

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

VISAKHAPATNAM

VIII SEMESTER B.Sc. HONOURS CHEMISTRY Time:2hrs/week

Code CH8254(2) Revised Syllabus under CBCS 2020-21 Marks: 50

Pharmaceutical and Medicinal Chemistry

Practical Syllabus

I.

Course Objective: To enable students to synthesize some common drugs and use the Chem draw software for drawing molecular structures

Course Outcomes: On successful completion of this practical course, student shall be able to:

- Learn the procedure for the synthesis of drugs.
- Synthesis of Drugs Assisted by Microwave Oven
- Acquire skills in Drawing structure and Reaction using Chemdraw
- Know the reactions and mechanisms involved in synthesis of Drugs.

II. Practical (Laboratory) Syllabus

1. Synthesis of Sulphanilamide
2. Synthesis of 7- Hydroxy -4- methyl coumarin
3. Synthesis of Chlorobutanol
4. Synthesis of Tolbutamide
5. Assay of Chlorpheniramine Maleate
6. Assay of Benzyl Penicillin 20k. Synthesis of Aspirin Assisted by Microwave Oven
7. Drawing structure and Reaction using Chemdraw

III. Lab References:

1. Wilson and Giswold's Organic medicinal and Pharmaceutical Chemistry.
2. Foye's Principles of Medicinal Chemistry.
3. Burger's Medicinal Chemistry, Vol I to IV.
4. Introduction to principles of drug design- Smith and Williams.
5. Remington's Pharmaceutical Sciences.
6. Martindale's extra pharmacopoeia.

7. Organic Chemistry by I.L. Finar, Vol. II.
8. The Organic Chemistry of Drug Synthesis by Lednicer, Vol. 1-5.
9. Text book of practical organic chemistry- A.I.Vogel.

IV. Co-Curricular Activities

a) Mandatory:(Lab/field training of students by teacher:(lab: 10+field:05):

1. For Teacher: Training of students by the teacher in laboratory and field for not less than 15 hours on the field techniques/skills of comprehensive product development programs to meet new product criteria and timing. Acquire skills in the preparation of drugs and pharmaceuticals, learn the procedure of synthesis of drugs with good yield.

2. For Students: Student shall visit a related industry/chemistry laboratory in universities/research organizations/private sector facility and observe the preparation of Cosmeceuticals and Pharmaceutical. Write their observations and submit a handwritten fieldwork/project work report not exceeding 10 pages in the given format to the teacher.

a. Max marks for Fieldwork/project work Report: 05.

b. Suggested Format for Fieldwork/project work: Title page, student details, index page, details of place visited, observations, findings, and acknowledgements.

c. Unit tests (IE)