# ENVIRONMENTAL STUDIES

[As per Choice Based Credit System (CBCS) scheme]
(Effective from the academic year 2015 -2016)

## SEMESTER - I/II

<table>
<thead>
<tr>
<th>Subject Code</th>
<th>IA Marks</th>
<th>Exam Marks</th>
<th>Exam Hours</th>
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<tr>
<td>15CIV18/15CIV28</td>
<td>20</td>
<td>80</td>
<td>03</td>
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### CREDITS – 01

**Course Objectives:**
1. Recognize major concepts in environmental sciences and demonstrate in-depth understanding of the environment.
2. Develop analytical skills, critical thinking, and demonstrate problem-solving skills using scientific techniques.
3. Demonstrate the knowledge and training for entering graduate or professional schools, or the job market.

## Module - 1

- Introduction: Environment - Components of Environment
- Ecosystem: Types & Structure of Ecosystem, Balanced ecosystem
- Human Activities – Food, Shelter, And Economic & Social Security.  

2 Hours

- Impacts of Agriculture & Housing
- Impacts of Industry, Mining & Transportation
- Environmental Impact Assessment, Sustainable Development.

3 Hours

## Module - 2

- Natural Resources, Water resources – Availability & Quality aspects, Water borne diseases & water induced diseases, Fluoride problem in drinking water
- Mineral resources, Forest

2 Hours

- Energy – Different types of energy, Conventional sources & Non Conventional sources of energy
- Solar energy, Hydro electric energy, Wind Energy, Nuclear energy, Biomass & Biogas
- Fossil Fuels, Hydrogen as an alternative energy.

3 Hours

## Module -3
## Course Outline:

### Module - 1
Environmental Pollution – Water Pollution, Noise pollution, Land Pollution, Public Health Aspects. **2 Hours**

### Module - 4
Air Pollution & Automobile Pollution: Definition, Effects – Global Warming, Acid rain & Ozone layer depletion, controlling measures. **3 Hours**
Solid Waste Management, E-Waste Management & Biomedical Waste Management - Sources, Characteristics & Disposal methods. **2 Hours**

### Module - 5
Introduction to GIS & Remote sensing, Applications of GIS & Remote Sensing in Environmental Engineering Practices. **2 Hours**
Environmental Acts & Regulations, Role of government, Legal aspects, Role of Non-governmental Organizations (NGOs), Environmental Education & Women Education. **3 Hours**

### Course Outcome:
Students will be able to,

1. Understand the principles of ecology and environmental issues that apply to air, land, and water issues on a global scale,
2. Develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment,
3. Demonstrate ecology knowledge of a complex relationship between predators, prey, and the plant community,
4. Apply their ecological knowledge to illustrate and graph a problem and describe the realities that managers face when dealing with complex issues

### Text Books:

3. R Rajagopalan, “Environmental Studies – From Crisis to Cure”, Oxford University Press, 2005,

Reference Books: