

LESSON PLAN

Name of the Faculty: Dr. Somvir Bajar
Discipline & Semester: M.Sc. (Environmental Sciences) – Semester-II
Subject: Air & Noise: Pollution and Abatement (EVS-201B / ESP-102-V)
Lesson plan duration: 12 weeks

Week	Lecture Day	Topic of Assignment
1.	1	Air Pollution: World and Indian scenario
	2	Sources and classification of air pollutants
	3	Classification of air pollutants
	4	Criteria Air Pollutants and their properties-I
2.	5	Criteria Air Pollutants and their properties-II
	6	Atmospheric Aerosols
	7	Long Range Transport of Atmospheric Pollutants
	8	Impacts of air pollutants on human health
3.	9	Impacts of air pollutants on plants and materials
	10	The Air (Prevention and Control of Pollution) Act, 1981 and its amendments
	11	National Air Quality Standards
	12	Ambient Air Pollutants Sampling: Sedimentation, High-volume Filtration, Tape sampler, Impingement and Electrostatic precipitator
4.	13	Collection of gaseous air pollutants: Grab sampling, Absorption in liquid
	14	Collection of gaseous air pollutants: Adsorption on solids, Freeze out sampling
	15	Indoor Air Monitoring
	16	Source Sampling: Representative sampling
5.	17	Isokinetic sampling
	18	Flue gas analyzer principles for monitoring CO _x and NO _x
	19	Flue gas analyzer principles for monitoring SO _x and Hydrocarbon
	20	Meteorological aspects of air pollutants dispersion, Plume Behavior
6.	21	Gaussian Plume Model
	22	Line source model
	23	Area source model
	24	Particulate pollutants Control: Cyclonic separator, Fabric filter System
7.	25	Electrostatic precipitators, Wet scrubbers
	26	Gaseous Pollutants Control: Absorption; Spray chambers (and towers or columns)
	27	Gaseous Pollutants Control: Plate or tray towers, Packed towers, and Venturi scrubbers
	28	Particulate pollutants Control: Cyclonic separator, Fabric filter System
8.	29	Adsorption, Pressure-Swing Adsorption (PSA)
	30	Condensation: Surface and contact condensers
	31	Combustion: Direct-flame, thermal and catalytic combustion
	32	Vehicular Pollution Control: Air-Fuel ratio
9.	33	Catalytic convertor: Selective catalytic reduction (SCR)
	34	Selective non-catalytic reduction (SCNR)
	35	Bharat Stage Emission Standards (BSES)
	36	Definition, Sources of Noise Pollution

10.	37	Decibel Scale
	38	Sound Pressure Level
	39	Combining Decibel
	40	Frequency Weighting Networks-I
11.	41	Frequency Weighting Networks-II
	42	Noise Indices (LDN, TNI)
	43	Noise Indices (L_{10} , L_{50} , L_{90} , L_{eq})
	44	Noise & Vibration measurement
12.	45	Noise Pollution Standards
	46	Impact of Noise on Human Health
	47	Impact of Vibrations on Human Health
	48	Noise Control and Abatement Measures: Active and Passive methods