



GUJARAT TECHNOLOGICAL UNIVERSITY

Master of Engineering

Subject Code: 3721801

Semester – II

Subject Name: ENVIRONMENTAL IMPACT ASSESSMENT

Type of course: Environmental Management

Prerequisite: Basics of Environmental Components, Sustainable Development

Rationale: Carrying out EIA & preparing EIA report forms one of the basic requirements of environmental engineer

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 Management: Introduction, Environment and Development, Sustainable development; managing the environment, essentials of an environment policy and environment act, Environmental issues, priority tradeoffs and scanning approach priority settings.	6
2	Concept of Environmental Impact Assessment: Concept of Environment; Concept of Environmental impact Analysis and assessment; development of Environmental Impact Assessment, legislative basis, detailed contents of EIA/EIS; Environmental attributes.	4
3	Institutional aspects of Environmental Assessment: Interagency coordinates, enrolment of affected groups, and local NGOs, Strengthening capabilities financial intermediately lancing	4
4	Management of Environmental Assessment, cost and time to prepare EIA, sources of financing, and procurement of consultants.	2
5	Environmental costs and benefits: Estimation of market value of environmental components, analysis of projects and policies with consideration of environmental cost and benefits, priority values and value function graphs, valuing the impacts in monetary terms, monetary objective decision making, issues of risk and uncertainty.	4
6	Impact assessment methodologies: Choosing a methodology, categorizing methodologies, review criteria, different assessment methods with relevant examples.	10



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7	Case histories: Case histories related to power generation and transmissions, transportation, water resources development, mining, oil exploration, water and wastewater treatment plants, airports, ports and harbours etc.	6
8	Public hearing and the law, role of NGO in public hearing.	2
9	Strategic Environmental Impact Assessment: Concept of SEA, application of SEA in the field, developing the SEA document, case studies of SEA in different countries.	2
10	Application of GIS in carrying out EIA.	2

Reference Books:

1. Handbook of EIA : By Rau Whooten
2. Environmental Impact Assessment: By Larry Canter
3. Environmental Impact Analysis - a Decision Making Tool: By R K Jain
4. Handbook of Environment Impact Assessment: By Judith Petts.
5. Theory and Practice of Environmental Impact assessment: By Abbasi and Ramesh
6. Environmental Impact Assessment: By Shrivastava

Course Outcomes:

Sr. No.	CO statement	Marks % weightage
CO-1	Identify and evaluate the Environmental impacts of particular project	25%
CO-2	Assessment of impacts using different methods	25%
CO-3	Suggest the mitigation measures for Environmental impacts	25%
CO-4	Prepare EIA reports	25%

List of Experiments/Tutorials:

Term Work will comprise of assignments, exercises and quiz based on basic concepts, interaction matrices, EIA methods and case studies.

Major Equipment: -----

List of Open Source Software/learning website:

envfor.nic.in/