

ELECTRONIC CONFIGURATION OF THE d-BLOCK ELEMENTS

The transition elements have an incompletely filled d-level. Since Zn, Cd, Hg elements have d^{10} configuration and are not considered as transition elements but they are d-block elements.

Electronic Configuration

Ist Transition Series

Symbol	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn
Atomic No.	21	22	23	24	25	26	27	28	29	30
3d electrons	1	2	3	5	5	6	7	8	10	10
4s electrons	2	2	2	1	2	2	2	2	1	2

Irregular electronic configuration Cr, Cu

IInd Transition Series

Symbol	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd
Atomic No.	39	40	41	42	43	44	45	46	47	48
4d electrons	1	2	4	5	5	7	8	10	10	10
5s electrons	2	2	1	1	2	1	1	0	1	2

Irregular electronic configuration Nb, Mo, Ru, Rh, Pd, Ag

IIIrd Transition Series

Symbol	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg
Atomic No.	57	72	73	74	75	76	77	78	79	80
5d electrons	1	2	3	4	5	6	7	9	10	10
6s electrons	2	2	2	2	2	2	2	1	1	2

Irregular electronic configuration W, Pt, Au