

**Syllabus for BA/B.Sc/B.Com/B.Sc IT/BBA/BCA/B.Tech/B.Pharma/BBA-MBA/ OC&MIL
2nd year**

Subject: Environmental Studies

Effective from Academic Session-2013

Subject Code	Subject Name	Theory			
		External		±Internal	
		Max	Min	Max	Min
ES	Environmental Studies	75	27	25	9

±Component	Theory paper carrying 100 marks
Attendance	5 marks 1 mark (75-80%) 3 marks (80-90%) 5 marks (90-100%)
Midterm test/project work/assignment	20 marks
	Total:-5+20=25

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Subject: Environmental Studies

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Theory Paper (75 marks)

Internal (25 marks)

Time: 3:00 hours

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 two sections. Section A will contain five medium answer type questions (200-250 words) one question with internal choice from each unit, each carrying 7 marks. Section B will contain five long answer (400-500 words) type questions, one from each unit, each carrying 13 marks. All the questions from section A are to be attempted by a candidate while as from section B only three questions are to be attempted. The internal assessment of 25 marks shall consist of attendance (5 marks) and midterm test/project work/assignment (20 marks) to be conducted by the concerned institution/ College.

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)
(20 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
(20 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 (20 lectures)

Unit 4: Environmental Pollution and Issues

- 4.1 Human population growth and environment
- 4.2 Definition, Causes, consequences and control of
 - 4.2.1 Air pollution.
 - 4.2.2 Water pollution
 - 4.2.3 Soil pollution.
 - 4.2.4 Noise pollution
 - 4.2.5 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 layer Depletion (20 lectures)

Unit 5: Environmental Education and Legislation

- 5.1 Environmental Education- Goals, objectives, guiding principles and need for public awareness
- 5.2 Role of mass media and environmental organizations
- 5.3 Environmental movements- Chipko and Narmada Andolan
- 5.4 Environmental ethics
- 5.5 Wildlife Protection Act 1972
- 5.6 Water (Prevention and control of Pollution) Act 1974
- 5.7 Forest Conservation Act 1980
- 5.8 Air (prevention and Control of Pollution) Act 1981
- 5.9 Environment Protection Act 1986
- 5.10 Concepts of Eco mark and Ecofriendly products (20 lectures)

Books Recommended

1. Bharucha, Erach, 2005. Text Book of Environmental Studies. Universities Press (India), Hyderabad.
2. Joseph, Benny, 2005. Environmental Studies. McGraw Hill Companies
3. De, Anil Kumar and De, Arnab Kumar, 2nd edition. New Age International Publishers
4. Kanagasabai, S. 2010. Textbook on Environmental Studies. PHI Learning
5. Chauhan, B.S. 2008. Environmental Studies. University Science Press
6. Jaiswal, P.S. 2007. Environmental Law. Pioneer Publications, Delhi.
7. Ghosh, G.K. 1992. Environmental pollution. Ashish Publication, Delhi.

MODEL PAPER
ENVIRONMENTAL STUDIES
(Module Course)

Time allowed: 3 Hours

Maximum Marks: 75

Minimum Pass Marks: 27

Note: Attempt five questions from Section A one from each unit and only three questions from Section B.

Section A : (Medium answer type questions to be answered in about 200-250 words each.)

5x7 = 35

1. Write brief notes on the following:

- (i) Food chain and food web (ii) Ecological pyramids
OR

What do you mean by Ecological succession? Comment briefly on causes and types of Succession.

2. What is desertification? What are its causes, consequences and control measures?

OR

Write short notes on the following:

- (i) Consequences of deforestation (ii) Sustainable agriculture

3. Write notes on the following:

- (i) Hotspots of biodiversity (ii) Ex-situ conservation of Biodiversity

OR

Discuss in detail the values of Biodiversity.

4. Define noise pollution. Comment briefly on various sources of noise pollution.

OR

What do you understand by pollution of water? Elaborate on various types of water pollutants and their consequences.

5. What is Environmental Education? Discuss briefly its goals and guiding principles.

OR

Write notes on the following:

- (i) Environmental ethics (ii) Ecomark Scheme

Section B (Long answer type questions to be answered in about 400-500 words each.)

3x13= 39(approximately 40)

6. What is an ecosystem? Discuss in detail the trophic structure of a lake ecosystem.

7. What are mineral resources? Give an account of global current consumption patterns of oil resources.

Also add a note on effect of overexploitation of mineral resources on environment.

8. What is biodiversity? Critically evaluate the various potentials threats responsible for biodiversity decline?

9. What is Green house effect? Explain in detail the implications of climate change.

10. What factors lead to the enactment of EPA 1986? Explain the various salient features of EPA act 1986.

Scheme/Instructions for teachers/paper setters

- There will be two types of questions in the question paper i.e; medium and long answer type questions comprising of Section A and Section B.
- In section A there will be five medium type questions, one question with internal choice from each unit. All the five questions will be compulsory.
- There will be five long answer type questions in Section B, one from each unit and the students will be required to attempt any three questions.
- Duration of the final examination will be 3 hrs.

Theory paper carrying 100 marks
Section A
5 medium answer type questions each carrying 7 marks (5x7)= 35
Section B
3 long answer type questions each carrying 13 marks (3x13)=39 (approx. 40 marks)
Internal examination = 25 marks
External examination = 75 marks
Total (25+75) = 100 marks

Private candidates

Private candidates shall be subject to same external examination pattern is applicable to the candidates in regular mode. In the case of regular candidates the internal assessment marks shall be added with the marks secured in the external examination. Since, there won't be any internal assessment for the private candidates the marks of the candidates will be raised strictly in proportion to the percentage of marks obtained in the external examination.