

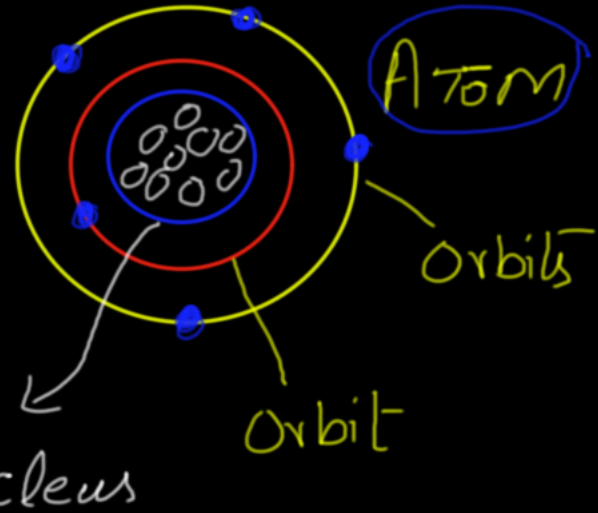
LECTURE # 01

BASIC CONCEPTS OF ELECTRICITY

TOPIC 1.1 ELECTRON THEORY

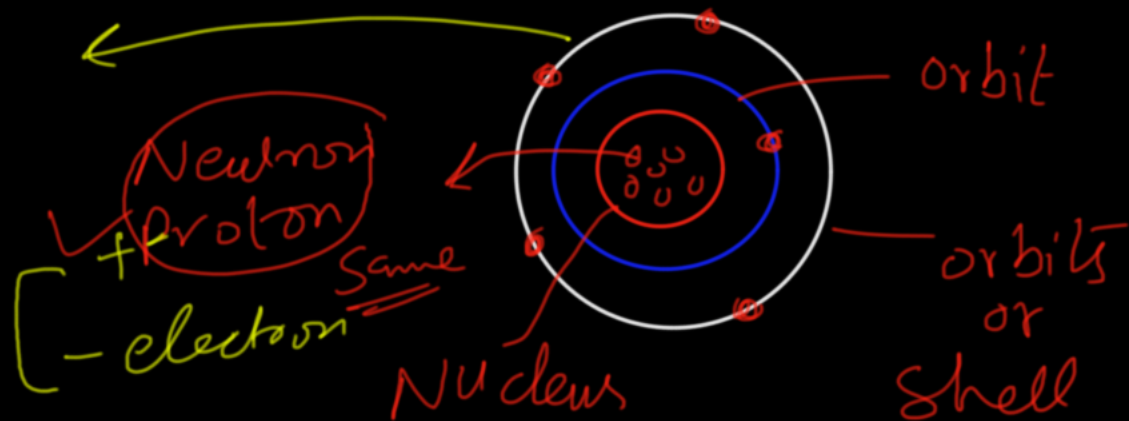
ET-125 Electron Theory

1st = Electron  
2nd = Protons  
3rd = Neutrons } Atom



	Symbol	Charge	Mass
Neutron	N	Neutral (0)	$1.675 \times 10^{-27}$
Proton	P	Positive (+)	$1.675 \times 10^{-27}$
Electron	E	Negative (-)	$9.107 \times 10^{-31}$

By Default-  
Neutral  
equal

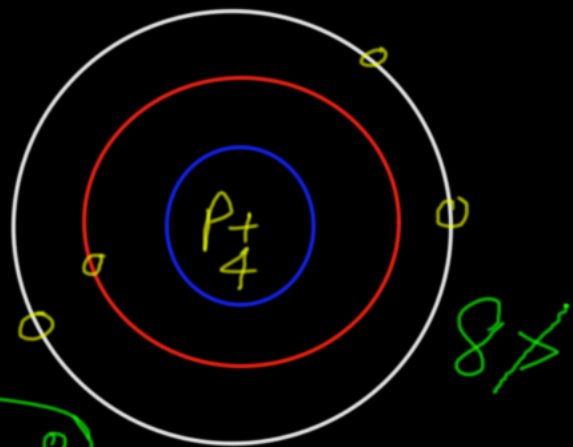


Charge = Neutral

External Force = Electrons

$2n^2$  = n = orbit  
No. Freely move

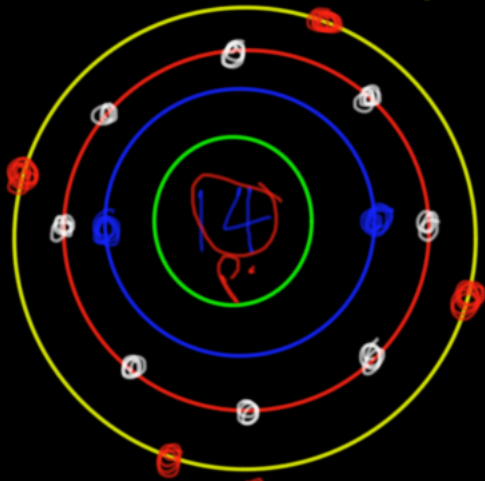
$$2n^2 \Rightarrow 2(1)^2 \Rightarrow 2 \times 1 = (2)$$
$$2n^2 \Rightarrow 2(2)^2 \Rightarrow 2 \times 4 = (8)$$
$$2n^2 \Rightarrow 2(3)^2 \Rightarrow 2 \times 9 = (18)$$



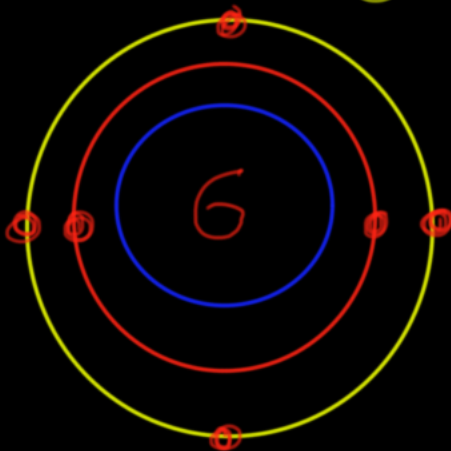
1 → 8

↓  
Last orbit  
Valance orbit  
Valance electrons

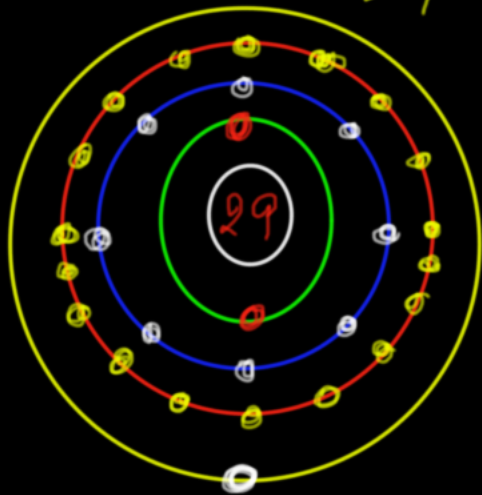
Silicon (14)



Carbon 6



Copper 29



$$\left. \begin{aligned} 2(n)^2 &= 2(1)^2 = 2 \\ 2(2)^2 &= 2(4) = 8 \\ 2(3)^2 &= 2(9) = 18 \\ 2(4)^2 &= 2(16) = 32 \end{aligned} \right\}$$