

# **LESSON PLAN**

**Department: ECE**

**NAME OF THE FACULTY:** Ramanaiah Malla

**CLASS:** 1<sup>st</sup> ECE-B

**BRANCH:** ECE

**SUBJECT:** Engineering Chemistry

**Year:** 2014-15

**SEM:** I

Period	Date (Tentative)	Topic	Unit	Teaching Methodology	Remarks	Corrective action upon Review
1	15/09/14	Polymerization reactions, Basic concepts	1	CR		
2, 3	16/09/14 17/09/14	Types of polymerization, addition and condensation polymerizations	1	CR		
4, 5	18/09/14 19/09/14	Plastics: Thermosetting and Thermoplastics – differences	1	CR		
6	22/09/14	Compounding of Plastics	1	CR		
		Moulding of plastics 1) Compression, 2) injection moulding	1	CR		
7, 8	23/09/14 14/09/14	Moulding of plastics 1) transfer and 2) extrusion moulding	1	CR		
9	25/09/14	Preparation of PE, PVC, Teflon, Bakelite, Nylon, Polyesters				
10	26/09/14	Properties of PE, PVC, Teflon, Bakelite, Nylon, Polyesters	1	CR		
11, 12	29/09/14 30/09/14	Uses of PE, PVC, Teflon, Bakelite, Nylon, Polyesters	1	CR		
1, 14	06/10/14 07/10/14	Classification of Cement, raw materials of Portland cement	1	CR		
15, 16	08/10/14 09/10/14	Manufacture of Portland cement	1	CR		
17	10/10/14	Chemical constitution of Portland cement	1	CR		
18, 19	13/10/14 14/10/14	Setting and Hardening of Portland Cement	1	CR	1 <sup>st</sup> Unit Will Be Completed	
20	15/10/14	Introduction to Water technology: Hardness of Water	2	CR		
		Temporary and Permanent hardness	2	CR		
21	16/10/14	Units and inter conversions of Units	2	CR		
22, 23	17/10/14 20/10/14	Estimation of hardness by EDTA Method	2	CR		
24, 25	21/10/14 22/10/14	Problems on Temporary and Permanent hardness	2	CR		
		Problems on Temporary and Permanent hardness	2	CR		
26	24/10/14	Problems on Temporary and Permanent hardness, Disadvantages of Hard Water	2	CR		
27, 28	27/10/14 28/10/14	Methods of Treatment of Water for Domestic Purposes: Sedimentation, Coagulation, Filtration	2	CR		
		1 <sup>st</sup> Mid Examinations				

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29, 30, 31	29/10/14 30/10/14 31/10/14	Methods of Treatment of Water for Domestic Purposes: Disinfection - Sterilization, Chlorination, Break Point chlorination, Ozonisation	2	CR		
32, 33	07/11/14 10/11/14	Industrial Water Treatment – Desalination, Reverse Osmosis Treatment	2	CR		
34	11/11/14	Industrial Water Treatment – Lime-Soda Process (Hot Lime Soda and Cold Lime Soda Process)	2	CR		
35	12/11/14	Industrial Water Treatment - Zeolite Process,	2	CR		
36	13/11/14	Industrial Water Treatment – Ion-Exchange Process	2	CR	2 <sup>nd</sup> Unit Will Be Completed	
37	14/11/14	Definition, examples of Corrosion	3	CR		
38	17/11/14	Types of corrosion: Dry Corrosion and Wet Corrosion	3	CR		
39	18/11/14	Principles of corrosion:	3	CR		
40, 41	19/11/14 21/11/14	Galvanic series, Galvanic corrosion, Concentration cell corrosion	3	CR		
42	24/11/14	Mechanism of Wet Corrosion: Hydrogen evolution Type	3	CR		
43	25/11/14	Mechanism of Wet Corrosion: Oxygen Absorption Type	3	CR		
44	26/11/14	Factors influencing the rate of corrosion	3	CR		
45	27/11/14	Factors influencing the rate of corrosion	3	CR		
46	28/11/14	Control of corrosion - proper design, use of pure metal and metal alloys, Passivity	3	CR		
47, 48	01/12/14 02/12/14	Control of corrosion - Cathodic Protection – Sacrificial anode and impressed current	3	CR		
49	03/12/14	Control of corrosion - Modifying the environment	3	CR		
50	04/12/14	Control of corrosion - Use of inhibitors.	3	CR	3 <sup>rd</sup> Unit Will be completed	
		2 <sup>nd</sup> Mid Examinations				
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51	05/12/14	Introduction to Liquid Fuels	4	CR		
		Classification of Crude Oil	4	CR		
52	08/12/14	Fractional Distillation	4	CR		
53	09/12/14	Cracking (Thermal & Catalytic)	4	CR		
54	15/12/14	Manufacturing of Synthetic Petrol: Fischer-Tropschs Process.	4	CR		
		Manufacturing of Synthetic Petrol: Bergius Process	4	CR		

55	16/12/14	Polymerization	4	CR		
		Refining & Reforming	4	CR		
		Knocking – Anti Knocking Agents	4	CR		
56	17/12/14	Octane & Cetane Number	4	CR		
57	18/12/14	<b>Lubricants:</b> Principle and functions of lubricants, Types of lubricants.	4	CR		
58	19/12/14	Mechanism of Lubrication: Thick film or Hydrodynamic lubrication, thin film lubrication	4	CR		
		Extreme pressure lubrication:	4	CR		
58	22/12/14	Classification of Lubricants	4	CR		
		Properties of lubricants – Viscosity, flash and fire points.	4	CR		
60	23/12/14	Properties of lubricants – cloud and pour points, aniline points	4	CR		
61	24/12/14	Properties of lubricants – neutralization number and mechanical strength	4	CR	4 <sup>th</sup> Unit Will Be completed	
62	26/12/14	Solar Energy - Introduction – harnessing solar energy.	5	CR		
63	29/12/14	Photo voltaic cells (Construction & Working of PV Cells)	5	CR		
64	30/12/14	Concentrated Solar Power Plants	5	CR		
65	31/12/14	Green house concept.	5	CR		
66	023/01/15	Introduction to Green Chemistry. Principles of Green Chemistry: 1 to 4 principles of Green chemistry	5	CR		
		5 to 8 principles of Green chemistry	5	CR		
		9 to 12 principles of Green chemistry	5	CR		
67, 68	05/01/15 06/01/15	Green synthesis: Engineering Applications in Green Chemistry	5	CR		
69	07/01/15	Introduction to Nano materials: preparation of few Nano materials: Carbon Nano Tubes	5	CR		
70	08/01/15	preparation of few Nano materials: Carbon Nano Tubes, Fullerenes etc.,	5	CR		
71	09/01/15	Top down and Bottom up concepts: Properties of Nano materials- Silver and Gold Nano particles	5	CR		
72	12/01/15	Engineering & Biomedical applications in Nanotechnology	5	CR	5 <sup>th</sup> Unit will Be completed	