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| <b>B.Tech.</b> | <b>IV Year</b> | <b>L</b> | <b>T</b> | <b>P</b> | <b>To</b> | <b>C</b> |
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**CE422 ENVIRONMENTAL IMPACT ASSESSMENT****(Dept. Elective - VI)****Course Description and Objective:**

The course is designed to know the various environmental aspects like assessment of soil, surface water environment, impact of air pollution, which are essential to consider before establishment of any civil engineering projects at a particular location. It also deals with different legislative acts and environment audits regarding selection of location of the project.

**Course Outcomes:**

- Identify the environmental attributes to be considered for the EIA study
- Formulate objectives of the EIA studies
- Identify the methodology to prepare rapid EIA
- Prepare EIA reports and environmental management plans

**UNIT – I**

**Basic concepts of EIA :** Initial Environmental Examination; Elements of EIA; Factors affecting EIA; Impact evaluation and analysis; Preparation of Environmental Base map; Classification of Environmental parameters. EIA Methodologies; Introduction; criteria for the selection of EIA Methodology; EIA Methods: Ad-hoc methods, Matrix methods, Network method, Environmental media quality index method; Overlay methods; Cost/benefit Analysis.

**UNIT – II**

**Impact of Developmental Activities and Land Use :** Introduction and Methodology for the assessment of soil and ground water; Delineation of study area; Identification of activities. Procurement of relevant soil quality; Impact prediction; Assessment of Impact significance; Identification and Incorporation of mitigation measures.

**UNIT – III**

**EIA in surface water, Air and Biological Environment** : Methodology for the assessment of Impacts on surface water environment; Air pollution sources; Generalized approach for assessment of Air pollution Impact. Assessment of Impact of Development activities on vegetation and wildlife; Environmental Impact of Deforestation; Causes and effects of deforestation.

**UNIT - IV**

**Environmental Audit and Environmental legislation** : Objectives of Environmental Audit; Types of Environmental Audit; audit protocol; stages of Environmental Audit; On-site activities; Evaluation of Audit data and preparation of Audit report.

**UNIT - V**

**Post Audit activities**; The Environmental Pollution Act, The Water Act; The Air (Prevention and Control of Pollution) Act; Wild life protection Act. Case Studies and preparation of Environmental Impact Assessment statement for various industries.

**TEXT BOOK :**

1. Y. Anjaneyulu; "Environmental Impact Assessment Methodologies", Vol-I, 2<sup>nd</sup> ed., B.S. Publication, Sultan Bazar, Hyderabad, 2007.

**REFERENCE BOOKS :**

1. J. Glynn and Gary W. Hein Ke, "Environmental Science and Engineering", Vol-I, 3<sup>rd</sup> ed., Prentice Hall Publishers, 1998.
2. K. Dhameja, S.K. Kataria, "Environmental Science and Engineering", Vol-II, 2<sup>nd</sup> ed., Suresh & Sons Publications, New Delhi, 2001.
3. Dr. H.S. Bhatia, "Environmental Pollution and Control", Vol-I, 4<sup>th</sup> ed., Galgotia Publications Pvt. Ltd., 1998.