

BAS104 / BAS204: ENVIRONMENT AND ECOLOGY

Course Objectives:

1. Aims and objectives of environmental education emphasize the relationship between man and the environment and educate young people about the importance of nature and the environment.
2. Environmental education aims to **impart ecological knowledge** and promote environmentally conscious behavior towards nature.
3. It encourages young minds to take **responsibility for protecting** the natural environment protection through information and knowledge and to develop environmental awareness.
4. Incidentally, promoting awareness and a sense of respect for nature leads to a comprehensive understanding of the environment and a reasonable attitude towards protecting it.
5. The focus of environmental education is Awareness, Knowledge, Attitude, Skills, Capacity Building and Participation.

Topics	Contact Hours
Unit-1	8
Environment: Definition, Types of Environment, Components of environment, Segments of environment, Scope and importance, Need for Public Awareness. Ecosystem: Definition, Types of ecosystem, Structure of ecosystem, Food Chain, Food Web, Ecological pyramid. Balance Ecosystem. Effects of Human Activities such as Food, Shelter, Housing, Agriculture, Industry, Mining, Transportation, Economic and Social security on Environment, Environmental Impact Assessment, Sustainable Development.	
Unit-2	8
Natural Resources: Introduction, Classification. Water Resources; Availability, sources and Quality Aspects, Water Borne and Water Induced Diseases, Fluoride and Arsenic Problems in Drinking Water. Mineral Resources; Material Cycles; Carbon, Nitrogen and Sulfur cycles. Energy Resources; Conventional and Non conventional Sources of Energy. Forest Resources; Availability, Depletion of Forests, Environment impact of forest depletion on society.	
Unit-3	8
Pollution and their Effects; Public Health Aspects of Environmental; Water Pollution, Air Pollution, Soil Pollution, Noise Pollution, Solid waste management.	
Unit-4	8
Current Environmental Issues of Importance; Global Warming, Green House Effects, Climate Change, Acid Rain, Ozone Layer Formation and Depletion, Population Growth and Automobile pollution, Burning of paddy straw.	

Unit-5	8
Environmental Protection; Environmental Protection Act 1986, Initiatives by Non Governmental Organizations (NGO's), Human Population and the Environment: Population growth, Environmental Education, Women Education.	

Course Outcomes:

Upon completion of the course, the student will be able to:

	Course Outcomes	Bloom's Level
CO-1	Gain in-depth knowledge on natural processes that sustain life, and govern economy.	K2
CO-2	Estimate and Predict the consequences of human actions on the web of life, global economy and quality of human life.	K3
CO-3	Develop critical thinking for shaping strategies (scientific, social, economic and legal) for environmental protection and conservation of biodiversity, social equity and sustainable development.	K4
CO-4	Acquire values and attitudes towards understanding complex environmental-economic social challenges, and participate actively in solving current environmental problems and preventing the future ones.	K3
CO-5	Adopt sustainability as a practice in life, society and industry.	K3

Reference Books:

1. Textbook of Environment and Ecology by Dave, Katewa & Singh, 2nd Edition, Cengage Learning India Pvt Ltd Delhi.
2. Environmental Studies by S Deswal, Dhanpat Rai & Co.
3. Environmental Studies by VK Ahluwalia, 2nd Edition, TERI Press, New Delhi.
4. Environmental Studies by R Rajgopalan, Oxford University Press.
5. Environment & Ecology by Singh & Malviya, Acme Learning