

# ELEMENTS OF D - BLOCK

## ELECTRONIC CONFIGURATION



6000 BC

## D-BLOCK BUT NOT TRANSITION

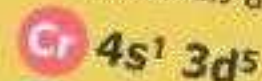
**Zn** Zinc, Cadmium and Mercury are d-block elements but not transition elements because of their completely filled d-orbitals

**Cd**

**Hg**

## STABILITY MATTERS

Elements with half filled and fully filled orbitals are stable.



**Sn**

**Pb**

**H**

**Cu**

## REACTION WITH ACIDS



These metals react with acids and release Hydrogen.

Copper doesn't react with acids because it is below Hydrogen in Electrochemical Series.



## COLOUR OF COMPOUNDS

These compounds are coloured due to the presence of unpaired electrons in D-orbitals.



## PARAMAGNETIC

They show magnetic properties due to the presence of unpaired electrons.



## OXIDATION STATE

These elements show variable oxidation states. ( $Fe^{+2}$ ,  $Fe^{+3}$ )

**Os**

Osmium shows maximum +8 oxidation state.

## HISTORY OF D - BLOCK

Our ancestors were so deeply attached to metals.

**Stone Age** - Man learned to fashion **Gold** into jewellery.

4200 BC



Started using **Copper** for weapons and utensils

4000 BC



Romans and Chinese started using **Silver** as currency

1500 BC



**Iron Age** - Started using Iron for tools and weapons.

2300-700 BC



Created Alloys by mixing two metals to increase strength and usability of metals