**K.E.Society’s**

**Rajarambapu Institute of Technology, Rajaramnagar**

(An Autonomous Institute)

**B. Tech. (Civil Engineering)**

Final Year B. Tech – Sem. VIII

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| **Course Code** | **Course** | **Teaching Scheme** | | | | **Evaluation Scheme** | | | | |
| **L** | **T** | **P** | **Cr** | **Scheme** | **Theory (Marks %)** | | **Practical (Marks %)** | |
| Max | Min. for passing | Max | Min. for passing |
| OE 413 | Environmental Impact Assessment | 3 | - | - | 3 | ISE | 20 | 40 | - | - |
| UT1 | 15 |
| UT2 | 15 |
| ESE | 50 |
|  | **TOTAL** | **03** |  | **-** | **03** |  |  |  |  |  |

**Course Description:-**

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| Environmental impact assessment (EIA) is offered as open Elective for Undergraduate course (B. Tech) semester VIII, It deals with definitions and concepts, rationale and historical development of EIA, EIA in Engineering, Initial environmental examination, environmental impact statement, environmental appraisal, environmental impact factors and areas of consideration, measurement of environmental impact, organization, scope and methodologies of EIA, status of EIA in India. |
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**Course Objectives (CO)**

**Student should able to**

1. To study and apply EIA methods.
2. To analyse the all projects by using Environmental Impact assessment tool.
3. To provide solution for decision making in Industrial development Problem.
4. To prepare EIA report for submission to concerned authority.

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| **UNIT 1**  **Evolution of EIA**: Environmental Impact Assessment: Introduction, Stages Of EIA, Origin of EIA, Establishments of Procedure: Legislative Option, Project Screening for EIA, Methods, Projects thresholds, Sensitive area criteria Matrices .Scope studies for Environmental Impact Studies (EIS). Preparation for EIS Planning, Public Participation and Review of EIS. | **06** |
| **UNIT 2**  **Methods for impact assessment**: Background information, interaction matrix  methodologies, network methodologies, mathematical modelling, environmental setting, environmental impact assessment methodology, documentation and selection process, environmental indices and indicators for describing affected environment, Life cycle assessment | **06** |
| **UNIT 3**  **Prediction and assessment of impact for air and noise environment**: Basic information of air quality, identification of type and quantity of air pollutant, existing air quality and air quality standards, impact prediction and assessment, mitigation. Basic information of noise, existing noise levels and standards, prediction of noise levels and assessment of impact, mitigations | **06** |
| **UNIT 4**  **Prediction and assessment of impact for water and soil environment**: Basic information of water quality (Surface water and ground water), water quality standards, identification of impact, prediction of impact and assessment, mitigations. Background information of soil environment, soil and ground water standards,  prediction and assessment of impact for ground water and soil, mitigations. | **06** |
| **UNIT 5**  **Prediction and assessment of impact on cultural and socioeconomic environment**:  Basic information on cultural resources, rules and regulations for cultural resources like archaeological, historical structures, Cultural system, prediction and assessment of impact, mitigations. Basic information of socioeconomic environment, description of existing socioeconomic environment, prediction and assessment of impact, mitigation, resettlement and rehabilitation. | **06** |
| **UNIT 6:**  **Decision Methods for Evaluation of Alternative**:  Categorization of Industries for seeking environmental clearance from concerned authorities, procedure for environmental clearance, procedure for conducting environmental impact assessment report, Rapid and Comprehensive EIA, general structure of EIA document, Environmental management plan, post environmental  monitoring. | **06** |

**REFERENCE BOOKS:**

1. Canter R.L., Environmental Impact Assessment, McGraw Hill International Edition, 1997.

2. John G. Rau and David C. Wooten (Ed), Environmental Impact Analysis Handbook,

McGraw Hill Book Company.

3. Environmental Impact Assesment By R.RBarthwal (New Age Intenational Publishers)

4. Environmental Impact Assesment By Abbasi

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| **Examination Scheme** |  |
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