

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma in Mining Engineering

Semester: 4

Subject Name Mine Sampling Assaying and Mineral Dressing

| Sr. No. | Course content |
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| 1. | MINE SAMPLING: 1.1 Definition, terms, purpose and various uses. 1.2 Different Sampling Methods. 1.3 Salting-purpose,safety against salting. 1.4 Reduction of sampling- Methods used. |
| 2. | ASSAYING: 2.1 Introduction - assaymap, assay plan factor, assay values, grade value, tenar, type of grade value. 2.2 Calculations based on average assay value. 2.3 Estimation of ore reserves. |
| 3. | MINERAL DRESSING: 3.1 Scope, objectives & limitations of Mineral Dressing. 3.2 Comminution. 3.3 Size separation. 3.4 Gravity concentration methods. 3.5 Introductory froth floatation. 3.6 Simplified flow sheets of coal, copper, Lead & zinc, iron, limestones. |
| 4. | Coal Benification Methods (Briefly) |

LABORATORY EXPERIENCES:

1. Study of sampling methods.
2. Study of constructional features of jaw crusher.
3. Study of different types of tumbling mills.
4. Study of froth floatation.
5. Study of Gravity concentration methods.
6. Study of magnetic separation.
7. Study of various flow sheets.

Reference Books:

| Sr. No. | Name of Books | Author |
|--------------------|----------------------|----------------|
| 1. | Mineral dressing | Gaudin |
| 2. | Mine economics | Sinha & Sharma |
| 3. | Element of mining | D.J.Deshmukh |
| 4. | U.M.S. | |
| 5. | Mine economics | A.Kumar |