

VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, BURLA

Lesson plan

Semester: 7th

Subject: Mineral process Engineering

Lecture	Module	Topic
1	1	Introduction
2	1	Scope of mineral processing in extractive metallurgy.
3	1	Ores and mineral resources in India and worldwide for basic metals like iron, copper, aluminum, lead, and zinc.
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5	1	Physical properties
6	1	chemical characteristics of industrial minerals
7	1	Liberation and its significance
8	1	Size reduction
9	1	Size reduction
10	1	Crushing laws
11	1	Screening theory and equipment's
12	2	Classifiers: mechanical and hydraulic.
13	2	Crushing and grinding equipments
14	2	Gravity concentration methods
15	2	Tabling, jigging, heavy media separation
16	2	Hydrocyclones
17	2	spiral concentrators
18	2	Flotation: theory and equipments
19	2	Magnetic separation: HGMS, WHIMS, and SC-HGMS
20	2	Electrostatic separation: ion-bombardment and triboelectrostatic separators
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22	3	Sedimentation theory
23	3	Thickeners and clarifiers
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25	3	Thermal methods in processing of ores
26	3	Roasting, sintering, calcination,
27	3	pelletisation, and briquetting
28	3	Chemical and electrochemical methods in mineral processing
29	3	Chemical and electrochemical methods in mineral processing
30	3	Leaching – acid and bacterial leaching, amalgamation and cyanidation
31	3	Beneficiation flow sheets of coal,copper,lead,zinc
32	4	Beneficiation flow sheets-copper.
33	4	Beneficiation flow sheets-lead.
34	4	Beneficiation flow sheets-zinc.
35	4	Beneficiation flow sheets-iron.

Signature of the Faculty Member:

Date:

Counter Signature of H.O.D