

B.M.A. College BANGRIDDG.  
CHEMISTRY C. CHAUDHARY.

TOPIC — Metallurgy

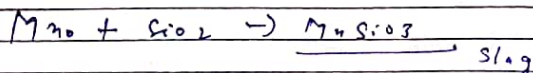
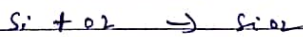
CAST IRON TO STEEL

The basic difference in constitution of cast iron and steel is that in cast iron % of Carbon is 2 to 5% whereas in steel % of Carbon is 0.25 to 1.5. As far as conversion of cast iron into steel is brought out by two processes

(a) Acidic Process.

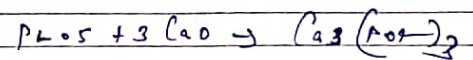
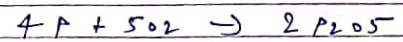
(b) Basic Process.

In acidic process inner side of converter is coated with  $SiO_2$  which is acidic in nature, "Mn", "Si", "S" present as a impurity in cast iron comes out as their oxides.

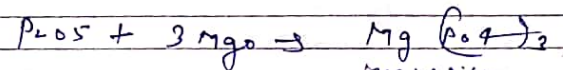


$MnSiO_3$  comes out as a slag.

In basic process inner side of converter is coated with  $CaO$  and  $MgO$  mixture. Following chemical reaction takes place in it.



Calcium phosphate as a slag comes out.



Magnesium phosphate as a slag

comes out as a slag. From above discussion we see that During conversion of cast iron to steel impurities such as Mn, Si, P are removed and in liquid iron desired amount of Carbon is mixed for making steel.