Analysis of Organic Compounds Lab
(Chemical Engineering)

Course Code: 22BC1109	L	T	P	C
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Course outcomes:

At the end of the course students shall be able to

CO 1: Identify preliminary characteristics of organic compounds (L1).
CO 2: Determine the presence of extra element(s) in organic compounds (L2).
CO 3: Analyze the functional groups present in organic compounds (L3).
CO 4: Demonstrate the preparation of derivatives based on functional groups (L3).
CO 5: Categorize the organic compounds based on the functional group (L4)

Qualitative analysis of simple organic compounds by following systematic procedure Analysis includes the following three stages

STAGE-I: PRELIMINARY CHARACTERISTICS

i. State
ii. Boiling point & Melting point
iii. Solubility test
iv. Flame test
v. Unsaturation test
vi. Neutral ferric chloride test
vii. Sodium fusion extract preparation for the detection of hetero elements-" N, S, Cl, Br, I"

STAGE-II: DETECTION OF FUNCTIONAL GROUPS

i. Carboxylic acids,
ii. Phenolic group
iii. Carbohydrate
iv. Aldehydes & ketones
v. Amides
vi. Esters
vii. Amines
viii. Nitro groups

STAGE-III: CONFIRMATION OF FUNCTIONAL THROUGH DERIVATIVE

The functional group should be confirmed by the preparation of suitable derivatives and this should be reported along with the result.

PREPARATION OF THE FOLLOWING ORGANIC COMPOUNDS.

i. Aspirin
ii. 2- Naphthol aniline dye
iii. Tribromoaniline
iv. Fluorescein

Reference Books:

1. PWG. Smith & B.S. Furniss, *Vogel's Textbook of Practical Organic Chemistry,* 5th Edition, Longman Publishers Pvt. Ltd., 1989.