



# GUJARAT TECHNOLOGICAL UNIVERSITY

**Bachelor of Engineering**

**Subject Code: 3172210**

**Semester – VII**

**Subject Name: Mine Mineral Economics**

**Type of course:** Mining

**Prerequisite:** Zeal to learn the subject.

**Rationale:** After learning the course the students will have knowledge about various inventories of minerals, aspects of mineral economics, mineral deposit and mining industries and also students will develop some skill in financial managements of mineral industry.

**Teaching and Examination Scheme:**

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE (E)	PA (M)	ESE (V)	PA (I)	
3	0	0	3	70	30	00	00	100

**Content:**

Sr. No.	Content	Total Hrs
1	<b>Introduction:</b> Economic importance of the mineral industry; mining economy, risky nature of the mining industry; State and the mining industry; national mineral policy.	5
2	<b>Mineral resource:</b> concept, classification and estimation. <b>Mineral inventory:</b> concept, characteristic features, composition and economic significance; estimation of life index. Mineral consumption and substitution; market survey and demand analysis. <b>Conservation of mineral resource:</b> scope and limitations.	8
3	<b>Loss of mineral in mining:</b> Classification and incorporation of losses; coefficient of completeness of mineral extraction; dilution and recovery.	4
4	<b>Mine Sampling:</b> Definition, purpose and scope; sampling methods and computations; Selection of sampling procedure, Size and Spacing of samples, Sample preparation, Errors in sampling.	6
5	<b>Cost of mining:</b> Capital and operating costs; factors affecting operating cost; methods of estimating future costs; standard cost and forecast; budget and budgetary control.	5
6	<b>Mine finance:</b> Capital –its importance, various forms and formation; mine accountancy and book keeping	4
7	<b>Mine examination and valuation:</b> Examination and valuation of mines/mineral properties, Different methods and their application, Depreciation, amortisation and redemption of capital, Hoskold's and modern concepts, Present value computation, Reports on valuation.	8
8	<b>Mine Taxation:</b> Meaning of taxation, Objectives of taxation, Principles of mines taxation, Mining taxation structure, Mineral sector taxation methods, Rationale for mining specific taxation, Mineral taxation in India and Abroad.	5



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**Suggested Specification table with Marks (Theory):**

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
65 %	20 %	10 %	2 %	2 %	1 %

**Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)**

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

**Reference Books:** 1. Mineral Economics by Chatterjee  
2. Mineral Economics by R.T.Deshmukh  
3. Valuation and Examination Of mineral Property by Parks  
4. Mine and Mineral Economics by S.C.Ray and I.N.Sinha

**Course Outcomes:**

Sr. No.	CO statement	Marks % weightage
CO-1	To make students conversant with importance of mineral economics.	30 %
CO-2	To make aware about the various financial aspects of mineral industry.	45 %
CO-3	To be competent in estimation and valuation of mineral deposits.	25 %