

Lesson Plan: Environmental Science 1st Sem 2025

Discipline: Environmental Science		Semester-1 Winter 2025	Faculty AMRUTENDU PATI	
Sl. No	Subject: Environmental Science	No. Of classes per week in a section:4	Semester From date: 06.08.2025 To date: 06.12.2025 No of weeks: 18	
	Week	Class Day	Topic	Periods
1	1st week	1st	Chapter 1: Ecosystem (Structure Ecosystem, Biotic and Abiotic Component, Food Chain, Food Web)	1
		2nd	Types of Ecosystem (Aquatic, Terrestrial Ecosystem)	1
		3rd	Carbon Cycle	1
		4th	Nitrogen Cycle	1
2	2nd Week	1st	Sulfur Cycle, Phosphorus Cycle	1
		2nd	Global Warming (Cause, Effect, Process)	1
		3rd	Green House Effect, Ozone layer Depletion	1
		4th	Chapter-2: Air Pollution Definition of pollution and pollutant, Natural and man made sources of air pollution	1
3	3rd Week	1st	Types, Particulate Pollutants: Effects and control (Bag filter)	1
		2nd	Cyclone separator	1
		3rd	Electrostatic Precipitator	1
		4th	Gaseous Pollution Control: Absorber, Catalytic Converter,	1
4	4th Week	1st	Effects of air pollution due to Refrigerants, I.C and Boiler	1
		2nd	Noise pollution: sources of pollution, measurement of pollution level, Effects of Noise pollution, Noise pollution (Regulation and Control) Rules, 2000	1
		3rd	Chapter-3 (Water Pollution and Soil Pollution) Sources of water pollution, Types of water pollutants	1
		4th	Characteristics of water Pollutants Turbidity, pH, total suspended solids, total solids	1
5	5th week	1st	BOD and COD: Definition and calculation	1
		2nd	Waste Water Treatment: Primary methods: sedimentation, froth floatation,	1
		3rd	Secondary methods: Activated sludge treatment, Trickling filter	1

		4th		
6	6th Week		Bioreactor, Tertiary Method	1
			Holiday	
7	7th Week	1st	Membrane separation technology, RO (reverse osmosis)	1
		2nd	Causes, Effects and Preventive measures of Soil Pollution:	1
		3rd	Causes-Excessive use of Fertilizers,	1
		4th	Pesticides and Insecticides, Irrigation, E-Waste.	1
8	8th Week	1st	Chapter-4 (Renewable source of Energy) Solar Energy:	1
		2nd	Basics of Solar energy.	1
		3rd	Flat plate collector (Liquid & Air)	1
		4th	Theory of Flat Plate Collector, Importance Of Coating,	1
9	9th Week	1st	Advanced Collector	1
		2nd	Solar pond, Solar water heater	1
		3rd	solar dryer, Solar stills.	1
		4th	Biomass: Overview of biomass as energy source.	1
10	10th Week	1st	Thermal characteristics of biomass as fuel. Anaerobic digestion	1
		2nd	Biogas production mechanism. Utilization and storage of biogas.	1
		3rd	Wind energy: Current status and future prospects of wind energy. Wind energy in India	1
		4th	Environmental benefits and problem of wind energy.	1
11	11th Week	1st	New Energy Sources: Need of new sources. Different types new energy sources.	1
		2nd	Applications of Hydrogen energy	1
		3rd	Ocean energy resources, Tidal energy conversion	1
		4th	Concept, origin and power plants of geothermal energy	1
12	12th week	1st	Solid waste generation- Sources and characteristics of : Municipal solid waste	1
		2nd	E- waste, bio medical waste	1
		3rd	Metallic wastes ,Non-Metallic wastes (lubricants, plastics, rubber) from industries.	1
		4th	Collection and disposal, 3R principles	1
13	13th week	1st	Energy recovery, sanitary landfill	1
		2nd	Hazardous waste, Air quality act 2004,	1
		3rd	Air pollution control act 1981 and water pollution and control act 1996	1
		4th	Structure and role of Central and state pollution control board.	1
		5th	Concept of Carbon Credit, Carbon Footprint.	1

14	14 th week	3rd	Environmental management in fabrication industry	1
		4th	ISO14000: Implementation in industries, Benefits	1
		1st		1
		2nd	Revision	1
		3rd	Revision	1
15	15 th week	4th	Revision	1
		1st	Revision	1
		2nd	Revision	1
		3rd	Revision	1
		4th	Revision	1
16	16 th week	1st		1
		2 nd	Previous year Question Discussion	1
		3 rd	Previous year Question Discussion	1
		4 th	Previous year Question Discussion	1
			Previous year Question Discussion	1
17	17 th week	1 st	Doubt clearing class	1
		2 nd	Doubt clearing class	1
		3 rd	Doubt clearing class	1
		4 th	Doubt clearing class	1
			Doubt clearing class	1
18	18 th week	1st	Class Test	1
		2 nd	Class Test	1
		3 rd	Class Test	1
		4 th	Class Test	1
			Class Test	1

Amrendu Pati

Sign. of Faculty



Sign. of Sr. Lect.
Sr. Lecturer
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J.I.E.T (Poly), Jagatpur, Cto



Sign of Principal
Principal
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