

Date 31/10/25

Class U.G semester Ist (MJC Ist (T))

Session 2025 to 2028

Sub: $\rightarrow$ inorganic Chemistry:

Topic Name: $\rightarrow$ Chemical Bonding:

melting and boiling points: $\rightarrow$

The melting and boiling points of transition metals. These values suggest that these are very high values. The high values are due to the fact that transition metals have strong metallic bonding between their atoms.

melting and boiling points of d-block elements.

3d series.

elements	Sc	Ti	V	Cr	Mn	Fe
m.p ($^{\circ}\text{C}$)	1539	1868	1900	1875	1245	1536
B.P ($^{\circ}\text{C}$)	2730	3260	3450	2665	2150	3000

m.p.	Ni	Cu	Zn
$\rightarrow$	1453	1083	419.5
B.P	2730	2835	906.00

As we proceed along a particular series the melting points increase from Sc to Cr in 1st series, from Y to Mn in 2nd and from La to W in 3rd series and then decrease.

We know that the strength of metallic bonding is roughly related with the number of unpaired electrons present in the valence shell of the elements.