

**Veer Narmad South Gujarat University, Surat.**

**F.Y.B.Sc.**

**CBCS Syllabus for Semester - I  
Foundation Elective Course  
(A Common Course for All Faculties)**

**Syllabus For Environmental Studies**

**[Effect from Academic Year 2015-2016]**

**O.M.R. પધ્ધતિ પ્રમાણે**

**Unit - 1 : The Multidisciplinary nature of environmental studies :  
(2 Lectures)**

- Definition, scope and importance
- Need for public awareness.

**Unit - 2 : Natural Resources : (8 Lectures)**

- 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.
- Equitable use of resources for sustainable lifestyles.

### Unit - 3 : Ecosystems :

(6 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.
- Introduction, types characteristics 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)

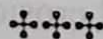
### Unit - 4 : Biodiversity and its conservation :

(8 lectures)

- 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
- Hotspots 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 : Field Work (For Assignment Only)

- Visit to a local area to document environmental assets-river/forest/grassland/hill/mountain
- Visit to a local polluted site - Urban/Rural/Industrial/Agricultural.
- Study of common plants, insects, birds.
- Study of simple ecosystems-pond, river, hill slopes, etc.  
(Field work Equal to 5 lectures hours)



**Veer Narmad South Gujarat University, Surat.**

**F.Y.B.A., F. Y. B.Com., F.Y.B.Sc.**

**CBCS Syllabus for Semester - II**

**Foundation Elective Course**

**(A Common Course for All Faculties)**

**Course Code - FC 230 A**

**Environmental Studies Paper - II**

**(Syllabus effective from Academic Year 2011-12 and onward)**

**Unit - 1 : Environmental Pollution : (8 Lectures)**

- 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, earthquakes, cyclones and landslides

**Unit - II : Social Issues and the Environment : (7 Lectures)**

- 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 - III : Human Population and the Environment : (6 Lectures)**

- 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 in Information Technology in Environment and Human Health
- Case Studies

**Unit : IV : Field Work (For Assignment Only)**

- Visit to a local area to document environmental assets-river/forest/grassland/hill/mountain
- Visit to a local polluted site - Urban/Rural/Industrial/Agricultural.
- Study of common plants, insects, birds.
- Study of simple ecosystems-pond, river, hill slopes, etc.  
(Field work Equal to 5 lectures hours)



**TEXT PRESCRIBED**

Textbook of Environmental Studies for Undergraduate

Courses by Erach Bharucha

(Universities Press)

**DISTRIBUTION OF MARKS**

Q. 1. Objective type questions (10 out of 10).	10 Marks
Q. 2. Short-Answer questions (4 out of 6).	12 Marks
Q. 3. Short-Notes (2 out of 4).	16 Marks
Q. 4. Essay type question (1 out of 2).	16 Marks
Q. 5. Essay type question (1 out of 2).	16 Marks

**TOTAL : 70 Marks**