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. Timer 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)

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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 rahabilitation 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	