



GUJARAT TECHNOLOGICAL UNIVERSITY

Master of Engineering

Subject Code: 3721718

Semester – II

Subject Name: ENVIRONMENTAL LEGISLATIONS & MANAGEMENT

Type of course: Applied Mathematics

Prerequisite: Fundamentals of Environmental Systems

Rationale: To understand the dynamics of environmental system and control the parameters causing deterioration of environment system

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	2	4	70	30	30	20	150

Content:

Sr. No.	Content	Total Hrs
1	Environmental Legislations: Need for environmental legislation, National and state level legislation for prevention of air water and land pollution. Environmental Rules related Environmental Protection enacted in India Functions of water and air pollution control boards. Difficulties encountered in enforcing legislation, Environmental pollution monitoring	14
2	Constitution of India and Environmental Protection: Provisions made in the Indian Constitution for Environmental Protection. Duty of citizens Indian Penal Code on Environmental Protection	08
3	Environmental Audit: Concept and Objectives, Comparison with Environmental Impact Assessment, Applicability of environmental audit to industries, roles and responsibilities of	06



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	environmental auditor, Methodologies and benefits. Certification for Environmental Management System, International Standards For Environmental management, ISO – 14000, NABL accreditation environmental laboratories	
4	Energy conservation in building: Energy efficient buildings, Green buildings, Intelligent Buildings, Various energy efficiency systems for buildings – LEEDS, GRIHA Rating system Energy conservation building code.	08
5	Clean Development Mechanism (CDM): Concept and objectives of CDM, methodology and procedures for CDM, Eligibility Criteria, UNFCCC, Role of UNFCC and Government of India. Role of National Green Tribunal (NGT) in cleaner development.	08

Reference Books:

1. Pollution Control Acts, Rules and Notification Thereunder : Published by central pollution control
2. Environmental Law and Policy In India by Armin Rosencranz, Shyam Diwan and Martha I Noble Tripathi publisher in association with The book review Literary Trust , New Delhi
3. Environmental Law by Bouwer - McGraw Hill
4. Indian Penal Code Ratanlal & Dhirajlal, 32nd edition, reprint 2014
5. The Indian Penal Code, 45 of 1860 (with New Amendments w.e.f. 3-2-2013) (Latest Bare Act): Universal Law Publishing Co.
6. ECBC code 2007 (Edition 2008 published by bureau of energy efficiency New Delhi)
7. Bureau of energy efficiency publications – Rating Systems.
8. TERI Publications rating systems – TERI Publications GRIHA Rating systems. LEEDS Publications.

Course Outcomes:

Sr. No.	CO statement	Marks % weightage
CO-1	To understand the provisions made in constitution related environmental issues	20%
CO-2	To evaluate the Environmental audit scheme and its contribution to overall abatement of pollution.	30%



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CO-3	To assess the building from energy and resource conservation point of view.	30%
CO-4	To study cleaner development mechanisms and its implementation.	20%

List of Experiments:

Term work will comprise of assignment and exercises based on mass balances, Basic concepts of transport phenomena, chemical modeling, Eutrophication of lakes, Conventional pollutants in rivers, ground water contamination.

List of Open Source Software/learning website:

1. <https://nptel.ac.in/>