ST.JOSEPH'S COLLEGE FOR WOMEN (AUTONOMOUS) VISAKHAPATNAM

III SEMESTER CHEMISTRY Time: 2 hrs / week

CH3253(2) ORGANIC PREPARATIONS AND IR SPECTRAL ANALYSIS Marks:50

w.e.f. 20-21 admitted batch-"20AH" PRACTICAL SYLLABUS

COURSE OBJECTIVE: The objective of the course is

- To train students in varied techniques of organic synthesis and equip them with the skill of synthesizing organic compounds with focus on purity, yield and energy efficiency.
- To train students in IR spectral analysis involving identification of functional groups in organic compounds

COURSE OUTCOMES:

On the completion of the course, the student will be able to do the following**:**

1. How to use glassware, equipment and chemicals and follow experimental procedures in the laboratory
2. How to calculate limiting reagent, theoretical yield, and percent yield
3. How to engage in safe laboratory practices by handling laboratory glassware, equipment, and chemical reagents appropriately
4. How to dispose of chemicals in a safe and responsible manner
5. How to perform common laboratory techniques including reflux, distillation, recrystallization, vacuum filtration.
6. How to create and carry out work up and separation procedures
7. How to critically evaluate data collected to determine the identity, purity, and percent yield of products and to summarize findings in writing in a clear and concise manner.

ORGANIC PREPARATIONS:

i. Acetylation of one of the following compounds:

amines (aniline, o-, m-, ptoluidines and o-, m-, p-anisidine) and phenols (β-naphthol, vanillin, salicylic acid) by any one method:

a.Using conventional method.

b.Using green approach

ii. Benzoylation of one of the following amines

(aniline, o-, m-, p- toluidines and o-, m-, p-anisidine)

iii.Nitration of any one of the following:

a. Acetanilide/nitrobenzene by conventional method

b. Salicylic acid by green approach (using ceric ammonium nitrate).

IR SPECTRAL ANALYSIS :

IR Spectral Analysis of the following functional groups with examples

a) Hydroxyl groups

b) Carbonyl groups

c) Amino groups

d) Aromatic groups

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