

ST. JOSEPH'S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM
VII SEMESTER B.Sc. HONOURS CHEMISTRY Time: 2Hrs/Week
Code CH7252 Revised Syllabus Under CBCS 2020-21 Marks: 50
Spectroscopy of Organic Compounds- Practical Syllabus

I.

Course Objective: To train students in the skill of spectral analysis

Course Outcomes:

By the end of the course students will be able to

- Identify the functional groups present in the molecules
- Apply data to in identification of the molecule
- Describe principles involved in Spectroscopic methods
- Predict number of signals, splitting patterns in the proton NMR of a compound
- Develop ability in the combined use of mass spectrometry and spectroscopic techniques for structure elucidation

II. Practical Syllabus

- a) Problems involving individual spectral methods – UV, IR, PMR and Mass
- b) Problems involving combined any two of UV, IR, PMR and Mass
- c) Problems involving combined any three of UV, IR, PMR and Mass
- d) Problems involving all four UV, IR, PMR and Mass spectral data.

III. Co-Curricular Activities:

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

- a) **For Teacher:** Training of students by the teacher in laboratory and field for not less than 15 hours on the field techniques/skills of detection of organic compounds using spectroscopic data.
- b) **For Students:** Student shall visit a related industry/chemistry laboratory in universities/research organizations/private sector facility and observes the synthetic reaction and obtaining spectral data and analyzing the organic compounds. Write their observations and submit a hand written fieldwork/project work report not exceeding 10 pages in the given format to the teacher.
- c) Max. Marks for Fieldwork/project work Report: 05.
- d) Suggested Format for Fieldwork/project work: Title page, student details, index page, details of place visited, observations, findings, and acknowledgements.

e) Unit tests (IE).

IV. References:

1. NMR in chemistry-A multi nuclear introduction, William Kemp, McMillan, 1986.
2. Spectroscopic methods in Organic chemistry, DH Williams & I Flemmi

