

M. Tech. I Semester II

Subject Name: Environmental Impact Assessment and Legislation

Subject Code: MTEN14201

Type of course: PE-III

Prerequisite: Basics of Environmental Engineering

Rationale: The purpose of EIA is to identify potential environmental impacts from proposals, such as projects and programs, and to propose means to avoid or reduce the significant impacts.

Teaching and Examination Scheme:

TEACHING SCHEME				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	150
3	0	2	4	60	25	15	30	20	

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests) **CA2:** Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems **TEE:** Term End Examination **TEP:** Term End Practical Exam (Performance and viva on practical skills learned in course) **CA3:** Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course

Content:

Sr. No.	Topics	Teaching Hrs.	Module Weightage
1.	Basic Concept of EIA: Introduction, Historical development of Environmental Impact Assessment (EIA), Stages Of EIA, General Structure of EIA, Concept of Sustainable development, Types and limitations of EIA , EIS, EIA legislative and Environmental clearance procedures in India, EIA Notification by MOEF, Significance of public participation / hearing in EIA.	12	28%
2.	Methods for Impact Identification and Prediction: Baseline collection of data, Significant impacts Assessment of impacts of physical, biological and socio – economic environment, Impact prediction tools / techniques such as adhoc method ,checklist method, Matrices method, Networks method, Connections and combinations of processes ,Cost benefit analysis, Report preparation, EIA methods in other countries, EIA case studies / histories for industrial projects, water resources and irrigation projects, ports and harbours – mining, transportation and other projects sectors.	14	32%
3.	Environmental Legislations: Need for environmental legislation, National and state level legislation for prevention of air water and land pollution.	10	25%

	Environmental Rules related Environmental Protection enacted in India Functions of water and air pollution control boards basics of Environment Act.		
4.	Environmental Audit: Concept and Objectives, Comparison with Environmental Impact Assessment, Applicability of environmental audit to industries, roles and responsibilities of environmental auditor, Methodologies and benefits. Certification for Environmental Management System, International Standards For Environmental management, ISO – 14000,LCA, CDM.	06	15%

Suggested Specification table with Marks (Theory/Practical):

% Distribution of Marks					
R Level	U Level	A Level	N Level	E Level	C Level
15	10	15	25	25	10

Legends: R: Remembrance, **U:** Understanding; **A:** Application, **N:** Analyze, **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 Text Books:

Sr no	Title of book /article	Author(s)	Publisher and details like ISBN	Year of publication	Publication Edition
1	Environmental Impact Assessment	Dr. N. S. Raman and Dr. Y. R. M Rao	Laxmi Publications Pvt Ltd ISBN: 978-9352740925	2018	First
2	Environmental Engineering and Management	Suresh K. Dhameja	S. K. Kataria & Sons, Delhi	2004	-
3	Environmental Law and Policy In India: Cases, Material & Statutes	Armin Rosencranz, Shyam Diwan	Oxford ISBN:978-0195661736	2002	Second
4.	Pollution Control Acts, Rules and Notification issued	Central pollution control	Central pollution control	2006	Fifth
5.	Theory and Practice of Environmental Impact assessment	Abbasi and Ramesh	Discovery Publishing House	2003	-

6.	Environmental Impact Assessment	Shrivastava	APH ISBN:978-8176484428	2003	-
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Course Outcome:

Sr. No.	CO statement	Marks % weightage
CO-1	Critically review an EIA document for completeness and adequacy. (R,U,E cognitive level)	25
CO-2	Analyse proposed development project plans for possible environmental effects and prepare appropriate initial studies. (U,N,E cognitive level)	15
CO-3	Utilize EIA documents for policy development, project planning or for legal or political action planning. (N,E cognitive level)	20
CO-4	To evaluate the Environmental audit scheme and its contribution to overall abatement of pollution.(N,E cognitive level)	25
CO-5	To understand different legislation and ACT for Environmental Pollution.(R,U cognitive level)	15

LIST OF PRACTICALS:

1. Delphi technique for assigning significance to Environmental Attributes.
2. Different methods of Impact analysis
3. Study of Existing EIA report for Infrastructure Project
4. Study of Public hearing notice
5. Comparative study of EIA in worldwide scenario
6. To assess the impact on a recently constructed project.
7. Visit to a Project site/ Office of EIA expert