

GUJARAT TECHNOLOGICAL UNIVERSITY

ENVIRONMENTAL ENGINEERING (17)

ENVIRONMENTAL IMPACT ASSESSMENT

SUBJECT CODE: 2711708

SEMESTER: I

Type of course: Engineering and Technology

Prerequisite: Sustainable Development, environmental studies, environmental statement etc.

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			Credits C	Examination Marks						Total Marks
L	T	P		Theory Marks		Practical Marks				
			ESE (E)	PA (M)	PA (V)		PA (I)			
					ESE	OEP	PA	RP		
3	2	2	5	70	30	20	10	20	0	150

Content:

Sr. No.	Content	Total Hrs	% Weightage
1	Evolution of EIA: Concepts, Methodologies, Screening, Scoping, Base line studies, Mitigation,.	4	10
2	Methods of Analysis of Impacts on Environment : Adhoc , Checklist, Matrix, Network, environmental Media quality Index Method, Cost Benefit Analysis	8	19
3	Public Participation: Concept, Public hearing procedure and guidelines, role of NGO in public hearing.	6	14
4	Practical Considerations: Economic development and environmental degradation. Practical consideration in impact assessment	4	9
5	Location of Industries: Environmental impacts of typical industries, power plants, large projects, present scenario of various government resolutions on selecting the location of industries, environmental point of view.	6	14
6	Case studies of Engineering Projects like Energy Generation Projects both thermal and Hydal, Infrastructure projects, Power Transmission, Mining etc.	6	14
7	EIA notification by Ministry of Environment and Forest (Govt. of India): Provisions in the EIA notification, Categorization of Industries for seeking environmental clearance from concerned authorities, procedure for environmental clearance, procedure for conducting EIA report, Rapid and Comprehensive EIA, general structure of EIA document, Environmental management plan, post environmental	8	20

Reference Books:

1. Environmental Impact Assessment: By Larry Canter, Mc Graw Hill Pub.
2. Handbook of EIA by John Ray and Rau Whooten
3. Environmental Impact Analysis - a Decision Making Tool: By R K Jain, L. V. Urban and G.S. Stacey
Publishers : van Nostrand reinhold New York
4. Handbook of Environment Impact Assessment: By Judith Prett
5. Theory and Practice of Environmental Impact assessment: By Abbasi and Ramesh
6. Environmental Impact Assessment: By Shrivastava
7. Environmental Impact Assessment and Statement. John E. Heer, Joseph Hoggerty

Course Outcome:

Upon completion of this course student s will be able to:

- Prepare portions of environmental documents through administrative and legal Requirements and standards of professional practice
- Fully participate in interdisciplinary environmental report preparation teams
- Critically review an EIA document for completeness and adequacy.
- Analyze proposed development project plans for possible environmental effects and prepare appropriate initial studies.
- Utilize EIA documents for policy development, project planning or for legal or political action planning.

List of Exercise / Practice:

1. Delphi technique for assigning significance to Environmental Attributes
2. Adhoc Method of EIA
3. Matrices Method of EIA
4. Network Method of EIA
5. Overlays Method of EIA
6. Visit to a Project site/ Office of EIA expert
7. Collection data of Environmental attributes of project ongoing near by
8. A report of EIA is to be prepared by a student on the project of his specilization

Design based Problems (DP)/Open Ended Problem: ---

Major Equipments: ----

List of Open Source Software/learning website:

- http://eia.unu.edu/course/index.html%3Fpage_id=173.html
- <http://elearning.vtu.ac.in/>