



Cooch Behar Panchanan Barma University

DRAFT SYLLABUS ON ENVIRONMENTAL STUDIES FOR UNDER GRADUATE COURSES OF ALL BRANCHES (Arts, Science & Commerce)

- Unit 1: Basic of environmental Studies** (5 lectures)
 Definition, Nature, Scope and Importance; Components of environment: Environmental education.
- Unit 2: Natural Resources: Renewable and non- renewable resources** (10 lectures)
 Nature and Natural resources their conservation and associated problems:
- Forest resources: Uses, types and importance, Joint Forest Management & Tribal population, Deforestation and its effects.
 - Water resources: Distribution of water on Earth: Use, Over exploitation of surface and ground water; Dams: benefits and problems; Flood & drought.
 - Mineral resources: Mineral resources in India, Use and exploitation, Social impacts of mining.
 - Food resources: World food problems and food insecurities.
 - Energy resources: Renewable and Nonrenewable energy sources, use of alternate energy sources, Case studies.
 - Land resources: Land as a resource; Land degradation, Landslides, Soil erosion and Desertification.
 - Use of resources for sustainable development.
- Unit 3: Ecology and Ecosystems** (8 lectures)
 Concept of ecology, Population ecology, Community ecology
- Concept of an ecosystem; different types of ecosystem.
 - Food chains, food webs and ecological succession.
 - Energy flow in the ecosystem, energy flow models.
- Unit 4: Biodiversity and its conservation** (8 lectures)
- Biodiversity: Levels of biological diversity.
 - Values of biodiversity.
 - Hot-Spots of biodiversity, Mega-biodiversity countries.
 - Threat to biodiversity.
 - Threatened and endemic species of India.
 - Conservation of biodiversity (*In-situ* and *Ex-situ*).
 - Ecosystem service: Ecological, Economical, Social, Ethical, aesthetic and informational values.

Unit 5: Environmental Pollution & Management (8 lectures)

(a) Nature, Causes, Effects and Control measures of --

- (i) Air pollution ii) Water pollution iii) Soil pollution
iv) Noise Pollution v) Nuclear Hazards

(b) Fireworks Pollution: Definition, Composition/Ingredients, Effects, Monitoring strategies

- Solid waste management: Causes, effects and disposal methods; Management of biomedical and municipal solid wastes.
- Disaster management: Floods, Earthquake, Cyclone and Landslides

Unit 6: Environmental policies and practices (10 lectures)

- Climate change, Global warming, ENSO, Acid rain, Ozone layer depletion; Montreal and Kyoto Protocols
- Constitutional Provisions for protecting environment- Articles 48(A), 51 A (g)
- Environmental Laws: The Environment (Protection) Act, 1986, The Air (Prevention and Control of Pollution) Act, 1981; The Water (Prevention and Control of Pollution) Act 1974; and Forest (Conservation) Act, 1980.
- The wildlife Protection Act, 1972.

Unit 7: Human Communities and the Environment (6 lectures)

- Human population growth; impacts on environment.
- Population explosion – Family Welfare Programme
- Environment and human health: Concept of health & disease, Examples of common communicable & non- communicable diseases, Public awareness.
- Environment movements in India: Chipko Movements, Silent Valley Movement, Movements in Karnataka.

Unit 8: Field Work Report / Project Report / term paper (Based on any one of the following topics and to be evaluated by internal teachers only) (5 lectures)

- Environmental assets--- River/Forest/Grassland/Hill/Mountain etc.
- Environmental pollution – Urban/ Rural / Industrial / Agricultural
- Study of common Plants/Insect /Birds / Wild life etc.
- Study of simple ecosystems: Pond / River / Hill slope, etc.
- Municipal Solid Waste management and handling.