



Environmental Awareness
A Course in Environmental Science
[Ability Enhancement Compulsory Course]

Semester: III

Credits: 2

Subject Code: ACS12101

Lectures: 48

Course Outcomes:

At the end of this course, the learner will be able to:

- Identify and apply the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment
- Discuss current scenario of environment
- Practice consciousness towards a cleaner and better managed environment

Unit 1: Multidisciplinary nature of environmental studies

04

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

Unit 2: Natural Resources

08

- Concept and Types of resources
- Current Status of Major resources and associated problems
- Forest resources
- Water resources
- Mineral resources
- Food resources
- Energy resources
- Land resources
- Need for conservation of resources
- Rational use of resources

Unit 3: Ecosystem

09

- Introduction : Definition, Concept of an ecosystem
- Energy flow in an ecosystem
- Community Ecology
- Ecological succession
- Types of Ecosystem in India
- Introduction, types, characteristic features, structure and function of the following ecosystems:

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- Forest ecosystems
- Grassland ecosystems
- Desert ecosystem
- 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.
- Aquatic ecosystems
- Environment And Tourism

Unit 4: Biodiversity and its conservation

09

- 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.
- Aquatic ecosystems
- Environment And Tourism

#12 hours for Library work, assignments, practical or field work

Reference Books:

- Dr. D. N. Khairnar, *Environmental Awareness*, Vision Publications, 2006.
- Dr. Kishore Pawar, *A Textbook of Environmental Awareness*, Nirali Publications, 2020.
- Dr. R. G. Desai, *Environmental Studies*, Himalaya Publishing House, 2014.
- Erach Bharucha, *Environmental Science*, Orient Blackswan 2021.
- P.D. Sharma, *Economy and Environmental*, Rastogi publications, 2018.
- Raven, P.H, Hassenzahl, D.M., Hager, M.C, Gift, N.Y., and Berg, L.R (2015), *Environment, 9th Edition*, Wiley Publishing house, USA

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Recommended websites:-

- https://en.wikipedia.org/wiki/Reference_ecosystem
- www.danielshealth.com
- www.ewastel.com
- <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/environmental-pollution>

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Chairperson (HoD)	Mrs.Shalini Iyer	Shalini Iyer 29/05/21
Coordinator BSc	Mrs. Gitanjali Phadnis	G.M.Phadnis 29/05/21
Faculty	Mrs.Poonam Shrama	Poonam 29/05/21
Faculty	Mrs. Ashwini Khaire	Ashwini 29/05/21
Faculty	Mrs Kanan Vyas	Kanan 29/05/21
Faculty	Mrs. Sujata Dash	Sujata 29/05/21
Subject Expert (Outside SPPU)	Dr.Nirbhay Sudhir Pimple	Nirbhay 29/05/21

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**(A Course in Environmental Awareness)
(AECC)**

Semester: IV	Credits: 2	Subject Code: ACS42101	Lectures: 30
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Course Outcomes:

At the end of this course the learners will be able to.

- Identify and apply the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment.
- Discuss current scenario of environment.
- Practice consciousness towards a cleaner and better managed environment.
- Illustrate various local environment aspects.

Unit 1: Environmental Toxins	08
<ul style="list-style-type: none"> Definition Cause, effects and control measures Thermal pollution Nuclear hazard Biomedical Waste Electronic Waste Solid waste Management: Causes, effects and control measures of urban and industrial wastes. How to give up Plastic? Pollution case studies Manmade Disaster: Famine, Epidemics, Wildfires, Armed Conflict 	

Unit 2: Social Issues and the Environment	08
<p>From Unsustainable to Sustainable development</p> <ul style="list-style-type: none"> Water conservation, rain water harvesting, watershed management Forest resources. Resettlement and rehabilitation of people; its problems and concerns. Case Studies. Environmental ethics: Issues and possible solutions. Food resources. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies. Land resources. Wasteland reclamation 	

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<ul style="list-style-type: none">• Consumerism and waste products..• Environment Protection Act• Air (Prevention and Control of Pollution) Act.• 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 Health and the Environment	08
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<ul style="list-style-type: none">• Environment and Social health.• Human Rights.• Major Diseases: Cancer, AIDS,Covid-19• Women and Child Welfare with Family Welfare Programme.• Information Technology and Environment• Case Studies.	
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Unit 4: Field work	06
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<p>Visit to a local area to document environmental assets river/ forest/grassland/hill/ mountain</p> <ul style="list-style-type: none">• 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.	
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<ul style="list-style-type: none">• Dr. D. N. Khairnar ,<i>Environmental Awareness</i>, , Vision Publications,2006.• Dr. Kishore Pawar , <i>A Textbook of Environmental Awareness</i>– Nirali Publications, 2020.• Dr. R. G. Desai, <i>Environmental Studies</i>, Himalaya Publishing House, 2014• ErachBharucha ,<i>Environmental Science</i>, , Orient Blackswan 2021.• P.D. Sharma, <i>Economy and Environmental</i>, Rastogi publications, 2018.	
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Recommended websites:-	
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<ul style="list-style-type: none">• https://www.geeksforgeeks.org/fundamentals-of-algorithms/edrawsoft.com/explain-algorithm-flowchart.html• https://www.visual-paradigm.com/tutorials/flowchart-tutorial/	
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St. Mira's College for Girls, Pune.
(S.Y. B.Sc (CS) 2021-2024)

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