

**VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, BURLA**

**Lesson plan**

**Semester: 3rd. Semester**

**Subject: Chemical Process Technology**

Lecture	Module	Topic
1	1	Introduction to chemical process technology, unit operation and unit process
2	1	The role of chemical industries in daily life, Structure of a chemical industry, contribution of chemical industries to Indian economy, driving force for chemical industries
3	1	Types of chemical industries, Contribution of chemical industry towards the GDP, Indian chemical industries and their market value
4	1	Issues and weakness of Indian chemical industries, feed stocks for chemical industries, basic principles of a chemical process, factors affecting to proceed a chemical reaction
5	1	The basic need that determines the conversion, yield and kinetics, design and development aspects to enhance the production
6	1	Size reduction and size separation equipment and their applications
7	1	Solid handling and Fluid-solid separation: equipment and their applications
8	1	Heat exchanger and Gas-liquid contacting equipment and their application
9	1	Fluid storage and fluid-solid handling equipment and their application
10	1	Extraction, distillation and drying of solids equipment and their application
11	2	Manufacture of Soda Ash by Solvay process
12	2	Manufacture of Soda Ash by Dual process

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13	2	Manufacture of Caustic soda and chlorine by electrolytic process
14	2	Manufacture of H <sub>2</sub> SO <sub>4</sub> by chamber process
15	2	Manufacture of H <sub>2</sub> SO <sub>4</sub> by DCDA process
16	2	Manufacture of HCl
17	2	Description of flow sheet of HCl production process
18	2	Manufacture of HNO <sub>3</sub>
19	2	Description of flow sheet of HNO <sub>3</sub> production process
20	3	Manufacture of SiC
21	3	Manufacture of Calcium carbide
22	3	Extraction of edible oil
23	3	Purification of vegetable oil
24	3	Hydrogenation of oils
25	3	Manufacture of soap and glycerin
26	3	Manufacture of detergent
27	3	Introduction to Pulp and Paper industry
28	3	Preparation of wood pulp by sulfate process
29	3	Chemical recovery from sulfate pulp digestion liquor
30	3	Chemical recovery from neutral pulp digestion liquor
31	3	Production of paper from pulp
32	3	Manufacture of ethyl alcohol by fermentation process
33	3	Introduction to sugar industry, Extraction of sucrose from sugar from sugar cane
34	3	Starch production from maize

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35	4	Introduction to coal and chemical industry in details
36	4	Coking of coal
37	4	Coal tar distillation
38	4	Gasification of Coal
39	4	Hydrogenation of coal
40	4	Major engineering problems in Coal and Chemical industries

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