

19HS126**ENVIRONMENTAL SCIENCE
AND DISASTER MANAGEMENT**

Hours Per Week :

L	T	P	C
2	0	0	2

Total Hours :

L	T	P	WA/RA	SSH/HSH	CS	SA	S	BS
30	-	-	10	45	-	-	-	-

**Disaster Management****Source :**

<https://i0.wp.com/kashmirreader.com/wp-content/uploads/2019/03/disaster-managemen.jp>

COURSE DESCRIPTION AND OBJECTIVES:

To understand the natural environment and its relationships with human activities and to characterize and analyze human impacts on the environment. Design and evaluate strategies, technologies, and methods for sustainable management of environmental systems and for the remediation or restoration of degraded environments.

COURSE OUTCOMES:

Upon completion of the course, student will able to achieve the following outcomes:

COs	Course Outcomes	POs
1	Understand, discuss and describe effective usage of renewable and non-renewable sources.	---
2	Apply their knowledge of bio-diversity systematically to balance eco-system.	1
3	Analyse the reasons behind habitat loss, pollution, deforestation, man-wild life conflict and disasters.	4
4	Evaluate the trend and current scenario and come out with new technology which helps mankind in managing disasters.	4
5	Apply and develop eco-friendly technologies in order to maintain foul man-made conditions.	6,7
6	Creative across diverse disciplines to identify and create solutions that conserve and help maintain biodiversity in the long term.	7,11

SKILLS:

- ✓ *Understand structural relationships, abstract models, symbolic languages and deductive reasoning.*
- ✓ *Gain perspectives to address the challenges, improvise and devise solutions.*
- ✓ *Identify solutions to environment and development issues, using planning, analysis, modeling, and new approaches.*
- ✓ *Acquire field work techniques to study, observe and prepare documents, charts, PPTs, Models.*

UNIT - I**L-06**

Environmental Studies: Scope and importance. Natural Resources: Renewable and non-renewable resources Natural resources and associated problems. a) 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. Equitable use of resources for sustainable lifestyles.

UNIT - II**L-06**

Ecosystems: Concept, Structure, function, Producers, consumers, decomposers, Energy flow, ecological succession, food chains, food webs, ecological pyramids. Introduction, types, characteristic features, structure and function of the forest, grassland, desert and aquatic ecosystems (ponds, streams, lakes, rivers, oceans and estuaries).

UNIT - III**L-06**

Biodiversity and its conservation: Introduction, definition, genetic, species & ecosystem diversity and bio-geographical classification of India. Biodiversity at global, National and local levels; India as a mega-diversity nation, Hot-spots of bio-diversity. 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 - IV**L-06**

Environmental Pollution: Definition, cause, 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. Environment Protection Act, Air (Prevention and Control of Pollution) Act. Water (Prevention and control of Pollution) Act, Wildlife Protection Act. Forest Conservation Act.

UNIT - V**L-06**

Disaster Management: Natural Disasters and nature of natural disasters, their types and effects. man made Disasters-Nuclear disasters, chemical disasters, biological disasters, building fire, coal fire, forest fire, oil fire, air pollution, water pollution, deforestation, industrial waste water pollution, road accidents, rail accidents, air accidents, sea accidents. Concept of disaster management, national disaster management framework, financial arrangements, role of NGOs, community-based organizations and media.

TEXT BOOK :

1. Bharucha Erach. 2005, "Text Book of Environmental Studies for Undergraduate Courses". University Grants Commission, University Press, Hyderabad.

REFERENCE BOOKS :

1. Sharma J P. 2003, "Introduction to Environment Science". Lakshmi Publications.
2. Chary Manohar and Jaya Ram Reddy. 2004, "Principles of Environmental Studies". BS Publishers, Hyderabad.
3. Kaul S N and Ashuthosh Gautam. 2002, "Water and Waste Water Analysis". Days Publishing House, Delhi.
4. Gupta P K. 2004, "Methods in Environmental Analysis – Water". Soil and Air. Agro bios, Jodhpur.
5. Climate change.1995, "Adaptation and mitigation of climate change"-Scientific Technical Analysis Cambridge University Press, Cambridge.
6. Sharma, R.K. and Sharma, G. 2005, "Natural Disaster". APH Publishing Corporation, New Delhi.
7. Husain Majid. 2013, "Environment and Ecology": Biodiversity, Climate Change and Disaster Management. online book.