

Syllabus for Module Course Environmental Studies 2010

Course Contents

Theory Paper

100 marks

Time: 2.30 hr.

The course has been framed with the intention of making the youth of all walks of life aware of the environmental problems and point out their responsibilities towards the environment and help them find some possible solutions. While setting the paper, the paper setter has to keep in mind that the course targets all streams of education (Arts, Science, Humanities, Commerce etc.) and as such the use of technical terms needs to be limited as far as possible. The question paper will be uniformly spread over the whole syllabus and will be divided into three sections. Section A will contain eight very brief answer (10-20 words each) type questions, each carrying 2.5 marks. Section B will contain four long answer (200-250 words) type questions, each carrying 10 marks. Section C will contain four long answer (400-500 words) type questions, each carrying 20 marks. While all the questions from section A and B are to be attempted by a candidate, from section C only two questions are to be attempted.

Unit 1 : Understanding Environment

- 1.1 Environment: Definition, Scope and Importance
- 1.2 Components of Environment: Physical, Biological and Social
- 1.3 Concept of Ecological Balance in Nature
- 1.4 Ecosystem: Definition, Structure and Function
 - 1.4.1 Producers, Consumers and Decomposers
 - 1.4.2 Food chains, Food webs and Ecological pyramids
 - 1.4.3 Energy flow in an Ecosystem
- 1.5 Characteristic features of a /an
 - 1.5.1 Terrestrial Ecosystem
 - 1.5.2 Aquatic Ecosystem
- 1.6 Ecological Succession: Definition, Causes and Types (Hydrosere and Xerosere)
(25 lectures)

Unit 2 : Natural Resources

- 2.1 Land resources: Land use patterns, Causes of land degradation and desertification, Concept of Waste land reclamation
- 2.2 Forest resources: Use and consequences of over-exploitation
- 2.3 Water resources: Use and over-utilization of surface and ground water, water harvesting and watershed management
- 2.4 Mineral resources: Use and exploitation and its impact on environment.
- 2.5 Food resources: World food problems, Concept of Sustainable Agriculture
- 2.6 Energy resources: Renewable and non-renewable energy sources, Growing energy needs
- 2.7 Role of an individual in conservation of natural resources and sustainable development

(25 lectures)

Unit 3 : Biodiversity and its Conservation

- 3.1 Definition and levels of Biodiversity
- 3.2 Values of biodiversity: Commercial, ecological, social and aesthetic
- 3.3 Biodiversity at Global, National and Local levels.
- 3.4 Threats to biodiversity: habitat loss, poaching of wildlife, man- wildlife conflicts
- 3.5 Concept of Threatened species
- 3.6 Concept of Endemic and Exotic species
- 3.7 Conservation of Biodiversity: In-situ and Ex-situ conservation of biodiversity

(25 lectures)

Unit 4: Environmental Pollution and Issues

- 4.1 Human population growth and environment
- 4.2 Definition, Causes, consequences and control of :-
 - 4.1.1 Air pollution.
 - 4.1.2 Water pollution
 - 4.1.3 Soil pollution.
 - 4.1.4 Noise pollution
 - 4.1.5 Solid waste: Urban and Industrial wastes
- 4.3 Concept of Natural Disasters
- 4.4 Green house gases, Global Warming, Climate Change, Acid rain and Ozone depletion
- 4.5 Environmental ethics
- 4.6 Environmental laws: Salient features of
 - 4.6.1 Wildlife Protection Act 1972
 - 4.6.2 Water (Prevention and control of Pollution) Act 1974
 - 4.6.3 Forest Conservation Act 1980
 - 4.6.4 Air (prevention and Control of Pollution) Act 1981
 - 4.6.5 Environment Protection Act 1986

(25 lectures)

Book Recommended

Bharucha, Erach, 2005. *Text Book of Environmental Studies*. Universities Press (India), Hyderabad.