LESSON PLAN

(4periods per week, total 60 periods in SEM)

DISCIPLINE: Math and Science	**SEMESTER:** 1st Semester	**NAME OF THE TEACHING FACULTY:** **Miss. Dipa Biswas** PTGF (Civil Engg.)
SUBJECT: Environmental Science	**NO. OF DAYS/PER WEEK CLASSES ALLOTTED:** 5	**SEMESTER FROM DATE:TO DATE:_____** **NO. OF WEEKS:15**
Week	**Class Day**	**Theory Topic**
	1. Ecosystem	
1st	1ST	1.1 Introduction
	2ND	1.2 Aquatic and terrestrial ecosystem 1.2.1 Natural ecosystem 1.2.2 Artificial ecosystems
	3RD	1.3 Structure of ecosystem 1.3.1 Biotic (living) components 1.3.2 Abiotic (non-living) components
	4TH	1.4 Food chain and food web 1.4.1 Food Chain 1.4.2 Food Web
	2. Air and Noise Pollution	
2nd	1st	1.5 Carbon, Nitrogen, Sulphur, Phosphorus cycle 1.5.1 Carbon Cycle
	2nd	1.5.2 Nitrogen Cycle
	3rd	1.5.3 Sulphur Cycle
	4th	1.5.4 Phosphorus Cycle
3rd	1st	1.6 Global Warming 1.6.1 Ozone Depletion
	2nd	2.1 Introduction 2.2 Definition of pollution and pollutant

		2.2.1 Natural and manmade sources of air pollution
	3rd	2.3 Air Pollutants 2.3.1 Particulate pollutant
	4th	2.4 Gaseous Pollution Control 2.4.1 Absorber 2.4.2 Catalytic converter
4th	1st	2.4.3 Effects of air pollution due to Refrigerants, I.C., Boiler
	2nd	2.5 Noise pollution 2.5.1 Sources of noise pollution
	3rd	2.5.2 Measurement of noise pollution level 2.5.3 Effects of Noise pollution
	4th	2.5.4 Noise pollution (Regulation and Control) Rules, 2000
	3.----------	
5th	1st	
	2nd	
	3rd	
	4th	
6th	1st	
	2nd	
	3rd	
	4th	
7th	1st	
	2nd	
	3rd	
	4th	
8th	1st	
	4. Renewable sources of Energy	

	2nd	4.1 Introduction
	3rd	4.2 Solar Energy 4.2.1 Flat Plate Collector (liquid and air)
	4th	4.2.2 Theory of flat plat collector
9th	1st	4.2.3 Importance of coating and Advanced collector
	2nd	4.2.4 Solar pond, Solar water heater, Solar dryer and Solar stills
	3rd	4.3 Biomass 4.3.1 Thermal characteristics of biomass as fuel
	4th	4.3.2 Anaerobic digestion
10th	1st	4.3.3 Biogas production mechanism
	2nd	4.3.4 Utilization and storage of biogas
	3rd	4.4 Wind energy 4.4.1 Current status and future prospects of wind energy 4.4.2 Wind energy in India
	4th	4.4.3 Environmental benefits and problem of wind energy
11th	1st	4.5 New Energy Sources 4.5.1 Different types new energy sources 4.5.2 Applications of Hydrogen energy
	2nd	4.5.3 Applications of Ocean energy resources 4.5.4 Concept, origin and power plants of geothermal energy
	5. Solid Waste Management, ISO 14000 & Environmental Management	
	3rd	5.1 Introduction
	4th	5.2 Solid waste generation 5.2.1 Sources and characteristics of Municipal solid waste
12th	1st	5.2.2 Sources and Characteristics of e-wastes
	2nd	5.2.3 Sources and Characteristics of Biomedical waste
	3rd	5.3 Metallic wastes and Non-Metallic wastes 5.3.1 Non-metallic wastes from industries

	4th	5.4 Collection and disposal of MSW 5.4.1 Collection of Municipal Solid Waste (MSW)
13th	1st	5.4.2 Disposal of Municipal Solid Waste (MSW)
	2nd	5.4.3 3R Principles
	3rd	5.4.4 Energy recovery
	4th	5.4.5 Sanitary landfill 5.4.6 Hazardous waste
14th	1st	5.5 Air quality act 2004 5.5.1 Air pollution control act 1981
	2nd	5.5.2 The Water (Prevention and Control of Pollution) act 1974
	3rd	5.6 Structure and role of Central and State Pollution Control Board 5.6.1 Organization of Central Pollution control Board
	4th	5.6.2 Functions of the Central Board at the National Level
15th	1st	5.6.3 Structure and Role of State Pollution Control Board
	2nd	5.6.4 Functions of the Central Board as State Boards for the Union Territories
	3rd	5.7 Carbon Footprint and Carbon Credit 5.7.1 Concept of Carbon Credit
	4th	5.8 Environmental management in fabrication industry