Lesson Plan For

Environmental Science (2022-23)

Department of Metallurgical Engineering

UGIE Rourkela

Discipline: **Metallurgical Engineering**

Subject: **Environmental Science**

Semester: **6th**

Total Period allotted: **60**

Period per week: **4**

Name of the Teaching Faculty: **Amarjit Mohanta**

Week	**Class No**		**Lecture Topics**
1	1	The Multidisciplinary nature of environmental studies	Introduction
	2		Definition
	3		Scope and importance
	4		Need for public awareness
2	5	Natural Resources	Forest resources:
	6		Water resources
	7		Dam's benefits and problems
	8		Mineral Resources
3	9		Food Resources

	10		Energy Resources
	11		Land Resources
	12		Soil erosion, and desertification
4	13		Role of individual in conservation of natural resources
	14		Equitable use of resources for sustainable life styles
	15	System	Concept of an eco system
	16		Structure and function of an eco system
5	17		Producers, consumers, decomposers. Energy flow in the eco systems.
	18		Ecological succession
	19		Food chains, food webs and ecological pyramids
	20		Introduction, types, characteristic features, structure and function of the following eco system

6	21		Forest ecosystem
	22		Aquatic eco systems (ponds, streams, lakes, rivers, oceans, estuaries)
	23	Biodiversity and it's Conservation	Introduction- Definition: genetics, species and ecosystem diversity
	24		Biogeographically classification of India
7	25		Value of biodiversity: consumptive use
	26		Productive use
	27		Social ethical, aesthetic and optin values
	28		Biodiversity at global
8	29		Biodiversity at national and local level.
	30		Threats to biodiversity: Habitats loss, poaching of wild life, man wildlife conflicts.
	31	Environmental Pollution	Air pollution
	32		Air pollution

9	33		Water pollution
	34		Soil pollution
	35		Marine pollution
	36		Noise pollution
10	37		Thermal pollution
	38		Nuclear hazards
	39		Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
	40		Role of an individual in prevention of pollution
11	41		Disaster management: Floods, earth quake, cyclone and landslides
	42		Cyclone Management
	43	Social issues and the Environment	Form unsustainable to sustainable development
	44		Urban problems related to energy
12	45		Water conservation, rain water harvesting

	46		Water shed management
	47		Resettlement and rehabilitation of people; its problems and concern
	48		Environmental ethics: issue and possible solutions
13	49		Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, case studies.
	50		Air (prevention and control of pollution) Act
	51		Water (prevention and control of pollution) Act
	52		Public awareness
14	53	Human population and the environment	Population growth and variation among nations
	54		Population explosion-family welfare program

	55		Environment and human health
	56		Human rights
15	57		Value education
	58		Role of information technology in environment and human health
	59		Class Test
	60		Revision