

LESSON PLAN

Subject- Applied Chemistry & Environmental Science (TH-3)

Branch- Civil Engineering

Name of the Faculty- Prasant Behera

Session: 17-08-2026 to 17-04-2027

Class Days: Monday to Thursday (4/week)

Total Working Days Available: 128

Total Periods Planned: 128 (128 syllabus as per SCTE&VT)

Sl No.	Date	Day	Unit	Period	Topic / Content	Type
1	17-08-2026	Mon	UNIT-1: Air and Noise Pollution (10P)	P1	1.1 Pollution definition & classification	Teaching
2	18-08-2026	Tue	UNIT-1: Air and Noise Pollution (10P)	P2	1.2 Particulate pollutants & effects	Teaching
3	19-08-2026	Wed	UNIT-1: Air and Noise Pollution (10P)	P3	1.2 Control equipments: Bag filter, Cyclone, ESP	Teaching
4	20-08-2026	Thu	UNIT-1: Air and Noise Pollution (10P)	P4	1.3 Gaseous control: Catalytic converter	Teaching
5	24-08-2026	Mon	UNIT-1: Air and Noise Pollution (10P)	P5	1.3 Effects due to Refrigerants, Boiler	Teaching
6	25-08-2026	Tue	UNIT-1: Air and Noise Pollution (10P)	P6	1.4 Noise pollution	Teaching
7	31-08-2026	Mon	UNIT-1: Air and Noise Pollution (10P)	P7	Revision of Unit-1	Revision
8	01-09-2026	Tue	UNIT-1: Air and Noise Pollution (10P)	P8	Doubt clearing	Teaching
9	02-09-2026	Wed	UNIT-1: Air and Noise Pollution (10P)	P9	Unit-1 Quiz (10 marks)	Quiz
10	03-09-2026	Thu	UNIT-1: Air and Noise Pollution (10P)	P10	Buffer / Internal-1 prep	Revision
11	07-09-2026	Mon	UNIT-2: Water and Soil Pollution (12P)	P1	2.1 Sources & types of water pollution	Teaching
12	08-09-2026	Tue	UNIT-2: Water and Soil Pollution (12P)	P2	2.2 Characteristics: Turbidity, pH, TSS, BOD, COD	Teaching
13	09-09-2026	Wed	UNIT-2: Water and Soil Pollution (12P)	P3	2.3 Waste water: Primary - sedimentation, froth floatation	Teaching
14	10-09-2026	Thu	UNIT-2: Water and Soil Pollution (12P)	P4	2.3 Secondary: Activated sludge, Bioreactor	Teaching
15	17-09-2026	Thu	UNIT-2: Water and Soil Pollution (12P)	P5	2.3 Tertiary: Membrane, RO	Teaching

16	21-09-2026	Mon	UNIT-2: Water and Soil Pollution (12P)	P6	2.4 Soil pollution: causes, effects, prevention	Teaching
17	22-09-2026	Tue	UNIT-2: Water and Soil Pollution (12P)	P7	2.5 Fertilizers, Pesticides, E-waste effects	Teaching
18	23-09-2026	Wed	UNIT-2: Water and Soil Pollution (12P)	P8	Numerical on BOD/COD	Teaching
19	24-09-2026	Thu	UNIT-2: Water and Soil Pollution (12P)	P9	Revision	Revision
20	28-09-2026	Mon	UNIT-2: Water and Soil Pollution (12P)	P10	Quiz Unit-2	Quiz
21	29-09-2026	Tue	UNIT-2: Water and Soil Pollution (12P)	P11	Doubt + Previous Q	
22	30-09-2026	Wed	UNIT-2: Water and Soil Pollution (12P)	P12	Buffer	Revision
23	01-10-2026	Thu	UNIT-3: Solid Waste Management (10P)	P1	3.0 Solid waste: Municipal, E-waste, Biomedical, Metallic/Non-metallic	Teaching
24	05-10-2026	Mon	UNIT-3: Solid Waste Management (10P)	P2	3.1 Collection & disposal: 3R, Energy recovery	Teaching
25	06-10-2026	Tue	UNIT-3: Solid Waste Management (10P)	P3	3.1 Sanitary landfill, Hazardous waste	
26	07-10-2026	Wed	UNIT-3: Solid Waste Management (10P)	P4	3.2 Carbon Credit, Carbon Footprint concept	Teaching
27	08-10-2026	Thu	UNIT-3: Solid Waste Management (10P)	P5	3.3 Env. management in fabrication industry	Teaching
28	12-10-2026	Mon	UNIT-3: Solid Waste Management (10P)	P6	Revision Unit 1-3	Revision
29	13-10-2026	Tue	UNIT-3: Solid Waste Management (10P)	P7	1st INTERNAL ASSESSMENT - Unit 1-3 (Theory + MCQ)	Assessment
30	14-10-2026	Wed	UNIT-3: Solid Waste Management (10P)	P8	Doubt clearing after Internal-1	Teaching
31	15-10-2026	Thu	UNIT-3: Solid Waste Management (10P)	P9	Assignment discussion	Teaching
32	21-10-2026	Wed	UNIT-3: Solid Waste Management (10P)	P10	Revision	Revision
33	22-10-2026	Thu	UNIT-4: Electrochemistry & Corrosion (16P)	P1	4.1 Oxidation, reduction, redox concept	Teaching
34	26-10-2026	Mon	UNIT-4: Electrochemistry & Corrosion (16P)	P2	4.2 Electrolytes, non-electrolytes with examples	Teaching
35	27-10-2026	Tue	UNIT-4: Electrochemistry & Corrosion (16P)	P3	4.3 Faraday's laws + Numerical (2 periods)	Teaching
36	28-10-2026	Wed	UNIT-4: Electrochemistry & Corrosion (16P)	P4	4.3 Faraday's laws + Numerical contd	Teaching
37	29-10-2026	Thu	UNIT-4: Electrochemistry & Corrosion (16P)	P5	4.4 Industrial: Electrometallurgy, Electroplating, Refining	Teaching
38	02-11-2026	Mon	UNIT-4:	P6	4.5 Redox in cells: Primary	Teaching

			Electrochemistry & Corrosion (16P)		dry cell	
39	03-11-2026	Tue	UNIT-4: Electrochemistry & Corrosion (16P)	P7	4.5 Secondary: Lead storage, Fuel cell	Teaching
40	04-11-2026	Wed	UNIT-4: Electrochemistry & Corrosion (16P)	P8	4.6 Corrosion: definition, chemical & electrochemical types	Teaching
41	05-11-2026	Thu	UNIT-4: Electrochemistry & Corrosion (16P)	P9	4.6 H ₂ liberation & O ₂ absorption mechanism	Teaching
42	09-11-2026	Mon	UNIT-4: Electrochemistry & Corrosion (16P)	P10	4.6 Factors affecting corrosion rate	Teaching
43	10-11-2026	Tue	UNIT-4: Electrochemistry & Corrosion (16P)	P11	4.7 Internal prevention: Purification, alloying, heat treatment	Teaching
44	11-11-2026	Wed	UNIT-4: Electrochemistry & Corrosion (16P)	P12	4.7 External: anodic/cathodic coatings	Teaching
45	12-11-2026	Thu	UNIT-4: Electrochemistry & Corrosion (16P)	P13	4.7 Organic inhibitors	Teaching
46	16-11-2026	Mon	UNIT-4: Electrochemistry & Corrosion (16P)	P14	Revision	Revision
47	17-11-2026	Tue	UNIT-4: Electrochemistry & Corrosion (16P)	P15	Unit-4 Quiz	Quiz
48	18-11-2026	Wed	UNIT-4: Electrochemistry & Corrosion (16P)	P16	Revision	Revision
49	19-11-2026	Thu	UNIT-5: Chemistry of Fuels and Lubricants (14P)	P1	5.1 Fuel definition, classification, HCV/LCV	Teaching
50	23-11-2026	Mon	UNIT-5: Chemistry of Fuels and Lubricants (14P)	P2	5.2 Liquid fuels: petrol, diesel, octane/cetane rating	Teaching
51	25-11-2026	Wed	UNIT-5: Chemistry of Fuels and Lubricants (14P)	P3	5.3 LPG, CNG, water gas, coal gas, producer gas, biogas - composition & uses	Teaching
52	26-11-2026	Thu	UNIT-5: Chemistry of Fuels and Lubricants (14P)	P4	5.4 Lubricant: definition, function, classification	Teaching
53	30-11-2026	Mon	UNIT-5: Chemistry of Fuels and Lubricants (14P)	P5	5.5 Lubrication mechanism: hydrodynamic & boundary	Teaching
54	01-12-2026	Tue	UNIT-5: Chemistry of Fuels and Lubricants (14P)	P6	5.6 Physical properties: viscosity, viscosity index, oiliness, flash/fire point, cloud/pour	Teaching
55	02-12-2026	Wed	UNIT-5: Chemistry of	P7	5.6 Chemical properties:	Teaching

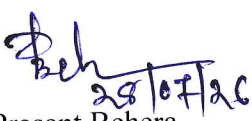
			Fuels and Lubricants (14P)		coke number, TAN, saponification	
56	03-12-2026	Thu	UNIT-5: Chemistry of Fuels and Lubricants (14P)	P8	5.6 Good lubricant characteristics	Teaching
57	07-12-2026	Mon	UNIT-5: Chemistry of Fuels and Lubricants (14P)	P9	Numerical on calorific value	Teaching
58	08-12-2026	Tue	UNIT-5: Chemistry of Fuels and Lubricants (14P)	P10	Revision Unit 4-5	Revision
59	09-12-2026	Wed	UNIT-5: Chemistry of Fuels and Lubricants (14P)	P11	2nd INTERNAL ASSESSMENT - Unit 4-5	Assessment
60	10-12-2026	Thu	UNIT-5: Chemistry of Fuels and Lubricants (14P)	P12	Doubt clearing + Paper discussion	Teaching
61	14-12-2026	Mon	UNIT-5: Chemistry of Fuels and Lubricants (14P)	P13	Assignment + Quiz	Quiz
62	15-12-2026	Tue	UNIT-5: Chemistry of Fuels and Lubricants (14P)	P14	Revision	Revision
63	16-12-2026	Wed	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P1	6.1 Rutherford model & failures	Teaching
64	17-12-2026	Thu	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P2	6.2 Bohr's theory & hydrogen spectrum	Teaching
65	21-12-2026	Mon	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P3	6.3 Quantum numbers, orbital concept, s,p,d shapes	Teaching
66	22-12-2026	Tue	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P4	6.4 Pauli's, Heisenberg, Aufbau principle	Teaching
67	23-12-2026	Wed	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P5	6.4 Electronic config upto 30, Hund's rule	Teaching
68	24-12-2026	Thu	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P6	6.5 Chemical bonding: cause, ionic (NaCl)	Teaching
69	28-12-2026	Mon	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P7	6.5 Covalent Bonding(H ₂ , F ₂ , HF)	Teaching
70	29-12-2026	Tue	UNIT-6: Atomic	P8	6.6 Sigma & pi bonds, orbital	Teaching

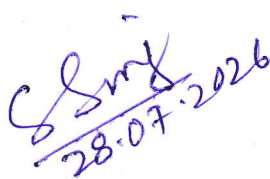
			Structure, Chemical Bonding and Solutions (21P)		overlap	
71	30-12-2026	Wed	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P9	6.6 Hybridization: BeCl ₂ , BF ₃ , CH ₄ , NH ₃ , H ₂ O	Teaching
72	31-12-2026	Thu	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P10	6.7 Coordination bond in NH ₄ ⁺ , metallic bonding	Teaching
73	04-01-2027	Mon	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P11	6.8 H-bond & anomalous NH ₃ , H ₂ O	Teaching
74	05-01-2027	Tue	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P12	6.9 Solution: solute, solvent, concentration terms	Teaching
75	06-01-2027	Wed	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P13	6.9 Normality, Molarity, Molality	Teaching
76	07-01-2027	Thu	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P14	6.9 ppm, mass%, volume%, mole fraction	Teaching
77	11-01-2027	Mon	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P15	6.9 Numerical	Teaching
78	12-01-2027	Tue	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P16	6.9 Numerical	Teaching
79	13-01-2027	Wed	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P17	6.9 Numerical	Teaching
80	18-01-2027	Mon	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P18	Revision Unit-6	Revision
81	19-01-2027	Tue	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P19	Quiz + Important diagrams	Quiz
82	20-01-2027	Wed	UNIT-6: Atomic Structure, Chemical Bonding and Solutions (21P)	P20	Doubt	Teaching
83	21-01-2027	Thu	UNIT-6: Atomic	P21	Buffer	Revision

			Structure, Chemical Bonding and Solutions (21P)			
84	25-01-2027	Mon	UNIT-7: Water and Water Treatment (13P)	P1	7.1 Water distribution (pie/bar), soft & hard water	Teaching
85	27-01-2027	Wed	UNIT-7: Water and Water Treatment (13P)	P2	7.2 Hardness causes, unit, numerical & conversion	Teaching
86	28-01-2027	Thu	UNIT-7: Water and Water Treatment (13P)	P3	7.3 Poor lathering, boiler problems: scale, sludge, foaming, priming, corrosion	Teaching
87	01-02-2027	Mon	UNIT-7: Water and Water Treatment (13P)	P4	7.4 Hardness by EDTA, TDS, alkalinity estimation	Teaching
88	02-02-2027	Tue	UNIT-7: Water and Water Treatment (13P)	P5	7.5 Softening: soda lime, zeolite, ion exchange (2P)	Teaching
89	03-02-2027	Wed	UNIT-7: Water and Water Treatment (13P)	P6	ion exchange process	Teaching
90	04-02-2027	Thu	UNIT-7: Water and Water Treatment (13P)	P7	7.6 Municipal treatment: sedimentation, coagulation, filtration, sterilization	Teaching
91	08-02-2027	Mon	UNIT-7: Water and Water Treatment (13P)	P8	Numerical on hardness	Teaching
92	09-02-2027	Tue	UNIT-7: Water and Water Treatment (13P)	P9	Revision	Revision
93	10-02-2027	Wed	UNIT-7: Water and Water Treatment (13P)	P10	Quiz	Quiz
94	11-02-2027	Thu	UNIT-7: Water and Water Treatment (13P)	P11	Doubt	Teaching
95	15-02-2027	Mon	UNIT-7: Water and Water Treatment (13P)	P12	Assignment	Teaching
96	16-02-2027	Tue	UNIT-7: Water and Water Treatment (13P)	P13	Buffer	Revision
97	17-02-2027	Wed	UNIT-8: Engineering Materials (11P)	P1	8.1 Minerals, ores of Fe, Al, Cu, gangue, flux, slag	Teaching
98	18-02-2027	Thu	UNIT-8: Engineering Materials (11P)	P2	8.2 General principles of metallurgy	Teaching
99	22-02-2027	Mon	UNIT-8: Engineering Materials (11P)	P3	8.3 Alloys: purpose; ferrous & non-ferrous	Teaching
100	23-02-2027	Tue	UNIT-8: Engineering Materials (11P)	P4	8.3 Brass, Bronze, Stainless steel, Alnico, Duralumin - properties & uses	Teaching
101	24-02-2027	Wed	UNIT-8: Engineering Materials (11P)	P5	8.4 Polymers: monomer, homo/co-polymer, degree of polymerization, addition & condensation	Teaching
102	25-02-2027	Thu	UNIT-8: Engineering Materials (11P)	P6	8.5 Thermoplastics & thermosetting: PVC, PS, PTFE, Nylon-6, Nylon-6,6, Bakelite	Teaching
103	01-03-2027	Mon	UNIT-8: Engineering Materials (11P)	P7	8.6 Rubber & vulcanization, advantages over natural	Teaching
104	02-03-2027	Tue	UNIT-8: Engineering Materials (11P)	P8	Revision	Revision

105	03-03-2027	Wed	UNIT-8: Engineering Materials (11P)	P9	Quiz	Quiz
106	04-03-2027	Thu	UNIT-8: Engineering Materials (11P)	P10	Doubt	
107	08-03-2027	Mon	UNIT-8: Engineering Materials (11P)	P11	Buffer	Revision
108	09-03-2027	Tue	UNIT-9: Ecosystem (8P)	P1	9.1 Structure, biotic/abiotic, food chain & web	Teaching
109	10-03-2027	Wed	UNIT-9: Ecosystem (8P)	P2	9.2 Aquatic Lentic/Lotic & terrestrial grassland, forest, desert	Teaching
110	11-03-2027	Thu	UNIT-9: Ecosystem (8P)	P3	9.3 Carbon, Nitrogen, Sulphur, Phosphorus cycle (2P)	Teaching
111	15-03-2027	Mon	UNIT-9: Ecosystem (8P)	P4	9.3 Cycle contd	Teaching
112	16-03-2027	Tue	UNIT-9: Ecosystem (8P)	P5	9.4 Global warming, causes, effects, Green house, Ozone depletion	Teaching
113	17-03-2027	Wed	UNIT-9: Ecosystem (8P)	P6	Revision Unit 8-9	Revision
114	18-03-2027	Thu	UNIT-9: Ecosystem (8P)	P7	Quiz	Quiz
115	22-03-2027	Mon	UNIT-9: Ecosystem (8P)	P8	Buffer	Revision
116	23-03-2027	Tue	UNIT-10: Renewable sources of Energy (13P)	P1	10.1 Solar: Basics, Flat plate collector (liquid & air), theory, coating, advanced collector, pond, heater, dryer, stills (3P)	Teaching
117	24-03-2027	Wed	UNIT-10: Renewable sources of Energy (13P)	P2	10.1 contd	Teaching
118	25-03-2027	Thu	UNIT-10: Renewable sources of Energy (13P)	P3	10.1 contd	Teaching
119	29-03-2027	Mon	UNIT-10: Renewable sources of Energy (13P)	P4	10.2 Biomass as energy, thermal characteristics	Teaching
120	30-03-2027	Tue	UNIT-10: Renewable sources of Energy (13P)	P5	10.3 Anaerobic digestion, biogas production & utilization	Teaching
121	31-03-2027	Wed	UNIT-10: Renewable sources of Energy (13P)	P6	10.4 Wind: future prospects, India, benefits & problems	Teaching
122	05-04-2027	Mon	UNIT-10: Renewable sources of Energy (13P)	P7	10.5 New sources: need, types	Teaching
123	06-04-2027	Tue	UNIT-10: Renewable sources of Energy (13P)	P8	10.5 Hydrogen, Tidal, Geothermal - concept, origin, power plants	Teaching
124	07-04-2027	Wed	UNIT-10: Renewable	P9	Revision Unit 10	Revision

			sources of Energy (13P)			
125	08-04-2027	Thu	UNIT-10: Renewable sources of Energy (13P)	P10	Revision Unit 6-10 (3rd Internal portion)	Revision
126	12-04-2027	Mon	UNIT-10: Renewable sources of Energy (13P)	P11	3rd INTERNAL / MODEL TEST - Unit 6-10	Assessment
127	13-04-2027	Tue	UNIT-10: Renewable sources of Energy (13P)	P12	Doubt + Previous year questions	Teaching
128	15-04-2027	Thu	UNIT-10: Renewable sources of Energy (13P)	P13	Final Buffer / End Exam Prep	Revision


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