

The University of Burdwan
Syllabus for B.A./B.Sc./B.Com.
in
Environmental Studies
with effect from 2010-2011 onwards

THE UNIVERSITY OF BURDWAN
SYLLABUS ON ENVIRONMENTAL STUDIES FOR UNDER GRADUATE
COURSES OF ALL BRANCHES (Arts, Science & Commerce) .

(W.e.f – 2010 -2011 onwards)

Time: 3 Hours
F.M. 100

Unit 1: The Multidisciplinary nature of environmental studies

Definition, Nature, Scope and Importance; Types and components of environment; goals of environmental education; Global environmental crisis (5 lectures)

Unit 2: Natural resources: Renewable and non-renewable resources

Nature and Natural resources their conservation and associated problems

- . Forest resources: Uses, types and importance, deforestation, and effects of deforestation on tribal people; conservation and protection of forest and forest resources; wildlife management
- . Water resources: Distribution of water on Earth; Use and over-utilization of surface and ground water, Water resources of Indian & its future.
- . Food resources: World food production & distribution, Food crisis - its causes.
- . Energy resources: Renewable and Nonrenewable energy sources, use of alternate energy sources, Energy conservation
- . Land resources: Land as a resource, land degradation, Landslides, soil erosion and desertification – causes and effects.
- Use of resources for sustainable development.

(10 lectures)

Unit 3: Ecology and Ecosystems

Concept of ecology, autecology and synecology; population ecology, community ecology

- Concept of an ecosystem; different types of ecosystem
 - Definitions and classification of biomes.
 - Producers, consumers and decomposers
 - Energy flow in the ecosystem, energy flow models
 - Food chains, food webs and ecological pyramids
- Biogeochemical cycles: Pattern and basic types of biogeochemical cycles (Nitrogen, Phosphorus)

(10 lectures)

Unit 4: Biodiversity and its conservation

- Biogeographical classification of India
- Value of biodiversity: consumptive use, productive use and social values
- Hot-spots of biodiversity
- Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts
- Endangered and endemic species of India
- Conservation of biodiversity: *In situ* and *Ex-situ* conservation of biodiversity.

(10 lectures)

Unit 5 : Environmental Pollution

Definition, Sources, Causes, effects and control measures of:-

- a. Air pollution
 - b. Water pollution
 - c. Soil pollution
 - d. Noise pollution
- Solid waste management: causes, effects and control measures of biomedical wastes and municipal solid wastes.
 - Disaster management: floods, earthquake, cyclone and landslides.

(8 lectures)

Unit 6: Social Issues and the Environment

- Water conservation, rain water harvesting,
- Climate change, global warming, acid rain, ozone layer depletion,
- Wetland resources and their conservation
- Govt. Agencies, viz, CPCB, SPCB and their functions under the water Act & Air Act.
- Constitutional provisions for protecting environment – Articles 48 (A), 51A (g)
- The Environment (Protection) Act, 1986
- The Wildlife Protection Act, 1972 : Definitions of Animal, Wildlife, Haunting: Provisions relating to haunting of wild animal, Sanctuary, National park, Community Reserve and Tiger reserve.

- Environment Protection Movements in India – Chipko movements, Silent Valley movements, Movements in Karnataka, Public awareness (15 lectures)

Unit 7: Human Population and the Environment

- Definition, characteristics; human Population growth, concept of carrying capacity
- Population explosion – Family Welfare Programme
- Environment and human health, concept of health and diseases,– Examples of Common communicable & non-communicable diseases, community health education.

(8 lectures)

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) :

- Environmental assets --- river/ forest/grassland/hill/mountain etc.
- Environmental pollution – Urban/ Rural/ Industrial/ Agricultural
- Study of common plants / insects / birds / wild lives etc.
- Study of simple ecosystems --- pond / river / hill slopes, etc.
- Human population & Environment
- Municipal Solid waste management and handling.

Question Pattern and Distribution of marks

Type 1: Short Answer Type Pattern – 25 x 2 = 50

Type 2: Essay Type -- 03 x 10 = 30

Field Work Report/ Project Report /
Term paper -- = 20