

Subject Code: 1ET1000104	Subject Title: Environmental Studies
Pre-requisite Subject	Basic information about natural systems sustaining the life on the earth

Course Objective:

To inculcate the environmental values translating into pro-conservation actions. Honorable Supreme Court of India has made it 'mandatory' to introduce a basic course on environment at the undergraduate level.

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture	Tutorial	Practical	Credit	Theory		Practical		Theory
				Continuous Assessment	University Assessment	Continuous Assessment	University Assessment	
3	-	-	3	70	30	-	-	100

Subject Contents			
Sr. No	Topic	Total Hours	Weight (%)
1	Introduction of Environment Definition and Components of Environment, Relationship between the different components of Environment, Impact of technology on Environment, Environmental Degradation and Importance of Environmental issues in current scenario.	04	8
2	Ecology and Ecosystem Introduction : Ecology - Objectives and Classification , Concept of an ecosystem-structure and functions of ecosystem Components of ecosystem- Producers, Consumers, Decomposers Bio-Geo- Chemical Cycles- Hydrologic Cycle, Carbon cycle, Energy Flow in Ecosystem, Food Chains, Food webs ,Ecological Pyramids Major Ecosystems: Forest Ecosystem, Grassland Ecosystem, Desert Ecosystem, Aquatic Ecosystem, Estuarine Ecosystem.	08	15
3	Natural Resources (a) Renewable and Nonrenewable resources, exploitation and conservation, Role of individual in conservation of natural resources. (b) Water resources: Water sources- Surface and Ground water Sources, Indian and Global scenario. (c) Land as a resource, social issues (d) Forest resources: Definition and Classification of Forests Ecological and Economic importance and benefits of forest, Indian scenario, Deforestation: causes and effects, remedial measures. (e) Energy resources: Conventional and Non-conventional sources of energy, Advantages and Limitations, Utilization, Exploitation and related Environmental problems.	07	20
4	Human Population and Environmental Degradation Population Growth, World and Indian scenario, Population and Environmental Degradation, Malthusian theory, Optimum theory, Population explosion – Causes, Effects and Control.	06	16
5	Environmental pollution Types of Environmental Pollution: (a) Water Pollution: Introduction – Water Quality Standards, Sources of Water Pollution: Industrial ,Agricultural, Municipal; Classification of water pollutants, Effects of water pollutants, Eutrophication. (b) Air Pollution: Composition of air, Structure of atmosphere, Ambient Air Quality	10	26

	Standards, Classification of air pollutants, Sources of common air pollutants like PM, SO ₂ , NO _x , Natural & Anthropogenic Sources, Effects of common air pollutants (c) Land Pollution: Land uses, Land degradation: causes, effects and control, soil erosion (d) Noise Pollution: Introduction, Sound and Noise, Noise measurements, Causes and Effects (e) Thermal Pollution: Causes and effects (f) Role of individual in the prevention of pollution		
6	Global Environmental Issues And Legislation Global Environmental Issues: Climate Change, Global Warming and Green House Effect, Acid Rain, Depletion of Ozone layer. Environmental Acts : Water, land, air and forest. Environmental awareness and ethics.	07	15

Course Outcome : On the successful completion of the course the students will be able :

To acquire basic knowledge and understand about environment and its related recent problems.

To identify different environmental issues facing by human.

To create awareness amongst the society.

List of References:

1. Environmental Studies: R. Rajagopalan, Oxford University Press
2. Environmental Pollution: Causes, Effects & Control by K.C Agrawal
3. Environmental Sciences by Daniel B Botkin & Edward A Keller Publisher: John Wiley & Sons.
4. Environmental Studies by Dr. Suresh K Dhameja, Published by : S K Kataria & Sons New Delhi
5. Basics of Environmental Studies by Dr.N S Varandani, Publisher: LAP -Lambert Academic Publishing ,Germany
6. Textbook of Environmental Studies for Undergraduate Courses by Erach Bharucha Second edition,2013 Publisher: Universities Press (India) Private Ltd, Hyderabad.
7. Environmental Studies by Anindita Basak, Publisher: Drling Kindersley(India)Pvt. Ltd Pearson
8. Textbook of Environmental Studies by Deeksha Dave & S S Kateva , Cengage Publishers.