



# **TRIPURA UNIVERSITY**

**(A Central University)  
Suryamaninagar-799022**

## **Syllabus OF**

**Environmental Studies  
(Foundation Course)**

**Semester – III**

**2014**

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SYLLABUS OF ENVIRONMENT STUDIES FOR UNDER GRADUATE FOUNDATION  
COURSE OF THIRD SEMESTER FOR ALL BRANCHES OF  
HIGHER EDUCATION

**Unit 1: Nature of Environmental Studies and Natural Resources** **15 lectures**

- Environmental Studies: Definition, scope and importance
- Renewable and non-renewable resources
- Natural resources and associated problems
  - a. Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction, mining, dams and their effects on forests and tribal people.
  - b. Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
  - c. Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
  - d. Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
  - e. Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources, case studies.
  - f. Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification

Role of an individual in conservation of natural resources

**Unit 2: Ecosystems and Biodiversity Conservation** **15 lectures**

- Concept of an ecosystem
- Structure and function of an ecosystem
- Producers, consumers and decomposers
- Energy flow in the ecosystem
- Ecological succession
- Food chains, food webs and ecological pyramids
  - a. Forest ecosystems: Structure and functions

- Biodiversity: Definition: Genetic, Species and Ecosystem diversity
- Value of biodiversity: Consumptive use, Productive use, Social, Ethical, Aesthetic and option values
- Hotspots of biodiversity
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts
- Endangered, endemic, exotic species in India
- Conservation of biodiversity: In-situ and Ex-situ conservation
  - Wildlife Protection Act
  - Forest Conservation Act

### **Unit 3: Environmental Degradation and Management**

**15 lectures**

- Definition, Causes, effects and control measures of:
  - a. Air pollution
  - b. Water pollution
  - c. Soil pollution
  - d. Noise pollution
- Environmental Protection Act
- Air (Prevention and Control of Pollution) Act
- Water (Prevention and Control of Pollution) Act
- Climate change and global warming
- Water conservation, Rain water harvesting, Watershed Management
- Vermicomposting: Definition, Vermicomposting species and importance
- Disaster management: floods and earthquakes
- Role of Tripura State Pollution Control Board (TSPCB)

### **Unit 4: Human Population and Social Issues**

**15 lectures**

- Sustainable Development
- Environmental ethics: Issues and possible solutions
- Environmental awareness
- Social Impact Assessment (SIA) and Cumulative Effects Assessment (CEA)
- Demographic structure

- Population explosion – Family welfare Programme
- Environment and human health
- Human Rights
- HIV/AIDS
- Women and Child Welfare

### Suggested Books

1. Textbook of Environmental Studies for Undergraduate Courses by Erach Bharucha Second edition, 2013 Publisher: Universities Press (India) Private Ltd, Hyderabad.
2. Bharucha Erach, Text book on Environmental Studies, UGC, New Delhi
3. Borua P.K., J.N.Sarma and others, A Text book on Environmental Studies, Banlata, Dibrugarh.
4. Priyasankar Chaudhuri, 2006 Kenchor Jeevan Baichaitra : Kencho Prajukti, , Jyan Bichitra Prakashani, Agartala.
5. De A.K., Environmental Chemistry, Wiley Eastern Ltd.
6. Environmental Sciences by Daniel B Botkin & Edward A Keller Publisher: John Wiley & Sons.
7. Environmental Studies by Anindita Basak ,2009 Publisher: Drling Kindersley(India)Pvt. Ltd Pearson
8. Environmental Studies by Benny Joseph, TMH publishers.
9. Environmental Studies by Dr. Suresh K Dhameja, 2007 Published by : S K Kataria & Sons New Delhi.
10. Basics of Environmental Studies by U K Khare, 2011 Published by Tata McGraw Hill.
11. Dutta Prasanna, Rofique Ahmed & Sumbit Chaliha, Environmental Studies, Eunika Publication, Jorhat.
12. Environment Studies, by Sangram Sinha, Basant Kumar Agarwala, Badal Kumar Datta, Tripura University