COURSE OUTCOME FOR
ENVIRONMENTAL EDUCATION

ACADEMIC SESSION : 2024-2025

SEMESTER : **I**

Unit 1: Environmental Education and Sustainable Development

A student might achieve after completing this unit :

CO 1 : Understand the definition and objectives of Environmental Education. Students should be able to articulate the purpose and goals of environmental education in promoting awareness, knowledge, skills, and values related to environmental issues.

CO 2 : Explain the significance of Environmental Education. Students should be able to discuss the importance of environmental education in fostering responsible environmental behavior, promoting sustainable development, and addressing global environmental challenges.

CO 3 : Define Sustainable Development. Students should be able to provide a clear definition of sustainable development, emphasizing its core principles of meeting present needs without compromising the ability of future generations to meet their own needs.

CO 4 : Identify and describe the Sustainable Development Goals (SDGs). Students should be able to list and explain the 17 SDGs, recognizing their interconnectedness and relevance to global sustainability.

CO 5 : Understand the targets and indicators associated with the SDGs. Students should be able to identify specific targets and indicators used to measure progress towards achieving the SDGs.

CO 6 : Analyze the challenges and strategies for achieving the SDGs. Students should be able to critically examine the obstacles hindering the implementation of the SDGs and propose effective strategies for overcoming these challenges.

UNIT 2 : NATURAL RESOURCES :

A student might achieve after completing this unit:

CO 1 : Understand the classification of natural resources. Students should be able to differentiate between biotic and abiotic resources, as well as renewable and non-renewable resources.

CO 2 : Describe the major types of biotic resources. Students should be able to discuss the characteristics, significance, and current status of various biotic resources, including forests, grasslands, wetlands, wildlife, and aquatic resources.

CO 3 : Analyze the use and over-exploitation of forest resources. Students should be able to evaluate the impact of timber extraction, mining, and dam construction on forests and tribal communities.

CO 4 : Assess the availability and use of water resources. Students should be able to discuss the distribution, availability, and utilization of freshwater and marine water resources, including the environmental impacts of over-exploitation.

CO 5 : Understand the issues and challenges related to water scarcity and stress. Students should be able to identify the causes and consequences of water scarcity and stress, as well as potential conflicts over water resources.

CO 6 : Explain the importance of soil and mineral resources. Students should be able to identify important minerals, discuss their extraction and use, and analyze the environmental problems associated with mineral exploitation.

CO 7 : Recognize the significance of soil as a resource and its degradation. Students should be able to understand the importance of soil health, identify different types of soil degradation, and discuss strategies for soil conservation.

UNIT 3 : ecosystems and Ecosystem services

A student Mike achieve after completing this unit :

CO 1: Concept of an Ecosystem:
*** Definition and characteristics of an ecosystem**
*** Structure and function of an ecosystem**

CO 2 : Energy Flow in the Ecosystem:
*** How energy flows through different trophic levels**
*** Food chains, food webs, and ecological pyramids**

CO 3 : Ecological Succession:
*** The process of change in an ecosystem over time**

CO 4 : Major Ecosystem Types in India:

*** Characteristics of different ecosystems like forests, wetlands, grasslands, agriculture, coastal, and marine ecosystems**

CO 5 : Ecosystem Services:
*** Classification and significance of ecosystem services**
*** The value of ecosystem services to human well-being**

CO 6 : Forest Ecosystem of North Bengal:
*** A specific case study of a major ecosystem in India.**

UNIT 4 : Biodiversity and its conservation :

A student might achieve after completing this unit :

CO 1 : Understanding Biodiversity: Students will be able to define biodiversity, explain its types, and understand its importance.

CO 2 : India's Biodiversity: Students will be able to identify India's biodiversity hotspots, understand its biogeographical classification, and recognize its significance as a mega-diversity nation.

CO 3 : Value of Biodiversity: Students will be able to explain the various values of biodiversity, including consumptive, productive, social, ethical, aesthetic, and option values.

CO 4 : Threats to Biodiversity: Students will be able to identify and explain the major threats to biodiversity, such as land use change, commercial exploitation, invasive species, and climate change.

CO 5 : Conservation of Biodiversity: Students will be able to differentiate between in-situ and ex-situ conservation methods and understand the role of national and international instruments in biodiversity conservation.

CO 6 : Endangered and Endemic Species: Students will be able to identify and discuss endangered and endemic species of India.

UNIT 5 : Environment pollution and Management :

A student might achieve after completing this unit :

CO 1 : Definition of pollution: The image clearly defines pollution and distinguishes between point and non-point sources.

CO 2 : Air pollution: It covers sources, primary and secondary pollutants, criteria pollutants, indoor air pollution, health impacts, and control measures.

CO 3 : Water pollution: The image discusses sources, river, lake, and marine pollution, groundwater pollution, water quality parameters, health impacts, and control strategies.

CO 4 : Soil pollution and solid waste: It covers soil pollutants and their sources, solid and hazardous waste, impacts on human health, and solid waste management.

CO 5 : Noise pollution: The image defines noise, its unit of measurement, sources, noise standards, health impacts, and abatement measures.

CO 6 : Thermal and radioactive pollution: It covers their sources and impact on human health and ecosystems.

CO 7 : Role of an individual: The image emphasizes the role of individuals in preventing pollution.
*** Pollution case studies: It likely includes case studies to illustrate real-world examples of pollution and its management.**

UNIT 6 : sLSocial issues and the environment :

A student might achieve after completing this unit :

CO 1 : Social Issues and the Environment: This section explicitly highlights the connection between social issues and environmental problems.

CO 2 : Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents, and holocaust: These are examples of environmental issues with significant social implications.

CO 3 : Disaster management: This section focuses on the impact of natural disasters on communities and the importance of preparedness and response.

CO 4 : Water conservation, rain water harvesting, watershed management: These topics emphasize the importance of sustainable water management practices.

CO 5 : Population explosion and environment: This section explores the relationship between population growth and environmental degradation.

CO 6 : Human Rights and environment, Role of women and environment: These sections highlight the social and ethical dimensions of environmental issues and the importance of equity and inclusion.

CO 7 : Role of Information Technology in Environment and human health: This section explores the use of technology in environmental monitoring, management, and communication.

CO 8 : Environmental Movements: This section likely discusses the role of social movements in environmental protection.
Therefore, the course aims to equip students with a comprehensive understanding of the social and environmental dimensions of various issues and the role of individuals and communities in creating a sustainable future.

UNIT 7 : Environmental treaties and legislation :

Student might achieve after completing this unit :

General Environmental Awareness:
CO 1 : Students should be able to identify and describe major international and national environmental agreements and legislation.

CO 2 : Students should understand the key provisions and objectives of these treaties and laws.

CO 3 : Students should be able to analyze the impact of environmental regulations on individuals, businesses, and society.

CO 4 : Describe the significance of treaties like the Convention on Biological Diversity (CBD), CITES, Ramsar Convention, UNFCCC, Kyoto Protocol, and Paris Agreement.

CO 5 : Explain the role of international organizations like UNEP, IUCN, and IPCC in environmental governance.

CO 6 : Outline the key provisions of the Wildlife Protection Act, Water Act, Forest Conservation Act, Air Act, Environment Protection Act, and Biological Diversity Act.

CO 7 : Discuss the role of the National Green Tribunal and landmark Supreme Court judgments in environmental protection.

CO 8 : Understand the concepts of protected areas, biosphere reserves, and Ramsar sites.

CO 9 : Analyze the challenges and opportunities in implementing environmental regulations.

CO 10 : Evaluate the effectiveness of existing environmental laws and policies.

CO 11 : Analyze the role of stakeholders (governments, businesses, NGOs, and citizens) in environmental protection.

CO 12 : Discuss the ethical and social implications of environmental issues.