

Certificate Course in UPOS
Department of Chemistry
NARMADA COLLEGE OF SCIENCE AND COMMERCE, ZADESHWAR, BHARUCH

1. Title of the Course: Certificate Course in Unit Process in Organic Synthesis
2. Duration: 30 hours (Theory: 10 hours + Practical 20 Hours)
3. Pre-requisites: Intermediate or Graduate
4. Coordinator: Dr. Deepika Shah
5. Target Group: 12th students with science Background / UG

Course Objective:

This certificate course is designed to familiarize students to understand basic information regarding the reaction temperature, pressure, catalyst used, reaction nature, yield of product, reaction steps involved to synthesize various useful product.

Course Outcome:

After the completion of course, students will be able,

1. To get an introductory knowledge of Chemical Industry and Unit Processes.
2. To apply this knowledge in Pharma, Dyes & Pigments, Polymer, Rubber and Glass and Ceramics industries
3. To build a bridge between theoretical and practical concept used in industry

Content:

Sr. No.	Topic	Teaching Hours
Unit 1:	Nitration: Nitrating agents. Mechanism of aromatic nitration. DVS Calculation, Commercial manufacture of some important compounds	02
Unit 2:	Sulphonation and Sulfation: Sulphonating and Sulfating agents. Mechanism of aromatic Sulphonation. Commercial manufacture of some important compounds	02
Unit 3:	Amination: Aminating agents, Amination by reduction, Amination by Ammonolysis. Commercial manufacture of some important compounds	02
Unit 4:	Alkylation: Alkylating agents. Commercial manufacture of some important compounds	02
Unit 5:	Halogenation: Halogenating agents. Commercial manufacture of some important compounds	02



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Unit 6:

Practical

20

1. Synthesis of Sudan-I
2. Synthesis of methyl yellow
3. Synthesis of azo dye
4. Preparation of p-nitroacetanilide from acetanilide
5. Preparation of p-bromo acetanilide
6. Preparation of B-resoreylic acid
7. Preparation of Phenol-Formaldehyde Resin
8. Preparation of Urea-Formaldehyde Resin
9. Preparation of Dinitrobenzene
10. Synthesis of barium white inorganic pigment.
11. Synthesis of chrome yellow inorganic pigment.
12. Synthesis of malachite inorganic pigment
13. Synthesis of Prussian Blue pigment inorganic

Reference Book:

1. Unit Process in Organic Synthesis – P.H.Groggins.
2. Dryden's Outlines of Chemical Technology – M.Gopal
3. Shreve's Chemical Process Industries
4. Industrial Chemistry – B.K.Sharma.

