

## **Environmental Studies**

Subject Code: **FC 4030**

Semester: **IV (UG)**

Credit: **1**

Category: **FC**

No. of Hours / Week: **3**

### **Course Outline:**

This formation programme prepares students to: analyze major environmental concerns; and work towards sustainability. The central focus of this programme is to enable students to develop a sense of belongingness with nature. The students will undergo a formation process through which they will be able to analyze how anthropocentric activities affect or cause threat to the environment and the living conditions of other species in the planet.

### **Course Objective:**

- Connect themselves with nature (GLOCAL-local to global)
- Identify the environmental problems and offer alternatives by making interventions both individually and collectively

### **Unit 1 : Multidisciplinary nature of environmental studies**

- a) Definition, scope and importance, need for public awareness.

### **Unit 2 : Natural Resources : Renewable and Non-Renewable resources**

- a) Natural resources and associated problems.
- b) Forest, water, mineral, food, energy and land resource
- c) Role of an individual in conservation of natural resources.
- d) Equitable use of resources for sustainable lifestyles

### **Unit 3 : Ecosystems**

- a) Concept, Structure and function of an ecosystem.
- b) Producers, consumers and decomposers.
- c) Energy flow in the ecosystem.
- d) Ecological succession, Food chains, food webs and ecological pyramids.

### **Unit 4 : Biodiversity and its conservation**

- a) Introduction – Definition: genetic, species and ecosystem diversity.
- b) Biogeographical classification of India
- c) Value of biodiversity : consumptive use, productive use, social, ethical, aesthetic and option values
- d) Biodiversity at global, National and local levels.
- e) India as a mega-diversity nation
- f) Hot-spots of biodiversity.
- g) Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.

- h) Endangered and endemic species of India
- i) Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

#### **Unit 5 : Environmental Pollution**

- a) Definition, Cause, effects and control measures of :-
- b) Air, Water, Soil, Marine, Noise, Thermal pollution and Nuclear hazards
- c) Solid waste Management : Causes, effects and control measures of urban and
- d) Industrial wastes.
- e) Role of an individual in prevention of pollution.
- f) Pollution case studies.
- g) Disaster management : floods, earthquake, cyclone and landslides

#### **Unit 6 : Social Issues and the Environment**

- a) From Unsustainable to Sustainable development
- b) Urban problems related to energy
- c) Water conservation, rain water harvesting, watershed management
- d) Resettlement and rehabilitation of people; its problems and concerns. Case Studies
- e) Environmental ethics: Issues and possible solutions.
- f) Climate change, global warming, acid rain, ozone layer depletion, nuclear
- g) Accidents and holocaust. Case Studies.
- h) Wasteland reclamation.
- i) Consumerism and waste products.
- j) Environmental Acts and issues involved in enforcement of environmental legislation.

#### **Unit 7 : Human Population and the Environment**

- a) Population growth, variation among nations.
- b) Population explosion – Family Welfare Programme.
- c) Environment and human health.
- d) Human Rights.
- e) Value Education.
- f) HIV/AIDS.
- g) Women and Child Welfare.
- h) Role of Information Technology in Environment and human health.
- i) Case Studies.