

EXTRACTIVE METALLURGY LAB

Course Type	Course Code	Name of Course	L	T	P	Credit
DP	FMC 352	Extractive Metallurgy Lab	0	0	3	3

Course Objective

The main objective of the lab course is to perform different tests for the understanding of the theory of the subject

Learning Outcomes

On completion of the course, students will be able to understand how different raw materials and parameters influence the process of extraction.

Exp. No.	Name of Experiment	Hours	Learning Outcome
1	To study the reduction behavior of iron ore pellets in the bed of coal/coke/graphite powder and CO gas used as the reductant.	3	Knowledge about the effect of reactivity on reduction
2	To determine the crushing strength and drop strength of green iron ore pellets by varying percentage (%) of bentonite (1, 2, 3, 4, 5) additives keeping 12% (OMC) moisture.	3	Knowledge about the effect of bentonite on pelletization.
3	Determine the crushing strength and drop strength of green iron ore pellets by varying % water addition (8, 9, 10, 12, and 14 %), keeping 2%Na-based bentonite.	3	Knowledge about the effect of moisture on pelletization.
4	Roasting kinetics of zinc sulfide at high temperature in an oxidizing atmosphere	3	Knowledge about the sulfating roasting
5	Determination of minimum fluidization velocity of a bed of solid particles and Pressure drop across a packed bed	3	Knowledge about the aerodynamics of the blast furnace
6	Effect of time on leaching of copper and determination of percent recovery	3	Knowledge about the effect of time on reaction during leaching
7	Effect of pulp density on leaching of copper and determination of percent recovery	3	Knowledge about the effect of pulp density on reaction during leaching
8	Solvent extraction of Cu and Zn with the determination of distribution co-efficient & separation factor	3	Knowledge about the effect of different media on the separation of desirable elements.
9	Study the effect of pH on solvent extraction of Cu	3	Knowledge about the effect of pH on reaction during leaching
10	Electrowinning of copper from copper sulphate solution	3	Knowledge about the effect of current on the separation of Cu
11	Estimation of copper from copper ore	3	Knowledge about the analytical analysis of elements
12	Estimation of percentage of the Fe and Silica in the given Iron-ore	3	Knowledge about the analytical analysis of elements