

**(B. Pharm)**  
**(Semester - II)**

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<b>Course Code</b>	<b>BP206T</b>
<b>Course Title</b>	<b>Environmental sciences - Theory</b>

**Scope:**

Environmental Sciences is the scientific study of the environmental system and the status of its inherent or induced changes on organisms. It includes not only the study of physical and biological characters of the environment but also the social and cultural factors and the impact of man on environment.

**Objectives:**

Upon completion of the course the student shall be able to-

1. Create the awareness about environmental problems among learners.
2. Impart basic knowledge about the environment and its allied problems.
3. Develop an attitude of concern for the environment.
4. Motivate learner to participate in environment protection and environment improvement.
5. Acquire skills to help the concerned individuals in identifying and solving environmental problems.
6. Strive to attain harmony with Nature.

**Course Learning Outcomes (CLO):**

At the end of the course, students will be able to -

1. Define various natural resources.
2. Identify the renewable and non-renewable resources.
3. Describe the concepts of ecosystems.
4. Discuss the structure and function of various ecosystems.
5. Explain various types of environmental pollution.

**Syllabus:****Teaching hours: 45 Hours****UNIT I****15 Hours**

The Multidisciplinary nature of environmental studies.

Natural Resources.

Renewable and non-renewable resources:

Natural resources and associated problems

Forest resources; b) Water resources; c) Mineral resources; d) Food resources; e) Energy resources;

f) Land resources: Role of an individual in conservation of natural resources.

**UNIT II****15 Hours****Ecosystems:**

Concept of an ecosystem.

Structure and function of an ecosystem.

Introduction, types, characteristic features, structure and function of the ecosystems: Forest ecosystem; Grassland ecosystem; Desert ecosystem; Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).

**UNIT III**

**15 Hours**

Environmental Pollution: Air pollution; Water pollution; Soil pollution.

**Suggested Readings**<sup>^</sup>: (Latest edition)

1. Singh, Y.K. *Environmental Science*. Bangalore, New Age International Pvt, Publishers.
2. Agarwal, K.C. *Environmental Biology*. Bikaner, Nidhi Publ. Ltd.
3. Bharucha, E. *The Biodiversity of India*. Ahmedabad, Mapin Publishing Pvt. Ltd.
4. Brunner, R.C. *Hazardous Waste Incineration*. McGraw Hill Inc.
5. Clark, R.S. *Marine Pollution*. Oxford, Clarendon Press.
6. Cunningham, W.P., Cooper, T.H., Gorhani, E & Hepworth, M.T. *Environmental Encyclopedia*. Mumbai, Jaico Publ. House.
7. De, A.K. *Environmental Chemistry*. New Delhi, Wiley Eastern Ltd.
8. *Down to Earth*, Centre for Science and Environment. New Delhi.

L= Lecture, T= Tutorial, P= Practical, C= Credit

<sup>^</sup>this is not an exhaustive list