



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Bachelor of Engineering

Level: UG

Branch: Mining Engineering

Subject Code: BE04022041

Subject Name: Mine Legislation - I

w. e. f. Academic Year:	2024-25
Semester:	4
Category of the Course:	Professional Core Course

Prerequisite:	Mechanics of Solids
Rationale:	The course equips students with comprehensive knowledge of mining machineries used in surface and underground operations. It emphasizes the selection, operation, productivity, safety, and maintenance of equipment. Students gain insight into modern mechanization, automation, and technological advancements essential for efficient, economical, and sustainable mining practices in contemporary industry environments.

Course Outcomes:

Sr. No.	CO statement	Marks% weightage
CO-1	Learn and be conversant with state and central mining laws and mineral policies.	10
CO-2	To understand and gain in-depth knowledge of the Mines Act and associated acts.	10
CO-3	To understand the coal mine regulations and their effective implementation in mine working areas.	25
CO-4	To understand the coal mine rules and their effective implementation in mine working areas.	25

Teaching and Examination Scheme:

Teaching / Learning Scheme (in Hours per semester)					Total Credits	Assessment Pattern and Marks					Total Marks
L	T	P	PBL*	Total no of hours per semester		Theory		Tutorial / Practical			
						ESE (E)	PA / CA (M)	PA/C A (I)	PBL (I)	ESE (V)	
45	0	0	45	90	3	70	30	00	30	00	130

Content:

Sr. No.	Content	Total Hrs
1	Introduction General principles of mining laws, legislation and policy of Indian mines. Salient provisions of the mines; New Mineral Policy 2019	06



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	<p>Mines Act:</p> <p>The Mines Act, 1952: Preliminary, Inspectors and Certifying surgeons, committee, mining operations and management of mines. Provisions to health and safety. Hours and limitations of employment, leave with wages, Regulations and bylaws, penalties and procedures.</p> <p>Mines and Minerals (Development and Regulation) Act, 1952 and related rules: Mines and Minerals (Development & Regulation) Act, 1957, Mineral Concession Rules, 1960 and Mineral conservation and Development Rules. Salient provisions of the mines.</p> <p>The Coal Mines Act, 2015: Auction and allotment process; Nominated authority; classification of mines; revenue sharing; End-use flexibility; incentives; overriding effect.</p> <p>2 Explosive Act, 1884: Definitions; Category of explosive; types of licenses; license procedure; safety standards.</p> <p>Environmental Protection Act, 1986: Protecting and improving the overall quality of the environment and public health; Preventing, controlling, and abating environmental pollution; Regulating the handling of hazardous substances to ensure safety and compliance with proper safeguards; Establishing authorities with the mandate to enforce environmental standards and tackle specific environmental problems; Ensuring sustainable development by balancing economic progress with long-term environmental preservation.</p> <p>Land Acquisition, Rehabilitation & Resettlement Act, 2013 (LARR): Social Impact assessment (SIA); Rehabilitation and Resettlement (R&R); Protection for agricultural land.</p>	15
3	<p>Mine Regulations:</p> <p>Indian Bureau of Mines (IBM) Regulations: Approval of Mining Plans and Schemes, Mine Inspections, Mineral Valuation and Statistics, Sustainable Development Framework, Curbing Illegal Mining, and Regulation of Mineral Exchanges.</p> <p>Coal Mines Regulations – 2017: Definitions; risk assessment and safety management plan; duties and responsibilities; safety in opencast mines; Rules for</p>	16



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	explosive and blasting; Ventilation and environmental controls; Documentation and reporting; examinations and certifications; worker training.	
4	<p>Rules:</p> <p>Mineral Conservation and Development Rules (MCDR), 2017: Rules for scientific mining, environmental protection, mine plans, reporting, and conservation of minerals. Enforced by IBM.</p> <p>Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules (MCR), 2016: Process of mineral concession, royalty, dead rent, and auction procedures.</p> <p>Indian Explosives Rules, 2008: Regulate the storage, transportation, handling, and use of explosives in mining operations. Enforced by PESO.</p> <p>Indian Electricity Rules, 2005 (for Mines): Provide standards for safe installation, operation, and maintenance of electrical systems in mines.</p> <p>The Mines Rules, 1955: Preliminary, committee, court of enquiry, certifying surgeons, Medical Examination of persons employed. Workmen's inspector and safety committee, health and sanitation provision, first aid and medical appliance. Employment of persons, leave with wages and overtime. Welfare amenities, registers and notices.</p>	08
TOTAL		45

Suggested Specification table with Marks (Theory): (For B.E. only)

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
40	40	10	10	00	00

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.



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Reference Books:

S. No.	Titles	Author(s)	Publisher and Edition with ISBN
1.	Legislation in Indian Mines : A Critical Appraisal – Vol.I & II (Revised)	Prasad and Rakesh	Lovely Prakashan
2.	The Mines Act, 1952	Bare Act	Professional Book Publishers
3.	The Coal Mines Regulations 2017	Ch. Sharma	Brilliant Publisher
4.	The Mines Act, 1952	Ch. Sharma	Brilliant Publisher
5.	Encyclopedia of Mining Law	D. D. Seth	Law Publishers (India) Pvt. Ltd., Allahabad
6.	The Mines and Minerals (Development And Regulation) Act, 1957 (2021 Edition)	Bare Act	Commercial Law Publishers (India) Pvt. Ltd.
7.	Explosives Act 1884	Bare Act	Professional Book Publishers
6.	The Environment (Protection) Act, 1986	Bare Act	Professional Book Publishers
7.	Taxmann’s Right to Fair Compensation and Transparency in Land Acquisition Rehabilitation and Resettlement Act 2013 with Rules	Taxmann	Taxmann Publications Private Limited 978-9364557191
8.	The Mineral Conservation and Development Rules, 2017	Asia Law House	Asia Law House First Edition B07MKY9S2X
9.	The Electricity Rules, 2005 Alongwith Indian Electricity Rules, 1956	Professional	Professional Book Publishers
10.	The Mines Rules	L. C. Kaku	Lovely Prakashan Dhanbad 978-8179561287

List of Open-Source Software/learning website:

<https://www.youtube.com/watch?v=u1lwXkBP7Fc>

List of suggested activities for Problem Based Learning:

- a. **Assignments:** (Seminar Topics/ Visits/Self-Learning Topics) Questions/Problems/Numerical/Exercises to be provided by the course teacher in line with the targeted COs.)
 - i. Collect detailed data regarding acts, rules, and regulations incorporated prior to and after mining activities as a case study.
 - ii. Design a flow chart of the procedure for applying for a clearance certificate.
 - iii. Visit and understand the regulations and rules that are implemented in the mines for effective understanding.



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b. Micro Projects: A Suggested list of course-wise micro-projects is mentioned herewith

- i. Design the safety management plan for a mine.
- ii. Design the layout and sign to be used during safety operations.
- iii. Design a chart with the roles and responsibilities of mine official, officer, employers, and workers.
