ABVGIET ,Pragati Nagar ,Distt. Shimla(H.P)

LESSON PLAN

Program Name	Diploma In Computer Engg. ME, ECE, & EE
Course Title	Environment Science
Course Code	AU-102
Semester	2nd
Course Teacher Name	Rajender Kumar

Evaluation Scheme

Sr. No.	Subject Code	Subject	Study Scheme			Total Study Hours	Credits	Evaluation Scheme								Total Marks
								Internal Assessment			External Assessment					
			Th	Pr	DCS			Th	Pr	Total	Th	Hrs	Pr	Hrs	Total	
1	AU-102	Env.Sc	2	-	-	2	0	40	-	40	60	3	-	-	60	100

References Books/ Study Material

	Name of Book	Author Name
Prescribed Books	Environmental Studies	S.C. Sharma & M.P. Poonia .
	Understanding Chemistry	C.N. R. Rao
	Elements of Environmental Pollution Control	O.P. Gupta
	Air Pollution & Control	Keshav Kant
	Environmental Pollution Control and Engineering	Rao, C. S.
	Air Pollution	Rao, M. N.Rao, H.V.N

Course Outcomes (COS)

CO-1	To be aware of ecosystem and use the knowledge to produce eco – friendly products.
CO-2	Use relevant air and noise control method to solve domestic and industrial problems.
CO-3	Use relevant water and soil control method to solve domestic and industrial problems.
CO-4	To recognize relevant energy sources required for domestic and industrial applications.
CO-5	Solve local solid and e-waste problems.

Unit No	No. of Lect. Planed	Topic to be covered	Proposed date (as per time table)	Actual Date	Remarks
1	1	Structure of ecosystem, Biotic & Abiotic components Food chain and food web Aquatic (Lentic and Lotic) and terrestrial ecosystem	Day 1		

	2	Carbon, Nitrogen, Nitrogen, Sulphur, Phosphorus cycle.	Day 2		
	3	Global warming -Causes, effects, process, Green House Effect, Ozone depletion.	Day 3		
		Definition of pollution and	Day 4		
		Types.			
2	5	Particulate Pollutants: Effects and control (Bag filter, Cyclone separator).	Day 5		
	6	Electrostatic Precipitator, Gaseous Pollution Control: Absorber.	Day 6		
	7	Catalytic Converter, Effects of air pollution due to Refrigerants, I.C., Boiler.	Day 7		
	8	Noise pollution: sources of pollution, measurement of pollution level, Effects of Noise pollution.	Day 8		
	9	Noise pollution (Regulation and Control) Rules, 2000,	Day 9		
3	10	Characteristics of water pollutants Tur-bidity, pH, total suspended solids, BOD and COD: Definition, calculation.	Day 10		
	11	Waste Water Treatment: Primary methods: sedimentation, froth floatation, Secondary methods: Activated sludge treatment.	Day 11		
	12	Trickling filter, Bioreactor, Tertiary Method: RO (reverse osmosis)	Day 12		
	13	CLASS TEST - 1	Day 13		
	14	Tertiary Method: Membrane separation technology	Day 14		

	15	Causes, Effects and Preventive measures of Soil Pollution: Causes-Excessive use of Fertilizers, Pesticides and Insecticides, Irrigation, E-Waste.	Day 15		
4	16	Solar Energy: Basics of Solar energy. Flat plate collector (Liquid & Air). Theory of flat plate collector.	Day 16		
	17	Importance of coating. Advanced collector. Solar pond. Solar water heater, solar dryer. Solar stills.	Day 17		
	18	Biomass: Overview of biomass as energy source. Thermal characteristics of biomass as fuel. Anaerobic digestion. Biogas production mechanism.	Day 18		
	19	Utilization and storage of biogas. Wind energy: Current status and future prospects of wind energy. Wind energy in India.	Day 19		
	20	Environmental benefits and problem of wind energy. Different types new energy sources: Need of new sources.	Day 20		
	21	CLASS TEST - 2	Day 21		
	22	Applications of (Hydrogen energy, Ocean energy resources, Tidal energy conversion). Concept, origin and power plants of geothermal energy.	Day 22		
5	23	Solid waste generation-Sources and characteristics of : Municipal solid waste, E- waste, bio- medical waste.	Day 23		
	24	Metallic wastes and Non-Metallic wastes (lubricants, plastics, rubber) from industries.	Day 24		

	25	Collection and disposal: MSW (3R, principles, energy recovery, sanitary landfill).	Day 25		
	26	Hazardous. Waste Air quality act 2004, air pollution control act 1981 and water pollution and control act1996.	Day 26		
	27	Structure and role of Central and state pollution control board, Concept of Carbon Credit, Carbon Footprint.	Day 27		
	28	Environmental management in fabrication industry. ISO14000: Implementation in industries, Benefits.	Day 28		

Home Assignments

Ass. No	Contents of Syllabus Covered	Proposed date	Actual Date	Remarks
1	Unit-1&2	28.03.2026		
2	Unit-3&4	30.04.2026		
3	Unit-5	26.05.2026		

Class /House Test

Name of Test	Syllabus Covered in Tests (Unit/Chapter Wise)	Proposed date	Actual Date	Remarks
Class Test-I	Unit-1&2	As per HPTSB Academic Calendar Schedule		
Class Test-II	Unit-3& 4			
House Test	80% of whole syllabus			

Signature of Course Teacher with Name

(Rajender kumar)

Approved by

HOD/OIC Principal