

A Course in Environmental Awareness

Semester: III	Subject Code: AC41101	Lectures: 60
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Objectives:

The syllabus aims in equipping the students,

- To enhance knowledge skills and attitude to the environment
- To provide them with firsthand knowledge on various local environment aspects

Unit 1: Multidisciplinary nature of environmental studies

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- Definition, scope and importance
- Multidisciplinary nature of environmental science
- Need for public awareness

Unit 2: Natural Resources

8

- Renewable and non-renewable resources
- Natural resources and associated problems
 - Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people.
 - Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
 - Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
 - Food resources: World food problems, changes caused by agriculture and over-grazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
 - Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies.
 - Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.
- Role of an individual in conservation of natural resources.
- Equitable use of resources for sustainable lifestyles.



Unit 3: Ecosystems	8
<ul style="list-style-type: none"> • Introduction : Definition, Concept of an ecosystem • Structure and function of an ecosystem • Producers, consumers and decomposers • Energy flow in an ecosystem, • Ecological succession • Food chains, food webs and ecological pyramids • Introduction, types, characteristic features, structure and function of the following ecosystems : <ul style="list-style-type: none"> ➤ Forest ecosystems ➤ Grassland ecosystems ➤ Desert ecosystems ➤ Aquatic ecosystems (ponds, streams, lakes, oceans, estuaries) 	
Unit 4: Biodiversity and its conservation	8
<ul style="list-style-type: none"> • Introduction – Definition: genetic, species and ecosystem diversity. • Biogeographically classification of India • Value of biodiversity : consumptive use, productive use, social, ethical, aesthetic adoption values • Biodiversity at global, National and local levels. • India as a mega-diversity nation • Hotspots of biodiversity. • Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. • Endangered and endemic species of India • Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. 	

*Contact hours – 12 hours

Recommended Text / Reference Books:

1. *Environmental Science*, Erach Bharucha, Orient Longman, 2007.
2. *Environmental Awareness*, Dr. D. N. Khairnar, Vision Publications, 2006.
3. *A Textbook of Environmental Awareness* - Dr. Kishore Pawar – Nirali Publications, 2005.
4. P.D. Sharma, *Economy and Environmental*, Rastogi publications, 1997.
5. Dr. R. G. Desai, *Environmental Studies*, Himalaya Publishing House, 2009.
6. Dr. Ashok Chavan et. al., Renuka Prakashan, *Fundamentals of Environmental Science*, 2004.



A Course in Environmental Awareness

Semester: IV	Subject Code: AC41101	Lectures: 60
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Objectives:

The syllabus aims in equipping the students,

- To enhance knowledge skills and attitude to the environment
- To provide them with firsthand knowledge on various local environment aspects

Unit 1: Environmental Pollution	8
<ul style="list-style-type: none"> • Definition • Cause, effects and control measures of :- <ul style="list-style-type: none"> ➤ Air pollution ➤ Water pollution ➤ Soil pollution ➤ Marine pollution ➤ Noise pollution ➤ Thermal pollution ➤ Nuclear hazards • Solid waste Management: Causes, effects and control measures of urban and industrial wastes. • Role of an individual in prevention of pollution. • Pollution case studies. • Disaster management: floods, earthquake, cyclone and landslides. 	

Unit 2: Social Issues and the Environment	6
<ul style="list-style-type: none"> • From Unsustainable to Sustainable development • Urban problems related to energy • Water conservation, rain water harvesting, watershed management • Resettlement and rahabilitation of people; its problems and concerns. CaseStudies • Environmental ethics : Issues and possible solutions. • Climate change, global warming, acid rain, ozone layer depletion, nuclearaccidents and holocaust. Case Studies. • Wasteland reclamation. • Consumerism and waste products. • Environment Protection Act. • Air (Prevention and Control of Pollution) Act. 	



<ul style="list-style-type: none"> • Water (Prevention and control of Pollution) Act • Wildlife Protection Act • Forest Conservation Act • Issues involved in enforcement of environmental legislation. • Public awareness. 	
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Unit 3: Human Population and the Environment	6
<ul style="list-style-type: none"> • Population growth, variation among nations. • Population explosion – Family Welfare Programme.VII • Environment and human health. • Human Rights. • Value Education. • HIV/AIDS. • Women and Child Welfare. • Role of Information Technology in Environment and human health. • Case Studies. 	

Unit 4: Field work	12
<ul style="list-style-type: none"> • Visit to a local area to document environmental assets river/ forest/grassland/hill/mountain • Visit to a local polluted site-Urban/Rural/Industrial/Agricultural • Study of common plants, insects, birds. • Study of simple ecosystems-pond, river, hill slopes, etc. 	

*Contact hours – 12 hours.

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