



SLN DEGREE COLLEGE

Alamur Road, Anantapuramu

Affiliated to S.K. University

The Department of Chemistry was started in the year 2017 with an UG Courses B.Z.C (Botany, Zoology, and Chemistry), B.M.C (Botany, Microbiology, and Chemistry), was introduced.

The department is having well qualified and experienced faculty members. The faculty is a perfect blend of different specializations in Chemistry to impart their expertise in handling diversified courses of the UG and PG programs. The teaching methodology in the department goes beyond fulfilling the syllabus requirements of the University, to meet the today's industry needs. Faculty motivates and guides the students to do mini projects in core subjects. Special focus will be given to develop Communication and Soft Skills. The Department adopted and made the ICT in teaching techniques effectively.

Vision

- To develop the department as center of excellence in all aspects of education, research and development of basic technology in chemical sciences.

Long Term Goals

- Development of best resource for students and researchers.
- Catering the need of pharmaceutical, dye, polymer and agro-chemical industries.
- Development of new synthetic methodologies for functional materials.
- Strong collaboration with institutions, universities and industries of international repute.
- Utilization of excellent facilities.
- Analytical and consultancy service to industries.

Short Term mission

- It is proposed to start the courses in the emerging areas as per UGC guidelines in the several disciplines like Environment Chemistry, Agrochemistry, Nanoscience and Nanotechnology, Material science, Pharmaceuticals and Computational chemistry.

Mission

1. To create and maintain the programs of excellence in the areas of research, education and public outreach.
2. To promote, inspire and nurture the fundamentals of chemistry through UG and PG courses offered for the basic sciences, applied sciences(engineering) students.
3. To offer research projects with high emphasis on concept-theory-practical training to build up research interest for the transformation of budding chemists into productive scientists, excellent teachers, entrepreneurs and innovative independent researchers.
4. Our specific goal is to become a nationally recognised centre of chemical sciences for modern education with a state of art centralised research facility.

Courses / Programs offered:



**ANDHRA PRADESH STATE COUNCIL OF HIGHER
EDUCATION**

(A Statutory body of the Government of Andhra Pradesh)

3rd,4th and 5th floors, Neeladri

Towers, Sri Ram Nagar,6th Battalion

Road,Atmakur (V), Mangalagiri (M),

Guntur-522 503, Andhra Pradesh

Web: www.apsche.org **Email:** acapsche@gmail.com

REVISED SYLLABUS OF B.Sc (Chemistry)

UNDER CBCS FRAMEWORK WITH EFFECT FROM

2020-2021

PROGRAMME: THREE-YEAR B.Sc. (B.Sc Chemistry)

(With Learning Outcomes, Unit-wise Syllabus, References, Co-curricular Activities & Model Q.P.)

For Fifteen Courses of 1, 2, 3 & 4 Semesters)

**(To be Implemented from 2020-21
Academic Year) Andhra Pradesh
State Council of Higher Education**

**B.Sc. Chemistry Revised Syllabus under CBCS
w.e.f. 2020-21**

Structure of Chemistry Core Syllabus under CBCS

YEAR	SEMESTER	COURSE	TITLE	MARKS	CREDITS
I	I	I	Inorganic and Physical Chemistry	100	03
			Practical – I Analysis of SALT MIXTURE	50	02
	II	II	Organic and General Chemistry	100	03
			Practical – II Volumetric Analysis	50	02
II	III	III	Organic Chemistry and Spectroscopy	100	03
			Practical – III Organic preparations and IR Spectral Analysis	50	02
	IV	IV	Inorganic, Organic and Physical Chemistry	100	03
			Practical – IV Organic Qualitative analysis	50	02
	V	V	Inorganic and Physical Chemistry	100	02
			Practical-V Course Conductometric and Potentiometric Titrimetry	50	02

“SYLLABUS APPROVED”

SEMESTER – I

Course I (Inorganic & Physical Chemistry) 60 hrs. (4h/w)

Course outcomes:

At the end of the course, the student will be able to; Understand the basic concepts of p-block elements

1. Explain the difference between solid, liquid and gases in terms of intermolecular interactions.
2. Apply the concepts of gas equations, pH and electrolytes while studying other chemistry courses.

LABORATORY COURSE -I

Practical-I Analysis of SALT MIXTURE (At the end of Semester-I)

30hrs (2 h / w)

Qualitative inorganic analysis (Minimum of Six mixtures should be analysed) 50 M

Course outcomes:

At the end of the course, the student will be able to;

1. Understand the basic concepts of qualitative analysis of inorganic mixture
2. Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
3. Apply the concepts of common ion effect, solubility product and concepts related to qualitative analysis

SEMESTER – II

Course II – (Organic & General Chemistry) 60 hrs (4h/w)

Course outcomes:

At the end of the course, the student will be able to;

1. Understand and explain the differential behavior of organic compounds based on fundamental concepts learnt.
2. Formulate the mechanism of organic reactions by recalling and correlating the fundamental properties of the reactants involved.
3. Learn and identify many organic reaction mechanisms including Free Radical Substitution, Electrophilic Addition and Electrophilic Aromatic Substitution.
4. Correlate and describe the stereochemical properties of organic compounds and reactions.

LABORATORY COURSE-II

Practical-II Volumetric Analysis

(At the end of Semester-II)

30hrs (2 h / w)

Course outcomes:

At the end of the course, the student will be able to;

1. Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
2. Understand and explain the volumetric analysis based on fundamental concepts learnt in ionic equilibria
3. Learn and identify the concepts of a standard solutions, primary and secondary standards
4. Facilitate the learner to make solutions of various molar concentrations. This may include: The concept of the mole; Converting moles to grams; Converting grams to moles; Defining concentration; Dilution of Solutions; Making concentrations.

SEMESTER - III**Course III (ORGANIC CHEMISTRY & SPECTROSCOPY) 60hrs (4 h / w)****Course outcomes:**

At the end of the course, the student will be able to;

1. Understand preparation, properties and reactions of haloalkanes, haloarenes and oxygen containing functional groups.
2. Use the synthetic chemistry learnt in this course to do functional group transformations.
3. To propose plausible mechanisms for any relevant reaction

LABORATORY COURSE -III**Practical Course-III Organic preparations and IR Spectral Analysis**

30hrs (2 h / w) (At the end of Semester- III)

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

SEMESTER - IV

Course IV (INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY) 60hrs (4 h / w)

Course outcomes:

At the end of the course, the student will be able to;

1. To learn about the laws of absorption of light energy by molecules and the subsequent photochemical reactions.
2. To understand the concept of quantum efficiency and mechanisms of photochemical reactions.

LABORATORY COURSE -IV

30hrs(2 h / w)

Practical Course-IV Organic Qualitative analysis

(At the end of Semester- IV) 50 M

Course outcomes:

At the end of the course, the student will be able to;

1. Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
2. Determine melting and boiling points of organic compounds
3. Understand the application of concepts of different organic reactions studied in theory part of organic chemistry

HOD profile

1. Personal details:

- a. Name of the Faculty :** B. Vijaya Sujatha
- b. Department :** CHEMISTRY
- c. Designation :** Asst.Professor (Selection Grade)
- d. Subjects Taught :** Computer Science at Graduate level
Organic, Inorganic, Physical, Spectroscopy, General Chemistry.
- e. Level of Guidance & Teaching : -**
- f. Qualification: M.Sc., (Organic Chemistry), B.Ed., M.Li.Sc.,**
- g. Teaching Experience :** Graduate level - 08 years,
Intermediate Level : 02 years.



h. Academic Degrees:

Degree	University/Board	Date/Year	Awarded/Grade/Class
M.Sc., (Organic Chemistry)	S.K. University, Anantapur	2008	First Class
M.Li.Sc	S.K. University, Anantapur	2014	First Class
B.Ed.,	Bangalore University,	2003	First Class
B.Sc., (IT)	S.K. University, Anantapur	2000	First Class
Intermediate	BIE, Andhra Pradesh	1997	First Class
S.S.C.	Board of Secondary School Education, AP	1995	First Class

Faculty profile

Name	Qualification	Designation	Teaching Experience
G.Somasekhar Reddy	M.Sc.,	Asst. Professor	10

Infrastructure facilities:

Library: There is a central library to cater to the need of the students. Department does not have a library. But the complimentary copies provided by different publisher are provided in the department for the use of the student.

Internet facility for staff and students: Yes (only for staff)

Classroom with ICT facility:

Yes Laboratories: Yes. Department has one single lab



Workshop on Identifications of ACID and Base by using Phenolphthalein indicator

