

Environmental Education

Course Learning Outcomes (CLOs)

On completion of the course, the students will be able to

- Understand the natural environment, different cycles related to Ecology & Ecosystem.
- Identify different causes of Environmental Pollution, Climate Change and need for Sustainable Development.
- Acquire comprehensive knowledge about Population Ecology, population Growth and Public Health.
- Learn about Environmental Movements and Laws.
- Acquire the knowledge about State pollution Control Board and Central pollution Control Board.

Unit-I: Introduction to Environment

Learning Outcomes

LO: Understand basic concepts of Environment , Ecology, Eco-System and Biodiversity.

- The Environment: Atmosphere, Hydrosphere, Lithosphere, Biosphere.
- Ecology, Ecosystem, major eco-system, Biogeochemical Cycle (Carbon Cycle, Nitrogen Cycle).
- Biodiversity-Values and Services, Global Environmental Issues.

Unit-II: Climate Change and Sustainable Development

Learning Outcomes

LO: Identify factors of pollution and climate change.

LO: Learn basics of wild life conservation and Sustainable Development Goals.

- Environment Pollution: Air Pollution, Water Pollution, Soil Pollution, Noise Pollution, Thermal Pollution, Radiation Pollution.
- Climate Change, causes and consequences, Natural Resources: Conservation of Natural Resources, Soil Erosion and Conservation.
- Management and Conservation of Wildlife, Sustainable Development and its Goals.

Unit-III: Population and Public Health

Learning Outcomes

LO: Understand the correlation between population growth and issues of public health.

LO: Learn how to manage pandemic in modern times.

- Population dividend and population liability.
- Population Ecology: Individuals, Species, role of different sector in managing health disaster.
- Population Growth and Control, Community, Urbanization and its effects on Society.
- Communicable Diseases, Non-Communicable Diseases, Transmission and its effects.

Unit-IV: Environmental Movements and Environmental Laws

Learning Outcomes

LO: Trace environmental movements of India.

LO: Understand functions and role of Pollution Control Boards and know the basic laws of India relating to environment.

- Environmental Movements in India: Grass root Environmental movements in India, Role of women, Environmental Movements in Odisha.
- State Pollution Control Board, Central Pollution Control Board.
- Environmental Laws: Water Act, 1974, Air Act, 1981, The Wildlife (Protection) Act, 1972, Environment Protection Act 1986.

Sample Questions

1. What is meant by environment? (1 Mark)
2. Write any two causes of noise pollution. (2 Marks, Within 50 words))
3. Discuss the causes and consequences of climate change (5 Marks, Within 300 words))
4. Critically reflect on the importance and purpose of SDGs with reference to the contemporary society.(8 Marks, 500 to 800 words).

Transaction Mode:

Workshop, ICT-Lab Learning, Lecture method, Seminar, Team teaching, Tutoring, Peer group discussion, Mobile teaching, Self-learning, Collaborative learning, Co-operative learning.

Practical/ Activities

Each student is required to submit Practical/Project report/Assignments selecting any one of the following:

1. Investigation of Major sources of micro- plastic pollutants in urban habitats.
2. Detection and characterisation of major water pollutants in river water.
3. Impact of growing urbanisation on wildlife habitat.

* It will be evaluated by both internal and external examiners.

Text Books

- ✓ *Anubha Kaushik and CP Kaushik, "Perspectives in Environmental Studies", 5th edition, 2016.*
- ✓ *Benny Joseph, "Environmental studies", 2nd edition, McGraw Hill Education, 2015.*
- ✓ *Basics of Environmental Studies by Dr. N. S. Varandani, Books India Publications.*
- ✓ *Disaster Management by MukeshDhunna, Vayu Education of India, Delhi Publication.*

Reference Books

- ✓ *Dr. M. Chandrasekhar, "A Text book of Environmental Studies", HI-TECH publications, 2006.*
- ✓ *Dr. M. Anji Reddy, "A Text book of environmental science and Technology", B S Publications, 2008.*
- ✓ *Dr. K. Mukkanti, "A Text book of Environmental Studies", S.CHAND and Company Ltd, 2009.*
- ✓ *EHILRS and ST, "Text book of Municipal and Rural Sanitation", M.S Hill, 1998.*
- ✓ *C. S. Rao, Wiley Eastern Ltd, "Environmental Pollution Control Engineering", New Age International Ltd, 2001.*
- ✓ *Dr. M. Anji Reddy, "Introduction to Remote Sensing", BS Publications, 2004.*
- ✓ *EHILRS and ST, "Text book of Municipal and Rural Sanitation", M.S Hill, 1998.*
- ✓ *Dr. M. Anji Reddy, "Introduction to Remote Sensing", BS Publications, 2004.*
- ✓ *Environmental Studies by R. Rajagopalan, Oxford University Press Publication.*
- ✓ *Environmental Science by Richard T Wright & Bernard J Nebel, Prentice Hall India Publication.*
- ✓ *Environmental Science by Daniel B Botkin & Edward A Keller, Wiley Publications.*