

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's
New Arts, Commerce, and Science College
Ahmednagar (Autonomous)
(Affiliated to Savitribai Phule Pune University, Pune)



National Education Policy (NEP)
Choice Based Credit System (CBCS)

Syllabus of
Co-Curricular Course(CC)
Environmental Studies

Implemented from
Academic Year 2024-25

**Ahmednagar Jilha Maratha Vidya Prasarak Samaj's
New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus of
Co-Curricular Courses (CC)**

Course Introduction:

This course is designed to help individuals understand on how to make their surrounding more sustainable and environmentally friendly. The course will give learners an in-depth understanding of highlighting environmental awareness and issues. A wide range of topics covered in the Environmental Awareness course which include the environmental ecosystem, pollution, waste management, biodiversity and its conservation, natural resources, various act on environment, movement of environment conservation, etc. The course will give learners a comprehensive understanding of environmental awareness and its issues. The course will allow to understand how environmental issues can impact nature and human life. It will help students to understand environmental issues, environmental aspects as well as personal and social responsibilities.

The Environmental Awareness Studies course is designed to instill a comprehensive understanding of the environmental challenges facing our planet today. This course provides an interdisciplinary approach to exploring the complex interactions between human activities and the natural world, emphasizing the importance of sustainability and conservation.

Throughout this course, students will delve into the nature and scope of environmental studies, learning about the significance of natural resources and the necessity of public awareness in addressing environmental issues. They will gain a solid foundation in ecosystem concepts, including the intricate relationships between biotic and abiotic components, and the essential functions that ecosystems perform.

A critical aspect of the course is the focus on biodiversity and its conservation. Students will explore the various levels of biodiversity, the ecological and economic services it provides, and the urgent need to preserve it amidst threats like habitat loss and climate change. The role of governments, non-governmental organizations, and individuals in biodiversity conservation will be highlighted, providing a holistic view of environmental stewardship.

The course also covers the pressing issue of environmental pollution, examining its types, causes, effects, and control measures. Students will become familiar with key environmental policies and international agreements that aim to mitigate pollution and promote sustainable practices.

In addition to scientific and policy perspectives, the course addresses social issues related to the environment, such as the impacts of human population growth, climate change, and natural disasters. It underscores the importance of environmental ethics and the role of cultural and grassroots movements in fostering environmental protection.

By the end of the course, students will be equipped with the knowledge and skills to critically analyze environmental issues, advocate for sustainable solutions, and contribute meaningfully to the preservation and enhancement of our natural environment. This course aims to create informed, responsible citizens who are prepared to engage with and address the environmental challenges of the 21st century.

Title of the Course: Environmental Studies								
Year: I				Semester: I				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
CC	CC-01	02	00	02	30	15	35	50

Learning Objectives:

1. To explain the scope, importance, and multidisciplinary nature of environmental studies.
2. To explain the concept, structure, and functions of ecosystems.
3. To discuss the importance of biodiversity, causes of loss of biodiversity and various methods of conservation, including the role of public.
4. To understand types, causes of environmental pollution, and to know national and international environmental policies.

Course Outcomes (Cos)

1. Students will be able to explain the scope, importance, and multidisciplinary nature of environmental studies.
2. Students will be able to describe the concept, structure, and functions of ecosystems.
3. Students will be able to discuss the importance of biodiversity, the causes of biodiversity loss, and various methods of conservation, including the role of the public.
4. Students will understand the types and causes of environmental pollution and will be familiar with national and international environmental policies.

Detailed Syllabus:**Unit I: Nature, Scope of environmental studies and Natural Resources (05)**

1) Introduction, Definition, environmental studies scope and importance, Multidisciplinary nature of environmental studies, need for public awareness.

2) Natural resources : Introduction, importance, classification of natural resources (forest resources, water resources, mineral resources, energy resources, land or soil resources) its management and problems associated with natural resources.

Unit II: Ecosystem (05)

1) Concept of ecosystem, Structure of ecosystem, biotic and abiotic components and their interrelationships,

2) Function of ecosystem-nutrient cycling, energy flow, food chain and food web, ecological pyramids, types of ecosystem (terrestrial and aquatic with its subtypes).

Unit III: Biodiversity and Conservation (06)

1) Meaning, Concept and Definition of Biodiversity, levels or types of biodiversity, Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value, biogeographic zones of India, distribution of biodiversity at global and national level, biodiversity hot spots, India as a mega-biodiversity nation.

2) Conservation of biodiversity: Importance of biodiversity, loss of biodiversity (Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions) and needs of conservation, methods of conservation of biodiversity (In-situ and Ex-situ), Role of the Government and NGO in environmental conservation.

Unit IV: Unit IV: Environmental Pollution and Policies (07)

1) Concept, definition, types (air, water, soil and noise, thermal and radioactive pollution), causes, effects and controls, Solid waste management: Control measures of urban and industrial waste.

2) Environment Laws and policies:

a) National : Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act;

Wildlife Protection Act; Forest Conservation Act; Biological Diversity Act, 2002.

b) International agreements: Montreal protocols, Rio earth summit 1992, Kyoto protocol, Paris Agreement on Climate Change.

Unit V: Social Issues and Environment (07)

1) Introduction, Human population and environment, human health and welfare.

2) Climate change- Green house effect, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture, Disaster and its management: floods, earthquake, cyclones and landslides.

3) Environmental ethics and movements: Role of Indian cultures in environmental conservation, Bishnoi movement, Chipko movement, Silent valley movement, Jungle bachao andholan, Appiko Movement, Narmada Bachao Andholan, Tehri Dam conflict, role of individual in environmental protection.

Suggested Readings/Material:

1. Carson, R. 2002. Silent Spring. Houghton Mifflin Harcourt.
2. Gadgil, M., & Guha, R. 1993. This Fissured Land: An Ecological History of India. Univ. of California Press.
3. Gleeson, B. and Low, N. (eds.) 1999. Global Ethics and Environment, London, Routledge.
4. Gleick, P. H. 1993. Water in Crisis. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.
5. Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll. Principles of Conservation Biology. Sunderland: Sinauer Associates, 2006.
6. Grumbine, R. Edward, and Pandit, M.K. 2013. Threats from India's Himalaya dams. Science, 339 : 36-37.
7. McCully, P. 1996. Rivers no more: the environmental effects of dams (pp. 29-64). Zed Books.
8. McNeill, John R. 2000. Something New Under the Sun: An Environmental History of the Twentieth Century.
9. Odum, E.P., Odum, H.T. & Andrews, J. 1971. Fundamentals of Ecology. Philadelphia: Saunders.
10. Pepper, I.L., Gerba, C.P. & Brusseau, M.L. 2011. Environmental and Pollution Science. Academic Press.
11. Rao, M.N. & Datta, A.K. 1987. Waste Water Treatment. Oxford and IBH Publishing Co. Pvt. Ltd.

12. Raven, P.H., Hassenzahl, D.M. & Berg, L.R. 2012. Environment. 8 th edition. John Wiley & Sons.
13. Rosencranz, A., Divan, S., & Noble, M.L. 2001. Environmental law and policy in India. Tripathi 1992.
14. Sengupta, R. 2003. Ecology and economics : An approach to sustainable development. OUP.
15. Singh, J.S., Singh, S.P. and Gupta, S.R. 2014. Ecology, Environmental Science and Conservation. S. Chand Publishing, New Delhi.
16. Sodhi, N.S., Gibson, L. & Raven, P.H. (eds). 2013. Conservation Biology : Voices from the Tropics. John Wiley & Sons.
17. Thapar, V. 1998. Land of the Tiger: A Natural History of the Indian Subcontinent.
18. Warren, C. E. 1971. Biology and Water Pollution Control. WB Saunders.
19. Wilson, E. O. 2006. The Creation: An appeal to save life on earth. New York : Norton.
20. World Commission on Environment and Development. 1987. Our Common Future. Oxford University Press
21. Gleeson, B. and Low, N. (eds.) 1999. Global Ethics and Environment, London, Routledge.
22. Gleick, P. H. 1993. Water in Crisis. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.
23. Carson, R. 2002. Silent Spring. Houghton Mifflin Harcourt.
24. Gadgil, M., & Guha, R. 1993. This Fissured Land: An Ecological History of India Univ. of California Press.
25. Odum, E.P., Odum, H.T. & Andrews, J. 1971. Fundamentals of Ecology. Philadelphia: Saunders.
26. Pepper, I.L., Gerba, C.P. & Brusseau, M.L. 2011. Environmental and Pollution Science. Academic Press.
27. Agrawal, KM, Sikdar, PK and Deb, SC, A Text book of Environment, Macmillan Publication, 2002.
28. Richard T Wright, Environmental Science: Towards a Sustainable Future, Prentice-Hall Inc., 2008.
29. <https://climate.nasa.gov/>
30. <https://www.ipcc.ch/>
31. <https://www.nrdc.org/stories/global-climate-change-what-you-need-know>
32. <https://unfccc.int/>
33. <http://studymaterial.unipune.ac.in/>
34. <https://www.nrdc.org/stories/global-warming-101>
35. <https://www.ipcc.ch/sr15/>