

### ***CEOE-001: Environmental Impact Assessment***

<b>L</b>	<b>T</b>	<b>P</b>	<b>Credit</b>
<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>

**Course Outcomes:** At the end of the course, the student will be able to:

<b>CEOE-001.1</b>	Demonstrate the understanding of concept of Sustainable Development and justify the methods of achieving SD.
<b>CEOE-001.2</b>	Appreciate the importance of EIA as an integral part of planning process
<b>CEOE-001.3</b>	Enumerate the role of public participation in environmental decision making process and characterize environmental attributes

#### **Mapping of course outcomes with Program Outcomes**

CO	PO1: Engineering knowledge	PO2 Problem analysis	PO3:Design/development of solutions	PO4:Conduct investigations of complex problems	PO5:Modern tool usage	PO6: The engineer and society	PO7:Environment and sustainability	PO8:Ethics	PO9:Individual and team work	PO10:Communication	PO11:Project management and finance	PO12:Life-long learning
<b>CEOE-001.1</b>	3	1			2				3			3
<b>CEOE-001.2</b>	3	1			2				3			3
<b>CEOE-001.3</b>	3	1							3			3

#### **Unit-I: Sustainable Development:**

- 1.1 Logic of Sustainable Development;
- 1.2 Methods to Achieve Sustainable Development Concepts.

#### **Concepts of Environmental Impact Assessment:**

- 1.3 Environmental Impacts;
- 1.4 Environmental Impact Analysis;
- 1.5 Environmental Impact Assessment
- 1.6 EIA- as an Integral Part of the Planning Process

**Unit-II: Detailed Contents of EIA:**

- 2.1 Introduction;
- 2.2 Project Description;
- 2.3 Description of The Environment;
- 2.4 Anticipated Environmental Impacts and Mitigation Measures;
- 2.5 Analysis of Alternatives;
- 2.6 Environmental Monitoring Programme;
- 2.7 Additional studies;
- 2.8 Project Benefits;
- 2.9 Environmental Cost Benefit Analysis;
- 2.10 EMP; Summary.

**Unit-III: Environment Attributes:**

- 3.1 Air; Water; Noise; Land And Soil ; Socioeconomic; Cultural & Biological
- 3.2 Purposes for defining the Environmental Setting;
- 3.3 Selection of parameters, Monitoring of Physical Environmental Parameters,
- 3.4 Collection and Interpretation of baseline data for various environmental attributes.
- 3.5 Prediction and Methods of Assessment of Impacts on Various Aspects of Environment;
- 3.6 Application of various models for the Prediction of impact on Air Environment, Water Environment, Noise Environment and Land
- 3.7 Public participation in environmental decision making process.
- 3.8 EIA Notification September 2006 and Amendments : Categorization of projects, Procedure for getting environmental clearance
- 3.9 Case Studies: EIA for Chemical Industry, Construction Project, Mining Project
- 3.10 Environmental Management Plan

**Text / Reference Books:**

1. Rau Whooten, Environmental Impact Analysis Handbook; McGraw Hill publications
2. Larry Canter, Environmental Impact Assessment ; McGraw Hill publications
3. R K Jain, Environmental Impact Analysis – A Decision Making Tool
4. Judith Petts, Handbook of Environment Impact Assessment; McGraw Hill publications