

## LESSON PLAN

NAME OF THE FACULTY: *S. Goutham Srin*  
Course & Code: Chemistry&20BST107

CLASS: *B-Tel* BRANCH: *CS-D*  
Year: 2022-23 SEM: I

Contact Hour	Unit No.	Topic	Teaching Methodology	Remarks
1	1	Hardness of Water – Temporary and Permanent Hardness -	CR	
2	1	Units of hardness	CR	
3	1	Estimation of hardness by EDTA method	CR	
4	1	Problems on temporary and permanent hardness	CR	
5	1	Disadvantages of Hard Water	CR	
6	1	Softening methods of hard water- Zeolite or Permutit Process	CR &PPT	
7	1	Softening methods of hard water- Ion Exchange Process	CR &PPT	
8	1	Methods of Treatment of Water for Domestic Purposes – Sedimentation, Coagulation, Filtration.	CR	
9	1	Disinfection – Sterilization, Chlorination, Break Point chlorination, Ozonation	CR	1 <sup>st</sup> Unit Will Be Completed
10	2	Spectroscopy – Electronic spectroscopy	CR	
11	2	Types of Electronic transitions	CR	
12	2	Definition of Chromophore & Definition of Auxochrome	CR	
13	2	Absorption and intensity shifts	CR &PPT	
14	2	Introduction and principle of I.R. Spectroscopy	CR &PPT	
15	2	Fingerprint region, Introduction to NMR – Principle	CR &PPT	
16	2	Equivalent and non-equivalent protons -	CR &PPT	
17	2	Chemical shift- Splitting of signals – Coupling Constant	CR &PPT	2 <sup>nd</sup> Unit Will Be Completed
18	3	Definitions of Polymer, Polymerization – Functionality – Degree of polymerization	CR	
19	3	Types of Polymerizations -Addition and Condensation polymerizations) -	CR	
20	3	Plastics – Definition- Thermoplastics, Thermosetting Plastics	CR	

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21	3	Moulding of Plastics into Articles (Compression-moulding-Injection moulding methods)	CR &PPT	
22	3	Moulding of plastics into articles (Transfer moulding - Extrusion moulding methods)	CR &PPT	
23	3	Preparation, properties and engineering uses of PVC	CR	
24	3	Preparation, Properties and Engineering Uses of Bakelite	CR	3 <sup>rd</sup> Unit Will be completed
		<b>MID-1 Examinations</b>		
25	4	Types of Organic reactions. Addition - electrophilic- nucleophilic and free radical	CR	
26	4	Addition - electrophilic- nucleophilic and free radical	CR	
27	4	Addition - electrophilic- nucleophilic and free radical	CR	
28	4	Substitution - electrophilic- nucleophilic ( $SN^1$ and $SN^2$ ) and free radical	CR &PPT	
29	4	Substitution - electrophilic, nucleophilic ( $SN^1$ and $SN^2$ ) and free radical	CR &PPT	
30	4	Elimination ( $E^1$ and $E^2$ )	CR	
31	4	Rearrangement reactions - Claisen rearrangement- Pinacol-pinacolone rearrangement	CR	4 <sup>th</sup> Unit Will be completed
32	5	Corrosion -chemical theory of corrosion	CR	
33	5	Electrochemical theory of corrosion- Galvanic series	CR	
34	5	Factors effecting the rate of corrosion	CR	
35	5	Factors effecting the rate of corrosion	CR	
36	5	Controlling of Corrosion -Proper designing- Modifying the environment	CR &PPT	
37	5	Controlling of Corrosion (Cathodic protections - sacrificial anode protection- Impressed current cathodic protection).	CR &PPT	
38	5	Metallic (Anodic and Cathodic) coatings	CR &PPT	
39	5	Methods of application on metals (Galvanizing and Tinning).	CR &PPT	
40	5	Methods of application on metals (Galvanizing and Tinning).	CR &PPT	5 <sup>th</sup> Unit Will be completed

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41	6	Introduction to green chemistry- Definition and 12 principles of green chemistry	CR &PPT	
42	6	Types of energy sources – Renewable energy resources	CR	
43	6	Non-renewable energy resources	CR	
44	6	Introduction to solar energy – harnessing of solar energy- Photo voltaic cells	CR	
45	6	Concentrated solar power plants	CR &PPT	
46	6	Introduction of Energy storage devices: Principle& mechanism of Batteries & Supercapacitors	CR &PPT	
47	6	Types of Batteries -Alkaline battery	CR	
48	6	Lead-Acid battery-Difference between Batteries and supercapacitors	CR	6 <sup>th</sup> Unit Will be completed


