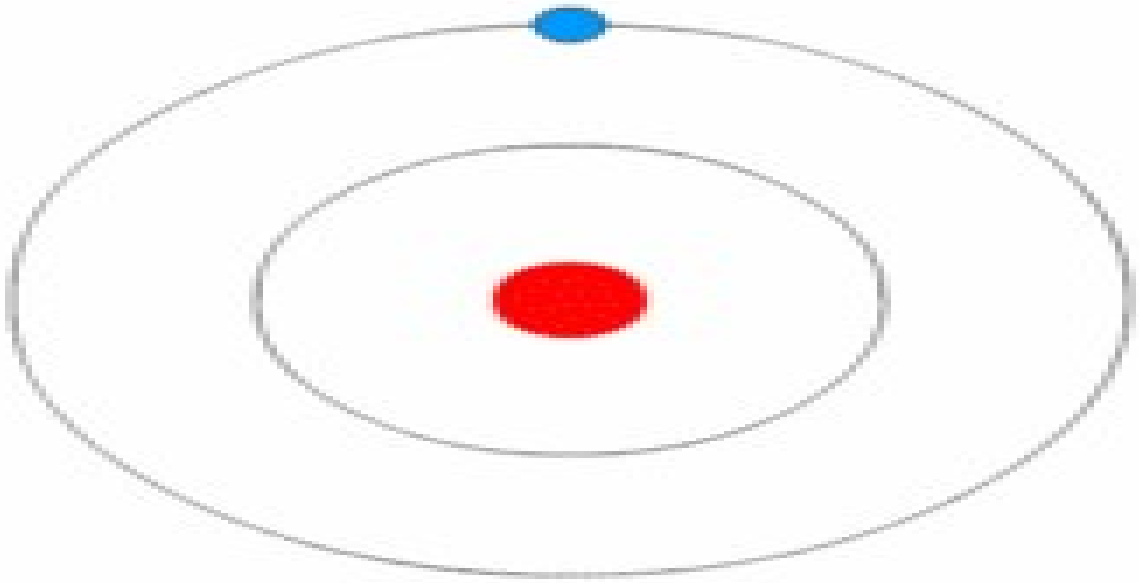




The energies of an electron in an atom can have only certain values E1,E2, E3…… that is the energy is quantized. The states corresponding to these energies are called stationary states and the possible values of the energy are called energy levels.

As long as the electron moves in a stationary orbit , its energy is constant and does not emit any electro magnetic radiation. Hence these closed orbits are called stationary orbits

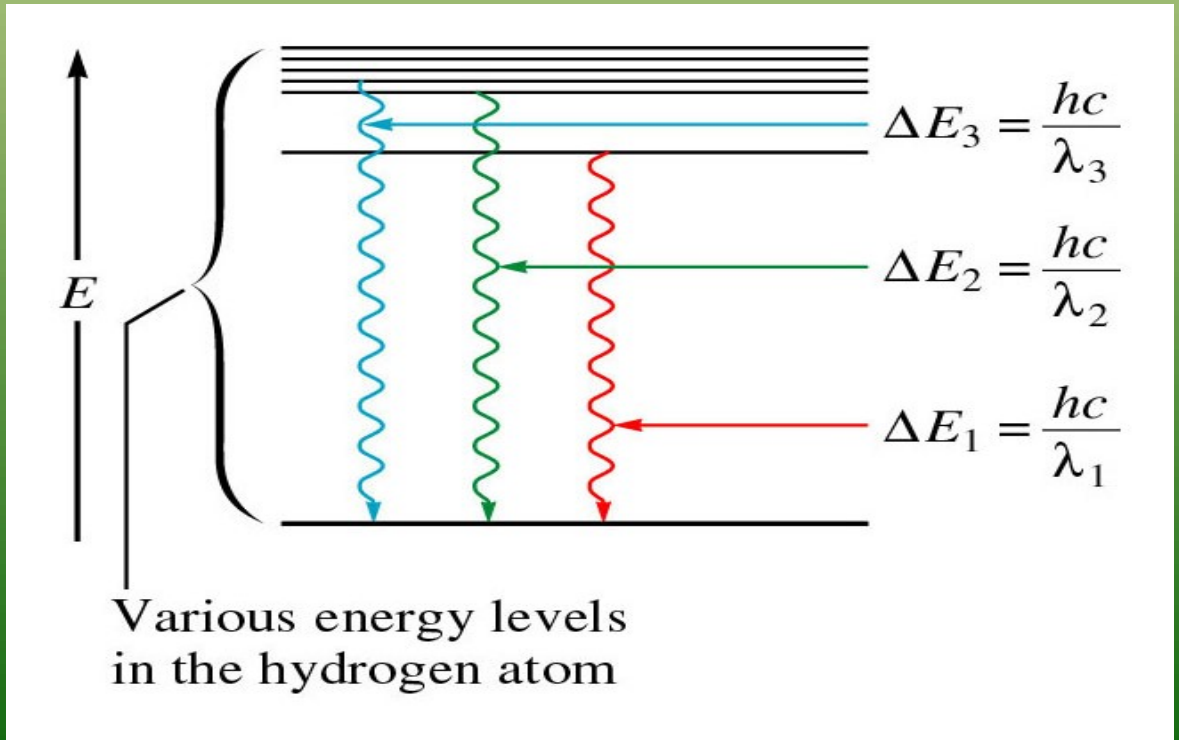


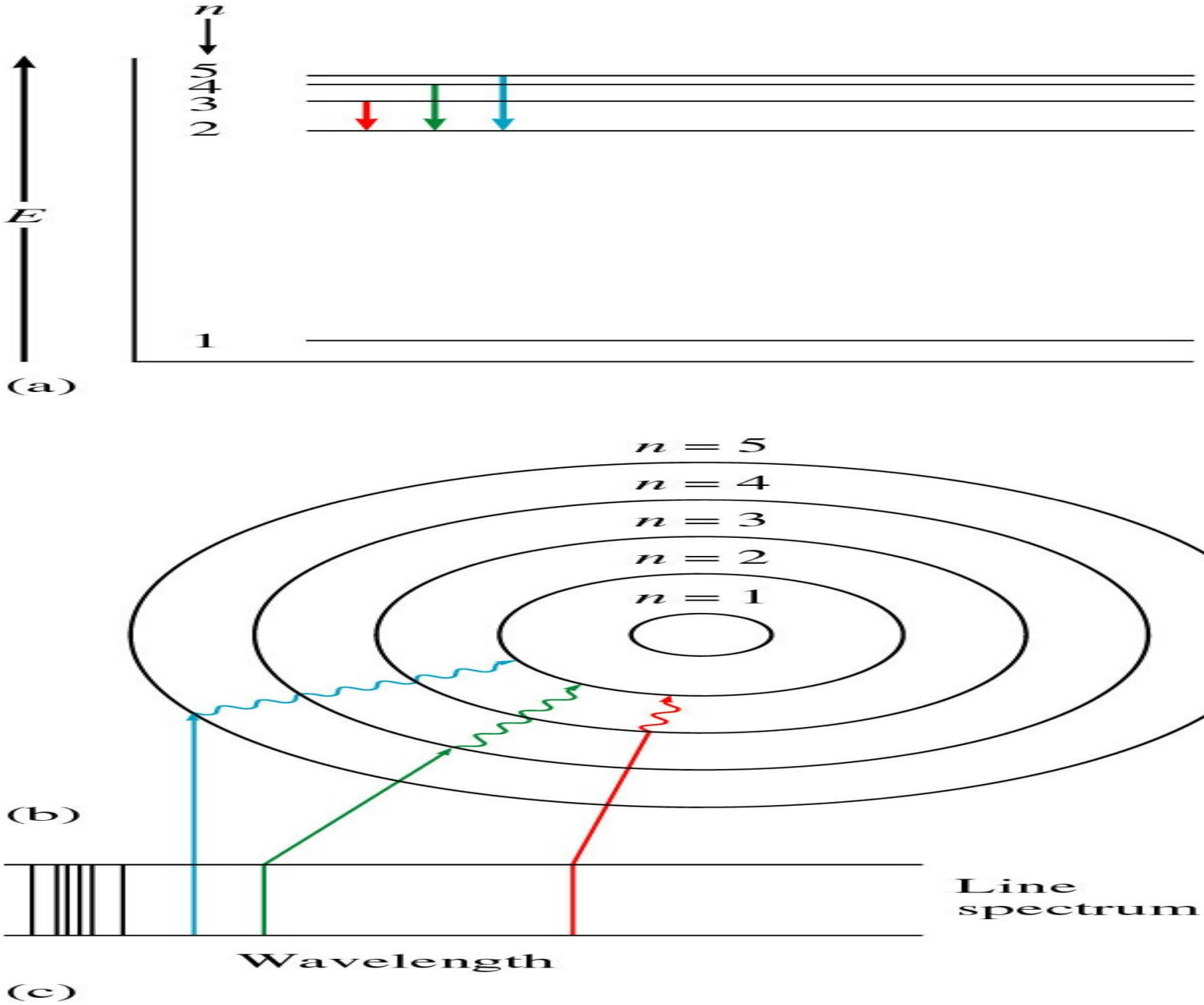


When an electron ‘jumps’ from a lower energy state(ground state) to higher energy states(excited state) it absorbs energy or emits energy when such a jump occurs from a higher energy state to a lower energy state.

More than one stable orbit is possible for any electron and the energy orbits is quantised. That is the electron revolves round the nucleus only in an orbit in which it's angular momentum(mvr) is an integral multiple of h/2

Emission spectrum of H (cont.)




n
5
4
3
2
E
1
(a)
n = 5
n = 4
n = 3
n = 2
n = 1
(b)
Line
spectrum
Wavelength
(c)

Thank you