

19CE4702E – ENVIRONMENTAL IMPACT ASSESSMENT

Course Category:	Program Elective	Credits:	3
Course Type:	Theory	Lecture-Tutorial-Practical:	3-0-0
Prerequisites:	19CE3404- Environmental Engineering, 19MC1301 - Environmental Science	Continuous Evaluation:	30
		Semester End Evaluation:	70
		Total Marks:	100

Course Outcomes

Upon successful completion of the course, the student will be able to:

CO1	Understanding of the elements of EIA and criteria for the selection of EIA methodology in different methods.	K2
CO2	Assess Impacts on surface water environment, air pollution sources, and suggest appropriate mitigation measures.	K3
CO3	Comprehend Impact of development activities on vegetation & wildlife and prepare environmental audit report.	K2
CO4	Demonstrate the options to estimate environmental laws.	K2
CO5	Analyze proposed development project case studies for possible environmental effects and prepare environmental impact assessment report for various industries.	K4

Contribution of Course Outcomes towards achievement of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2					3	3				2		3	2
CO2	2					3	3				2		3	2
CO3	2					3	3				2		3	2
CO4	2					3	3				2		3	2
CO5	2					3	3				2		3	2
Avg.	2					3	3				2		3	2

1- Low

2-Medium

3-High

Course Content

UNIT-1	INTRODUCTION TO EIA & METHODOLOGIES: Basic concept of EIA, Initial environmental Examination, factors affecting the EIA, Impact evaluation and analysis, preparation of Environmental Base map, Classification of environmental parameters. Introduction, Criteria for the selection of EIA Methodology, EIA Methods, Ad-hoc methods, Network method, Environmental Media Quality Index method, Overlay methods, Cost/benefit Analysis	CO1.
UNIT-2	PREDICTION AND ASSESSMENT OF IMPACTS ON GROUND WATER ENVIRONMENT & SURFACE WATER & SOIL & AIR POLLUTION IMPACTS: Impact of Developmental Activities and Land use, Introduction and Methodology for the assessment of soil and ground water, Delineation of study area, Identification of actives. E I A in surface water, Air pollution. Methodology for the assessment of Impacts on surface water environment, Air pollution sources. Generalized approach for Assessment of Air Pollution Impacts.	CO2.
UNIT-3	DEFORESTATION & ENVIRONMENTAL AUDIT: Assessment of Impact of development Activities on Vegetation and wildlife, Environmental Impact of Deforestation –Causes and effects of deforestation. Environmental Audit and objectives & types of environmental Audit, Audit protocol, stages of Environmental Audit, onsite activities, evaluation of Audit data and preparation of Audit report.	CO3
UNIT-4	POST AUDIT ACTIVITIES The Environmental pollution Act, The water Act, The Air (Prevention & Control	CO4

	of Pollution Act.), Mota Act, Wild life Act.	
UNIT-5	EIA CASE STUDIES & MANAGEMENT REQUIREMENTS FOR THE PREPARATION OF EIA OF INDUSTRIAL PROJECTS Case studies on Land Use/ Land Cover, Development Projects for Initial Environmental Examination, Assessment of Impacts of Traffic & Transportation, and Preparation of Environmental Impact Assessment statement for various Industries.	CO5
Learning Resources		
Text Books	1. Environmental Impact Assessment Methodologies by Y.Anjaneyulu, B.S. Publication, Sultan Bazar, Kakinada.	
Reference Books	2. Environmental Science and Engineering, (2nd edition) by Glynn, J. and Gary, W. Hein Ke., Prentice Hall Publishers, 1996.	
e-Resources& other digital material	1. Environmental Science and Engineering by Suresh, K. Dhaneja S.K. Katania& Sons Publication, New Delhi.	