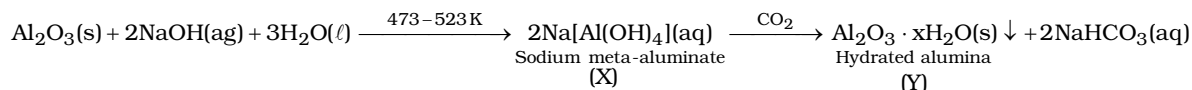


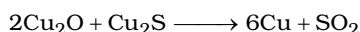
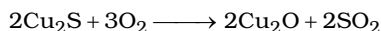
Daily Tutorial Sheet 2

JEE Main (Archive)

16.(A) When bauxite ore is digested with concentrated NaOH solution, alumina (Al_2O_3) dissolves.



17.(B) In the extraction of copper from its sulphide ore, the metal is obtained by auto-reduction. A part of sulphide ore is converted into oxide which then reacts with remaining sulphide to give the metal.



18.(B) $2\text{Cu}_2\text{S} + 3\text{O}_2 \xrightarrow{\Delta} 2\text{Cu}_2\text{O} + 2\text{SO}_2$

This reaction is roasting of Cu_2S .

19.(C) Copper pyrite : CuFeS_2

20.(B) The metal whose curve lie below can reduce the metal oxide whose curve lie above in Ellingham diagram.

21.(C) Siderite is FeCO_3 , Kaolinite is $\text{Al}_2\text{Si}_2\text{O}_5(\text{OH})_4$ Calamine is ZnCO_3 , Malachite is $\text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$

22.(B) Refer NCERT

23.(D) Cryolite = $\text{Na}_3[\text{AlF}_6]$

24.(A) Ellingham diagram tells us about ΔG values (feasibility) of thermal reduction of an ore using suitable reducing agents.

25.(C) Fact

26.(B) $\text{Al}_2\text{O}_3 + \text{impurity of SiO}_2 \xrightarrow[\Delta]{\text{NaOH(aq)}} \text{Na}[\text{Al}(\text{OH})_4] + \text{Na}_2\text{SiO}_3$ [Hall-Heroult's process]

27.(A) Aniline is a froth stabilizer.

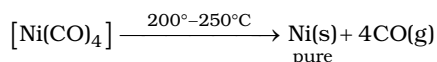
28.(A) Bauxide $\rightarrow \text{Al}_2\text{O}_3$, Malachite $\rightarrow \text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$

Siderite $\rightarrow \text{FeCO}_3$, Calamine $\rightarrow \text{ZnCO}_3$

29.(A) Assertion is correct as Haematite ore is used for extraction of Fe.

Haematite is an oxide ore, so reason is incorrect.

30.(C) $\underset{\text{impure}}{\text{Ni}(\text{s})} + 4\text{CO}(\text{g}) \xrightarrow{50^\circ\text{C}} [\text{Ni}(\text{CO})_4]$



31.(B) Theory based

32.(A) $\left. \begin{array}{l} \text{FeO} + \text{SiO}_2 \longrightarrow \text{FeSiO}_3 \\ \text{FeO} \xrightarrow{\Delta} \text{Fe} + \frac{1}{2}\text{O}_2 \end{array} \right\}$ These reactions don't occur in the blast furnace during extraction of Fe

33.(C) In the given diagram, the plot for $\text{A} + \text{O}_2 \rightarrow \text{AO}_2$ is below the plot for $\text{B} + \text{O}_2 \rightarrow \text{BO}_2$ when

$T > 1400^\circ\text{C}$, which shows that A can spontaneously reduce BO_2 .

34.(B) Fact