CHMDC 124 (T+P): Industrial Chemistry

Credit – (2T+2P), Theory Hours – 30, Practical Hours – 60

Course outcomes:

At the end of the course the student will be able to-

CO -1. Know about industrial products, their preparations, manufacturing, uses and market tends.

CO -2. Apply the knowledge understand, analyse and solve the problem with environmental impact.

CO	PSO-1	PSO-2	PSO-3	PSO-4	PSO-5	PSO-6
CO-1	3	2	1			
CO-2	3	2	1	1	1	

UNIT 1 Explosives and Pesticides **[15 hors]**
[25 marks]

[A] Explosives: Introduction, classification, synthesis and uses of Tetryl, PETN, HMTA, RDX, Nitro glycerine

[B] Pesticides: Introduction, classification, synthesis and uses of Malathione, Parathione, Aldrin, Methoxychlor and DDT.

Unit 2 Drugs and Dyes **[15 hors]**
[25 marks]

[A] Drugs: Introduction, classification, synthesis and uses of Aspirin, Paracetamol, Phenacetin, Antipyrin, Benzocaine, tolbutamine, n-hexyl resorcinol

[B] Dyes: Introduction, General classification, synthesis and uses of Malachite green, Indigo, Alizarin, Congo red, Eosin

REFERENCE BOOK

1. 'Shreve's Chemical process Industry by George T. Austin, 2017
2. 'Organic chemistry' by I. L. Finar, Volume 2, Pearson Education, 1996
3. 'Burger's medicinal chemistry and drug design' (5/e) 1997, vol 1 to 5 edited by Manfred E.Woltt (John wiley and sons Mc. New york)
4. 'Medicinal chemistry' by Ashutoshkar
5. 'Principles of medicinal chemistry' by William A. Foye (ied), lea and febiys (Philadelphia

CHMDC 124 (P): Chemistry Practical

Chemistry Lab- I (2 credit)
Credit – 2, Hours – 60, Marks – 50

ORGANIC QUALITATIVE ANALYSIS

Concept of types of organic compound, lassaigne's elements, Organic functional groups, water soluble/ insoluble compounds, Aromatic character, MP/ BP and their measurement, Chemical properties of different organic compounds.

Organic spotting

Acids:

Solid: Benzoic acid, Salicylic acid**,** Succinic acid, Oxalic acid

Phenol:

Solid: alpha-naphthol & beta-naphthol

Base:

Solid: p-nitroaniline

Liquid: Aniline

Neutral:

Solid: Urea, Thiourea, Naphthalene
Liquid: Acetone, Ethanol, Ethyl acetate, Benzaldehyde, Nitrobenzene,Chloroform

DEMONSTRATION

Purification of organic compounds

1. Simple distillation

Introduction to distillation, Types of distillation, Principle of simple distillation, purification of organic liquid by distillation.

2. Crystallization

Introduction to crystallization, purification of benzoic acid by crystallization.

3. Sublimation

Introduction to Sublimation, purification of Naphthalene by sublimation.

REFERENCE BOOKS

1. I Vogel, "Elementary Practical Organic Chemistry Part-II, Qualitative Organic Analysis", CBS Publishers & Distributers, New Delhi, Second Edition, 2004.

2. V.K. Ahluwalia, Sunita Dhingra, "Comprehensive Practical Organic Chemistry – Qualitative Analysis", University Press (India) Private Limited, Hyderabad, First Indian Edition, 2010.

3. Mohan Jag, "Organic Analytical Chemistry theory and Practice", Narosa Publication, New Delhi, 2003. 5. J Leonard, B Lygo, G Procter, "Advanced Practical Organic Chemistry", Stanley Thornes (Publishers) Ltd., First Indian Edition, 2004.