

ENVIRONMENTAL STUDIES

Syllabus

Program Code: 21UEVG11

2021-2022 onwards

MANNAR THIRUMALAI NAICKER COLLEGE (AUTONOMOUS)

Re-accredited with "A" Grade by NAAC

PASUMALAI, MADURAI – 625 004



MANNAR THIRUMALAI NAICKER COLLEGE (AUTONOMOUS)
DEPARTMENT OF CHEMISTRY
 (For those who joined in 2021-2022 and after)

Course Name	ENVIRONMENTAL STUDIES			
Course Code	21UEVG11	L	P	C
Category	Mandatory	2	-	2
Nature of course:	EMPLOYABILITY	SKILL ORIENTED	✓	ENTREPRENURSHIP
Course Objectives:				
The objective of the course is				
<ul style="list-style-type: none"> • To make students learn the structure and components of environment. • To envision the truth and the reality of nature around us. • To make students realize the interrelationships between mankind and environment. • To make learners outline the nature of pollutants and their effects. • To make students helpful in Disaster management. 				
Unit: I	Earth, Environment and Natural Resources			06
Environment - Components of Environment – Types of Environment- Environmental segments- Interference of man with the Environment. Need for Environmental Education. Earth – Formation and Evolution of Earth– Structure of Earth and its components – Atmosphere, Lithosphere, Hydrosphere and Biosphere. Renewable Resources and Non-Renewable Resources. Natural Resources and Associated Problems. Use and Exploitation of Forest, Water, Mineral, Food, Land and Energy Resources.				
Unit: II	Ecology and Ecosystems			06
Ecology – definition – Scope – Objectives – Subdivisions of Ecology. Ecosystem - Concept - Structure - Functions – Energy Flow – Food Chain and Food Web – Examples of Ecosystems (Forest, Grassland, Desert, Aquatic).				
Unit: III	Biodiversity			06
Definition – Biodiversity at Global, National and Local Level. Values of Biodiversity – Threats to Biodiversity – Conservation of Biodiversity. Biogeographical Distribution – Hotspots of Indian Biodiversity – National Biodiversity Conservation Board and Its functions. Endangered and Endemic Species of India – RET species				
Unit: IV	Pollution Issues:			06
Definition – Causes – Measurement, Mitigation and Management (3M) of Air, Water, Soil, Marine, Noise, Thermal and Nuclear Pollutions. Global Warming and Ozone Layer Depletion. Future plans of Global Environmental Protection Organisations.				
Unit: V	Sustainable Development & Disaster Management			06
Key aspects of Sustainable Development – Strategies for Sustainable Development - Agriculture – Organic farming – Irrigation – Water Harvesting – Water Recycling – Cyber Waste				

and Management; Disaster Management: Meaning – Types of Disasters - Flood and Drought – Earth quake and Tsunami – Landslides and Avalanches – Cyclones and Hurricanes – Preventions and Consequences. Management of Disasters.

Total Lecture Hours | **30 Hrs**

Books for Study:

1. Study Material for **Environmental Studies**, Mannar Thirumalai Naicker College, Pasumalai, Madurai – 625 004.

Books for References:

1. Study Material for **Environmental Studies**, Publications Division, Madurai Kamaraj University, Madurai – 625 021.
2. R.C. Sharma and Gurbir Sangha, **Environmental Studies**, Kalyani Publishers, 1, Mahalakshmi Street, T.Nagar, Chennai – 600 017.
3. Radha, **Environmental Studies for Undergraduate Courses of all Branches of Higher Education, (Based on UGC Syllabus)**, Prasanna Publishers & Distributors, Old No. 20, Krishnappa Street, (Near Santhosh Mahal), Chepak, Chennai – 600 005.
4. S.N.Tripathy and Sunakar Panda, **Fundamentals of Environmental Studies**, Vrinda Publications (P) Ltd. B-5, Ashish Complex, (opp. To Ahicon Public School), MayurVihar, Phase-1, Delhi– 110 091.
5. G.Rajah, **Environmental Studies for All UG Courses, (Based on UGC Syllabus)**, Margham Publications, 24, Rameswaram Road, T.Nagar, Chennai – 600 017.

Web Resources:

<https://nptel.ac.in/courses/120/108/120108004/>

<http://www.nptelvideos.in/2012/12/fundamentals-of-environmental-pollution.html>

Course Outcomes

K Level

After completing the course the student will be able to

CO1:	Mention and outline the structure and components of environment	K1 & K2
CO2:	Compare different ecosystems.	K1 & K4
CO3:	classify innumerable types of species on earth	K2
CO4:	Identify the causes for various climatic changes occurring due to pollution	K3
CO5:	Describe the environmental impacts of natural and manmade disasters and Develop sustainable strategies to protect the environment.	K4

CO & PO Mapping:

COS	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	3	1	-	1	-	2
CO 2	1	3	1	1	1	-
CO 3	3	2	-	2	-	1
CO 4	2	2	2	-	1	-
CO 5	2	1	2	1	1	1

*3 – Advanced Application; 2 – Intermediate Development; 1 - Introductory Level

LESSON PLAN

Unit	Course Name	Hrs	Pedagogy
I	Environment – Meaning – Definition - Components of Environment – Types of Environment. Interference of man with the Environment. Need for Environmental Education. Earth – Formation and Evolution of Earth– Structure of Earth and its components – Atmosphere, Lithosphere, Hydrosphere and Biosphere. Renewable Resources and Non-Renewable Resources. Natural Resources and Associated Problems. Use and Exploitation of Forest, Water, Mineral, Food, Land and Energy Resources.	6	Ppt, Discussions
II	Ecology – Meaning - Definition – Scope – Objectives – Subdivisions of Ecology. Concept - Structure - Functions – Energy Flow – Food Chain and Food Web – Examples of Ecosystems (Forest, Grassland, Desert, Aquatic).	6	Ppt, Discussions
III	Definition – Biodiversity at Global, National and Local Level. Values of Biodiversity – Threats to Biodiversity – Conservation of Biodiversity. Biogeographical Distribution – Hotspots of Indian Biodiversity – National Biodiversity Conservation Board and Its functions. Endangered and Endemic Species of India	6	Ppt, Discussions
IV	Definition – Causes – Effects and Control Measures of Air, Water, Soil, Marine, Noise, Thermal and Nuclear Pollutions. Global Warming and Ozone Layer Depletion. Future plans of Global Environmental Protection Organisations	6	Assignments/ seminars
V	Key aspects of Sustainable Development – Strategies for Sustainable Development - Agriculture – Organic farming – Irrigation – Water Harvesting – Water Recycling – Cyber Waste and Management; Disaster Management: Meaning – Types of Disasters - Flood and Drought – Earth quake and Tsunami – Landslides and Avalanches – Cyclones and Hurricanes – Preventions and Consequences. Management of Disasters.	6	Ppt, Discussions

Course Designed by: **Ms. N. Lakshmi Kruthika**

Assistant Professor of Chemistry

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