

LEARNING OUT COMES

Students who have successfully completed this course will have full understanding of the following concepts

Course Outcome	Program outcome
1. This course helps the students to understand the technology involved in the production of various chemicals, various purification and separation processes . 2. petrochemical feed stocks. 3. plastics, fertilizer, fibers etc 4. Concepts of quality and environmental pollution control. 5. Working and its operation	1. Students will have an understanding about the concepts of petrochemical industries. 2. will understand the manufacturing methods of important petrochemicals. 3. Students will understand the various aspects of cracking, polymerization and isomerisation processes. 4. Students will understand the economic concepts and advantages of petrochemical industries.

Detailed Session plan:

INTRODUCTION:					
Sess No.	Topics to be covered	Time (min)	Ref	Teaching method	Testing method
1	Introduction	50	1-4	BB	Group Discussion
2	Petrochemicals- definition and importance	50	1-4	BB	Group Discussion
3	Growth potential of the field raw material	50	1-4	BB	Group Discussion
4	Sources of petrochemical	50	1-4	BB	Group Discussion
5	Economic concepts of petrochemical industry	50	1-4	BB	Group Discussion
6	Advantages of the industry	50	1-4	BB	Group Discussion
7	Classification of hydrocarbons	50	1-4	BB	Group Discussion
8	Hydrocarbons discussion in detail	50	1-4	BB	Group Discussion
9	Revision of the I unit	50	1-4	BB	Group Discussion
OLEFIN GASES:.					
10	Introduction to II unit	50	1-4	BB	Group Discussion
11	Production of olefin containing gases	50	1-4	BB	Group Discussion
12	Production of Ethylene	50	1-4	BB	Group Discussion
13	Production of Acetylene	50	1-4	BB	Group Discussion
14	Production of Propylene	50	1-4	BB	Group Discussion
15	Production of Butylene	50	1-4	BB	Group Discussion
16	Comparison of the above methods	50	1-4	BB	Group Discussion
17	Advantages of the above methods	50	1-4	BB	Group Discussion
18	Revision of II unit	50	1-4	BB	Group Discussion
INTERMEDIATES:					
19	Introduction	50	1-4	BB	Group Discussion
20	Various Important intermediate material for petrochemical industry	50	1-4	BB	Group Discussion
21	Production of Butadiene	50	1-4	BB	Group Discussion
22	Production of ammonia	50	1-4	BB	Group Discussion
23	Production of various alcohol	50	1-4	BB	Group Discussion
24	Production of various alcohol(contnd)	50	1-4	BB	Group Discussion
25	Production of synthesis gas etc	50	1-4	BB	Group Discussion
26	Production of aromatic compounds	50	1-4	BB	Group Discussion
27	Continuation of the previous class	50	1-4	BB	Group Discussion
PROCESS VARIATIONS:					
28	Introduction	50	1-4	BB	Group Discussion
29	Retails and variations in processes for petrochemical feed stocks	50	1-4	BB	Group Discussion
30	Production of compounds produced through cracking	50	1-4	BB	Group Discussion

	processes				
31	Continuation of the previous class	50	1-4	BB	Group Discussion
32	Production of compounds produced through Polymerization processes	50	1-4	BB	Group Discussion
33	Continuation of the previous class	50	1-4	BB	Group Discussion
34	Production of compounds produced through isomerization processes	50	1-4	BB	Group Discussion
35	Continuation of the previous class	50	1-4	BB	Group Discussion
36	Comparison of all the above processes	50	1-4	BB	Group Discussion
MANUFACTURE OF IMPORTANT PETROCHEMICALS:					
37	Introduction	50	1-4	BB	Group Discussion
38	Production of various plastics	50	1-4	BB	Group Discussion
39	Production of various fertilizer	50	1-4	BB	Group Discussion
40	Production of carbon black	50	1-4	BB	Group Discussion
41	Production of synthetic rubbers	50	1-4	BB	Group Discussion
42	Production of synthetic fibers	50	1-4	BB	Group Discussion
43	Production of synthetic detergents	50	1-4	BB	Group Discussion
44	Concepts of quality in petrochemical industries	50	1-4	BB	Group Discussion
45	Concepts of environmental pollution control in petrochemical industries	50	1-4	BB	Group Discussion