



**DEPARTMENT OF DISTANCE EDUCATION  
PUNJABI UNIVERSITY, PATIALA  
SYLLABUS FOR ENVIRONMENTAL STUDIES  
FOR UNDER-GRADUATE  
COURSES OF ALL BRANCHES (EXCEPT 3 YEARS LL.B)  
STARTING FROM 2011-2012 SESSION  
For B.A.II/B.Com-II/BBA-II/BCA-II**

**Time Alloted : 3 Hours**

**Total Marks : 100**

**Pass Marks : 35**

**Instructions**

- (a) The paper will be taught in the second year of all the U.G. Courses (B.A., B.Com., B.Sc., Law, Engineering, Commerce, Agriculture etc.) except L.L.B. three year course and will be a qualifying paper only. The marks of this paper will not be counted towards final score of the under graduate degree.
- (b) The paper will be of three hours duration of 100 marks, with 35 as pass marks.
- (c) The written paper will have two parts. Part first will be of 35 marks. It will contain ten questions, each of 7 marks. The students will attempt five questions out of this part. The answer to these questions should not exceed 50 words each. Part second of the paper will be of 65 marks and will contain ten essay type questions. The candidates will attempt five questions out of this part. The answer to each question should not exceed 500 words. Each question in this part will carry 13 marks.

**Unit 1 : The Multidisciplinary nature of environmental studies**

Define, scope and importance  
Need for public awareness.

**Unit 2 : Natural Resources :**

Renewable and non-renewable resources :  
Natural resources 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.
  - Equitable use of resources for sustainable lifestyles.

### **Unit 3 : Ecosystems**

- 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.
- Introduction, types characteristic features, structure and function of the following ecosystem :-
  - a. Forest ecosystem
  - b. Grassland ecosystem
  - c. Desert ecosystem
  - d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

### **Unit 4 : Biodiversity and its conservation**

- Introduction - Definition : genetic, species and ecosystem diversity.
- Biogeographical classification of India
- Value of biodiversity : consumptive use, productive use, social, ethical, aesthetic and option values.
- Biodiversity at global, national and local levels.
- India as a mega-diversity nation
- 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.

### **Unit 5 : Environmental Pollution**

#### Definition

- Causes, effects and control measures of :
  - a. Air pollution
  - b. Water pollution
  - c. Soil pollution
  - d. Marine pollution
  - e. Noise pollution
  - f. Thermal pollution
  - g. Nuclear hazards
- Solid waste management : Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution.
- Pollution case studies.
- Disaster management : floods, earthquake, cyclone and landslides.

### **Unit 6 : Social Issues and the Environment**

- From Unsustainable to Sustainable development
- Urban problems related to energy
- Water conservation, rain water harvesting, watershed management
- Resettlement and rehabilitation of people; its problems and concerns  
Case studies.
- Environmental ethics : Issues and possible solutions
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies
- Wasteland reclamation
- Consumerism and waste products
- Environment Protection Act
- Air (Prevention and Control of Pollution) Act
- Water (Prevention and Control of Pollution) Act
- Wildlife Protection Act
- Forest Conservation Act

- Issues involved in enforcement of environmental legislation
- Public awareness

**Unit 7 : Human Population and the Environment**

- Population growth, variation among nations.
- Population explosion - Family Welfare Programme.
- Environment and human health.
- Human Rights.
- Value Education.
- HIV/AIDS.
- Women and Child Welfare.
- Role of Information Technology in Environment and human health.
- Case Studies.