

## LESSON PLAN

Session Jan-June 2025

Faculty Name: Dr Sanjay Kumar Sao      Subject: Environmental Engineering and Sustainable Development

Semester: Second      Branch: - CSE/ET&T/Mechanical

UNIT NUMBER	NAME OF THE TOPIC	NO OF CLASS REQUIRED	REMARK
<b>UNIT-1</b>  <b>Water pollution and Air pollution</b>	1.0 Introduction to environment and environment pollution	01	
	<b>1.1 Water pollution</b>		
	1.1.1 Introduction, 1.1.2 sources of water pollution	01	
	1.1.3 classification of water pollutants 1.1.4 adverse effect of water pollution	01	
	1.1.5 control of water pollution 1.1.6 Physical and chemical standard of domestic water as per Indian standard.	01	
	<b>1.2 Air pollution</b>		
	1.2.1 Introduction 1.2.2 Sources of air Pollutants	01	
	1.2.3 classification of air Pollutants 1.2.4 Effect of air pollution on human plant, animal.	01	
	1.2.5 Air monitoring system 1.2.6 Air pollution control	01	
	Revision, Doubt Class, Assignment, Quiz conduction	01	
Unit Test-1	01		
	Total -09		
<b>UNIT-2</b>  <b>Soil, Noise, Thermal and Nuclear pollution</b>	<b>2.1 Soil pollution</b>		
	2.1.1 introduction 2.1.2 sources of soil pollution	01	
	2.1.3 adverse effect of soil pollution 2.1.4 control measures of soil pollution	01	
	<b>2.2 Noise pollution</b>		
	2.2.1 Introduction 2.2.2 measurement of noise and acceptable noise level 2.2.3 sources of noise pollution	02	
	2.2.4 effect of noise pollution 2.2.5 control of noise pollution	01	
	<b>2.3 thermal pollution</b>		
	2.3.1 introduction 2.3.2 effects of thermal pollution 2.3.3 causes 2.3.4 control	02	
	<b>2.4 Radioactive pollution</b>		
	2.4.1 introduction 2.4.2 sources of radioactive pollution 2.4.3 Adverse effects of radioactive pollution	01	

	2.4.4 control of radioactive pollution		
	Revision, Doubt Class, Assignment, Quiz conduction	01	
	Unit Test-2	01	
		Total- 11	
<b>Unit 3.</b> <b>Sustainable Development and Clean technologies</b>	<b>3.1 Sustainable Development</b>		
	3.1.1 Concept of sustainable development	01	
	3.1.2 Natural resources, a-biotic and biotic resources		
	3.1.3 Principles of conservation of energy and management	01	
	3.1.4 Need of Renewable energy		
	3.1.5 Growth of renewable energy in India and the world	01	
	3.1.6 Concept of waste management and recycling		
	<b>3.2 Clean Technologies</b>		
	3.2.1 Introduction: Clean technology	01	
	3.2.2 Types of Energy		
	3.2.3 Conventional Energy Sources		
	3.2.4 Non-conventional Sources of Energy	01	
	3.2.5 Recycling pollution control		
	<b>3.3 Solar Power</b>		
□ Utilization of bio fuels and electricity in sector.	01		
3.3.1 Features of solar thermal and PV systems			
3.3.2 Types of solar cookers and solar water heaters			
<b>3.4 Hydel Energy</b> and its advantages			
3.5 wind energy advantage and its limitation	01		
<b>3.6 Biomass energy</b>			
3.6.1 Types of Biomass Energy Sources	01		
3.6.2 Energy content in biomass of different types			
3.6.3 Types of Biomass conversion processes	01		
3.6.4 Biogas production			
Revision, Doubt Class, Assignment, Quiz conduction	01		
Unit Test-3	01		
	Total -11		
<b>Unit 4.0</b> <b>Environmental Impact Assessment (EIA)</b>	<b>4.1 Public Participation in EIA</b>		
	4.1.1 EIA documentation	01	
	4.1.2 Case studies on EIA	02	
	4.1.3 EIA scope & steps	01	
	<b>4.2 EIA process</b>		
	4.2.1 EIA report	01	
	4.2.2 EIA Gazette notification	01	
	4.2.3 EIA action plan		
	<b>4.3 EIA implementation</b>		
	4.3.1 EIA directives	01	
4.3.2 follow-ups			
Revision, Doubt Class, Assignment, Quiz conduction	01		
Unit Test-4	01		
	Total-09		
<b>Unit 5</b>	5.1 Water conservation	01	
	5.2 Rain water harvesting		

<b>Social Issues And The Environment</b>	5.3 Watershed management 5.4 Acid rain and its effect	01	
	5.5 Climate change 5.6 Green house effect	01	
	5.7 Depletion of Ozon layer and effect of Ozon layer depletion	01	
	5.8 Global warming and measures against global worming	01	
	5.9 Solid waste management: causes, effects and control measures of urban and industrial waste, importance of 3R's in waste management.	02	
	5.10 Environment protection Act1986:importance and objective	01	
	Revision, Doubt Class, Assignment, Quiz conduction	01	
	Unit Test-4	01	
		Total-10	
	Total Class Required		50



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