UNDERGRADUATE PROFILE

DEPARTMENT OFCHEMISTRY

<u>2018-2024</u>

I. INTRODUCTION

Miss. Hameeda Salar and Miss. Meherunissa were the founder members of the department.

It has evolved since then to its present stature with strength of almost 700 students pursuing Chemistry at UG and PG level Intermediate, M.P.C. and Bi.P.C. in English medium. To meet the market demand, self-financed courses in B.Sc. with Microbiology, Biotechnology and Chemistry combinations were introduced. M.Sc. Chemistry (Specialization- Organic Chemistry) was introduced in the institution in the year 2002 and is affiliated to Osmania University. Students admitted in the college are mostly from rural areas and weaker sections.

VISION

Molding young minds into independent and innovative thinkers in Chemical Sciences.

MISSION

- To promote, inspire and nurture the fundamentals of chemistry.
- To promote intellectual, technological and economic development of nation through discovery and development of knowledge in the field of chemistry.
- To inculcate ethical and moral values in students of chemistry and encourage them to become responsible citizens, capable of handling their lives effectively.

UNDERGRADUATE CHEMISTRY TEACHING

The teaching perspectives of Chemistry Department are:

• Attract motivated students irrespective of caste or creed, and teach them in a way that instills enthusiasm for the subject.

- Provide all students with a broad education in fundamental aspects of chemistry at comparable level to other institutions.
- Provide a broad and balanced training in laboratory and research skills.
- Provide a supportive learning environment.
- Provide the expertise and strengths of our academic staff.
- Foster the ability to work independently and as part of a group and to develop presentation skills, both written and oral.

We believe that as a core scientific subject Chemistry should be taught with progressive structure, in order to accrue sufficient knowledge and understanding. Chemistry at our college has always placed strong emphasis on practical education.

ASSURING STANDARDS AND QUALITY

1. Introduction

The common core syllabus by the Osmania University sets out the benchmark threshold standards in chemistry.

It focuses on the major aspects of chemistry leading to bachelor's degree qualification:

- The major aims and purposes that may be associated with degree programme in chemistry
- An outline of subject-matter that may be expected to be covered in degree qualification
- The abilities, competencies and skills to be developed in students through the study of chemistry.

2. Nature and extent of chemistry

Chemistry is also known as Central Science because it is fundamental to the understanding of the other sciences. Chemistry can be defined as a science that studies systematically the composition, properties and reactivity of matter at the atomic and molecular level. Since matter is everything that can be touched, seen, smelt or felt, it follows that the scope of the chemistry discipline is essentially limitless.

The subject of chemistry has been traditionally divided into four main branches:

- 1. ORGANIC chemistry the chemistry of substances containing carbon element
- 2. INORGANIC chemistry the chemistry of all other elements.
- 3. PHYSICAL chemistry- the application of concepts and laws to chemical phenomenon.
- 4. ANALYTICAL chemistry- which is concerned with the identification of materials and the determination of composition has become accepted generally as the fourth branch.

The nature of chemistry is such that there are no distinct boundaries between the branches of the discipline or indeed with other disciplines. It is the core science that provides a fundamental framework for understanding both basic and applied scientific disciplines.

3. Aims of degree programme in chemistry

The general aims of degree programs in chemistry should include:

- To instill in students an enthusiasm for chemistry, an appreciation of its application in different context.
- To establish in students appreciation of the importance and sustainability of the chemical sciences in an industrial, academic, economic, environmental and social context.

TEACHING STAFF

S.No	Name	Designation	Qualification	Service
1.	Dr.B.Vanaja	Asso. Prof,HOD	M.Sc,Ph.D	29
2.	Ms.K.Navaneetha	Asst.Prof	M.Sc,B.Ed	18
3.	Ms. Ch.Swapna	Asst.Prof	M.Sc., B.Ed	17
4.	Ms. Afshan Firdous	Asst.Prof	M.Sc., B.Ed	10
5.	Ms. A.Radhika	Asst.Prof	M.Sc.	9
6.	Ms. V. Sai Lahari	Asst.Prof	M.Sc.	6

NON- TEACHING STAFF

S.No	Name	Designation	Qualification	Service
1.	Mr.Buggappa	UG Lab Assistant & Store keeper	B.Sc	33
2.	Mr. P. Sai Kiran	UG Attender	SSC	12
3.	Ms. P. Suneetha	UG Ayah	7 th Class	25
4.	Ms. D. Jayasree	UG Ayah	SSC	4



Dr. B. Vanaja Reddy Qualification: Ph.D in Chemistry (HOD)

Experience: 28 Years

PH.NO: 9441118982

Email Id: vanaja.bachireddy@gmail.com

ACADEMIC PROFILE:

Ph.D in Chemistry awarded by Osmania University, Hyderabad in 18th March 2017.

Topic of research "Design synthesis, Characterization & Anticancer activity of Novel Heterocyclic compounds"

Qualified Ph.D- Eligibility test conducted by Directorate of Admissions, Osmania University.

M. Sc in Organic Chemistry, March 1993, Osmania University, Hyderabad.

B.Sc in BZC, March 1991, Osmania University, Hyderabad.

PUBLICATIONS

 B. Vanaja published a paper entitled "Microwave Assisted Synthesis of Substituted 4-Chloro-8-methyl-2-(1, 3-diphenyl-1H-pyrazol-4-yl)-1,5-dioxa-2H-phenanthren-6-ones and Their Antimicrobial Activity", in the *Journal of the Serbian Chemical Society*,2017, 82(2), 117-125. B. Vanaja published a paper entitled "Synthesis and Anticancer Activity Evaluation of (E)-3-{[5-(Aryl)-1, 3, 4-oxadiazol-2-yl] methyl}-5-(3,4,5-trimethoxybenzylidene) thiazolidine-2,4-diones", in the *Russian Journal of General Chemistry*, 2016, 86(3), 681-685.

EXTRA ACTIVITIES

1. Member of Indian Science Congress Association – Membership No. SLM3050 for the year 2018.

2. Review committee member for Intermediate Telugu Academy 2002.

3. Poster Presentation in the International Conference on "Material Science for Societal Advancement" Osmania University on $20 - 22^{nd}$ January 2020.

4. Judged the PowerPoint presentation organized on one day seminar Emerging Trends and Technological Advancements in Bio-Medical Research on 7th August 2023 by Andhra Mahila Sabha College.

ACTIVITIES: 2018-2023

FDP's conducted: Six Day FDP on "Innovative Practice in Chemical Science" organized by Department of Chemistry, A. V. College of Arts, Science and Commerce in collaboration with Department of Chemistry, Sarojini Naidu Vanita Maha Vidyalaya from 23-28 September 2021.

Webinar Organized:

- A Webinar on "Role of Chemistry in Mitigating COVID19." On 13th June 2020, in the Department of Chemistry, Sarojini Naidu Vanita MahaVidyalaya, Exhibition Grounds, Hyderabad.
- An International Webinar on "COVID-19 a Pandemic of Coronavirus: Underlying Chemistry from Cause to Cure" On 15th June 2020, in the Department of Chemistry, Sarojini Naidu Vanita Maha Vidyalaya, Exhibition Grounds, Hyderabad.

Orientation Programme: Participated in "Online NEP Orientation and Sensitization Programme" organized by UGC- Malaviya Mission Teacher Training Centre, Osmania University from 12th to 21st October 2023.

Add- on Course: A 30hrs add-on course titled "Green Chemistry" was conducted for UG Chemistry students from 21thFebruary 28th April 2023.

Guest Lecture:

- Delivered a guest lecture on "Significance of Organic Compounds containing Nitrogen" at St. Joseph's degree and PG College for women to B.Sc. II year students on 8th November 2023.
- Delivered a guest lecture on "the significance of hydroxy compounds" on 19th
 April 2023 for B.Sc. students in AV College of Arts Science and Commerce.
- Delivered a lecture on Careers in Chemistry for UG and PG students in Sarojini Naidu
 Vanita Mahavidyalaya on 14th August 2020.

FDP's attended: 3 Seminar and Conferences attended: 4



Ms. K. Navaneetha

navaneetha1317@g.mail.com EXPERIENCE: 17 years

ACADEMIC QUALIFICATION:

- M.Sc. Analytical Chemistry Osmania University College for Women, Koti.
- B.Sc.(Microbiology, Genetics, Chemistry) Gauthami Degree College, S.R Nagar, Hyderabad
- Intermediate from Nagarjuna Junior College. S.R Nagar, Hyderabad.
- S.S.C. from Kabita Public School, Hyderabad.

ACTIVITIES: 2018-2023

FDP's conducted: Six Day FDP on "Innovative Practice in Chemical Science" organized by Department of Chemistry, A. V. College of Arts, Science and Commerce in collaboration with Department of Chemistry, Sarojini Naidu Vanita Maha Vidyalaya from 23-28 September 2021.

Workshop's attended: 1 FDP Attended: 1 Webinars attended: 2



chswapnachemistry@gmail.com

EXPERIENCE: 16 years

ACADEMIC QUALIFICATION:

- **B.Ed in Bioscience** MNR B.Ed college. Osmania university 67%2006
- **M.Sc Inorganic Chemistry** University college for Women, Osmania University, Hyderabad 2005 -2007.
- **Degree (B.Sc),** Sarojini Naidu Vanita Maha Vidyalaya, Hyderabad 2002-2005.
- Intermediate Siddhartha college For Girls, Hyderabad, State board of A.P, 1999.
- SSC a Keshav memorial girls high school, Hyderabad, Board of Secondary Education, A.P. 1997.

OTHER ACTIVITIES

Student advisor (2013-2014) N.S.S Programme officer (2015-2018)

ACTIVITIES 2018-2023

FDP's conducted: Six Day FDP on "Innovative Practice in Chemical Science" organized by Department of Chemistry, A.V. College of Arts, Science and Commerce in collaboration with Department of Chemistry, Sarojini Naidu Vanita Maha Vidyalaya from 23- 28 September 2021.

- FDP's attended: 4
- Webinars attended: 3
- Workshop attended:1
- Seminar and Conferences: 5



AFSHAN FIRDOUS afshanfrds6@gmail.com

EXPERIENCE: 10 years

ACADEMIC QUALIFICATION:

- M.Sc. Organic Chemistry from Sarojini Naidu Vanita MahaVidyalayas in the year 2013.
- B.Ed Regular from Andhra Mahila Sabha in the year 2011.
- B.Sc (Bio technology) from St.Pious X Degree College for Women in the year 2010.
- Intermediate from St.Francis College for women in the year 2007.
- SSC from Dr.S.Hussain Zaheer Memorial High School in the year 2005.

ACTIVITIES 2018-2023

- FDP's conducted: Six Day FDP on " Innovative Practice in Chemical Science" organized by Department of Chemistry, A.V. College of Arts, Science and Commerce in collaboration with Department of Chemistry, Sarojini Naidu Vanita Maha Vidyalaya from 23- 28 September 2021.
- Add-on Course: 30hrs add-on course titled "Analysis of Chemical Compounds in Daily Life" was conducted for UG Chemistry students from 19^h April 22th May 2023.
- FDP's attended: 4
- Webinars attended: 3
- Workshop attended:1
- Seminar and Conferences: 5
- **Poster Presentation**:1

Avutapalli Radhika

radhikanth@gmail.com

Experience: 10 years

QUALIFICATION



• Master's degree in **Inorganic Chemistry** from Osmania University College of Science, Osmania University located in Hyderabad, A.P, INDIA.

Degree	Name of Institution	Year	Percentage %
M.Sc Chemistry	University College	2002	65%
(Inorganic Chemistry)	of Science, O.U		
B.Sc (BZC)	Osmania University	2000	80%
Intermediate	Board Of Intermediate	1997	78%
SSC	Pragathi High School,	1995	79%
	Wanaparthy		

IT EXPOSURE

Extensively worked on operating systems like MS-DOS, Windows XP/Vista and Packages of MS-Office Suite viz., (MS-Word, MS-Excel, MS-Access, MS-Visio) and knowledge of different document formats like XML, HTML, TXT.

EXPERIENCE

- Overall, 10 years of teaching experience as a lecturer in chemistry.
- 2 years of industrial experience in USA.

•	S.N.Vanitha Maha Vidyalaya, Hyderabad, India	Jul 2014 - Till date
•	Owens Corning, Granville, OH, U.S.A	Jun 2011 - May 2012
•	OwensCorning, Granville, OH, U.S.A	Oct 2009 - Nov 2009
•	Osmania University College For Women,	
•	Hvderabad, India	Apr 2004 - Apr 2005

• S.N.Vanitha Maha Vidyalaya, Hyderabad, India Jun 2002 - Mar 2004

ACTIVITIES 2018-2023

FDP's conducted: Six Day FDP on "Innovative Practice in Chemical Science" organized by Department of Chemistry, A. V. College of Arts, Science and Commerce in collaboration with Department of Chemistry, Sarojini Naidu Vanita Maha Vidyalaya from 23- 28 September 2021.

- FDP's attended: 4
- Refresher course: 1
- Seminars and Conferences attended: 3
- Webinar attended :5
- Work shop attended:1



V.SaiLahari

sailahari22@gmail.com

Experience: 9 years

EDUCATIONAL QUALIFICATION

Qualification/Degree	Name of the Institution	University/Board	Agreggate	Yearof passing
M.Sc. Organic Chemistry	Sarojini Naidu VanithaMahaVidyalayaNampally	Osmania University	66	2014
Degree	Sarojini Naidu VanithaMahaVidyalayaNampally	Osmania University	65.6	2012
Intermediate	RBVRR Intermediate College Narayanguda	Intermediate Board Of education	62.6	2009
10th	SwamyDayanand High School Amberpet	Board of secondary school education	63	2007

EXPERIENCE

• Worked as Asst Professor in Vishnu Sree Institute of Technology for 2 years from 2014 to July 2016.

Working as Lecturer in Sarojini Naidu Vanita Maha Vidyalaya from July 2016 to 2021 worked as UG Lecturer. Currently working as Intermediate Lecturer (2021 to till date).

ACADEMIC PROGRAMMES

UNDERGRADUATE PROGRAMMES

Programme	Course	Student	Duration
		Intake	
		2023-2024	
	BZC	114	
	ZMC	58	
	BCAN	51	
D C	ZCAN	55	3 Years
B.Sc.	BcCAN	19	(6 Semester)
	MbCAN	5	
	MbBcC	16	
	BBcC	1	
	MPC	11	

Course	2016-19	2017-20	2018-21	2019-22	2020-23
MPC	30	37	47	33	20
BZC	79	94	99	88	47
ZMC	18	23	22	33	35
BMC	22	27	25	31	10
BCAN	42	44	44	42	07
BBCC	-	-	-	-	02
MbBCC	-	-	-	-	12
ZCAN	-	-	-	-	24
MCCS	-		-	-	05

CURRICULUM STRUCTURE

	Telangana State Council of Higher Education, Govt. of Telangana B.Sc., CBCS Common							
	Core Syllabi for all Unive	rsities in Telan	gana					
PROPOSED SCHEME FOR CHOICE BASED CREDIT SYSTEM IN								
B.Sc., Chemistry from 2019-2020								
	FIRST YEAR- SEMESTER I							
CODE	COURSE TITLE	COURSE TYPE	HPW	CREDITS				
BS 101	Ability Enhancement Compulsory Course AECC-1	ES	2	2				
BS 102	English	CC-1A	4	4				
BS 103	Second language	CC-2A	4	4				
BS 104	Optional I	DSC-1A	4T+3P=7	4+1=5				
BS 105	Optional II	DSC-2A	4T+3P=7	4+1=5				
BS 106	Optional III- Chemistry - I		4T]	4				
	Laboratory Course – I	DSC-3A	} = 7	≻=5				
	(Qualitative Analysis - Semi Micro Analysis of Mixtures)		3P J	1-1				
	Total Credits		31	25				
	FIRST YEAR- SEMSTE							
BS 201	Ability Enhancement Compulsory Course AECC-2	BCS	2	2				
BS 202	English	CC-1B	4	4				
BS 203	Second language	CC-2B	4	4				
BS 204	Optional I	DSC-1B	4T+3P=7	4+1=5				
BS 205	Optional II	DSC-2B	4T+3P=7	4+1=5				
BS 206	Optional III- Chemistry - II							
	Laboratory Course - II	DSC-3B	4T]	4 T				
	(Quantitative Analysis - Titrations)		} = 7	≻=5				
			3P J	1				
	Total Credits		31	25				
	SECOND YEAR- SEMSTR	ER III						
BS 301	i) Safety Rules in Chemistry Laboratory and Lab Reagents	SEC-1	2	2				
	ii) Remedial methods for pollution, drinking water and	SEC-2	2	2				
	Soil fertility							
BS 302	English	CC-1C	3	3				
BS 303	Second language	CC-2C	3	3				
BS 304	Optional I	DSC-1C	4T+3P=7	4+1=5				
BS 305	Optional II	DSC-2C	4T+3P=7	4+1=5				
BS 306	Optional III- Chemistry - III							
	Laboratory Course - III (Synthesis of Organic compounds)	DSC-3C	$\left\{ {}^{4T} \right\}_{=7}$	4				
			3P J	1				
	Total Credits		31	25				
	SECOND YEAR- SEMST	RIV	-					
BS 401	i) Materials and their Applications	SEC-3	2	2				
	ii) Chemistry of Cosmetics and Food Processing	SEC-4	2	2				
BS 402	English	CC-1D	3	3				
BS 403	Second language	CC-2D	3	3				
BS 404	Optional I	DSC-1D	4T+3P=7	4+1=5				
BS 405	Optional II	DSC-2D	4T+3P=7	4+1=5				
BS 406	Optional III- Chemistry - IV		4T]	47				
~ ~ ~ ~	Laboratory Course - IV	DSC-3D	+ + = 7					
	(Qualitative Analysis of Organic Compounds)		3P J	1				
	Total Credits		31	25				

* AECC: Ability Enhancement Compulsory Course, SEC: Skill Enhancement Course, DSC: Discipline Specific Course, GE: Generic Elective, ES: Environmental Science , BCS : Basic computer skills.

UG (B.Sc. CHEMICAL SCIENCES) PROGRAM OUTCOMES

PO-1- Will be able to employ critical thinking and efficient problem-solving skills in the four basic areas of chemistry (analytical, inorganic, organic, and physical).

PO-2- Will be able to conduct experiments, analyze data, and interpret results, while observing responsible and ethical scientific conduct.

PO-3 - They find employment in industry or government or find employment in school systems as instructors or administrators

PO-4- Will be able to use modern library searching and retrieval methods to obtain information about a topic, chemical technique, or an issue relating to chemistry.

PO-5- The students will have effective written and oral communication skills, especially the ability to transmit complex technical information in a clear and concise manner.

B.Sc. CHEMICAL SCIENCES

COURSE OUTCOMES

I Year Semester - I Chemistry - I

CO1. Understand VSEPR Theory, LCAO method and analyze the p- block elements.

CO2. Acquire the knowledge about the Alicyclic and Aromatic Hydrocarbons.

CO3. Describes structure of an atom and the characteristics of three states of matter, learn about the effect of pressure, volume, temperature on them.

CO4. Ability to differentiate the anions, cations using semi micro qualitative analysis and learns the types of isomerism.

I Year Semester - II Chemistry II

CO1. Ability to classify and correlate the properties of p-block, d-block and zero group elements in the periodic table.

CO2. Understand the importance of hydroxy, carbonyl compounds and SN1 and SN2 mechanism.

CO3. Examine & analyze types of electrodes and their working used in different experiments.

CO4. Illustrate the stereo chemistry of different compounds, understands quantitative analysis and colligative properties of different solutions.

II Year SEMESTER – III Chemistry III

CO1. Study of f- block elements, understands the different aspects of Co-ordination compounds and analyzes the metal carbonyls, OMC's

CO2. Acquire the knowledge about Carboxylic acids, Nitro hydro carbons, Amines, Cyanides and Isocyanides

CO3. Evaluate concepts of thermodynamics (I, II Law) and efficiency using Carnot's cycle.

CO4. Analyze the data and understands the different reactions of carbanions and phases of Compounds.

II Year SEMESTER – IV Chemistry IV

CO1. Understand splitting patterns of d- orbital's in various complexes, learns HSAB Principles & Biological Significance of elements

CO2. Interpret & infer the structure of carbohydrates with reference to structure and configuration &learns the various heterocyclic compounds.

CO3. Observe the adverse effect of temperature on rate of reaction & Understands about emission and absorption of radiations.

CO4. Analyze the thermodynamic & kinetic aspects of metal carbonyls & Learns about colloids.

III Year SEMESTER - V CHEMISTRY V (SPECTROSCOPY & CHROMATOGRAPHY)

CO1. Evaluate & identify the structure of organic compounds by Rotational, Vibrational &

Electronic Spectra

CO2. Determine the structure and molecular weight of organic compounds by Mass & NMR

spectroscopy

CO3. Learn about solvent extraction and the use of Thin Layer Chromatography & Paper Chromatography.

CO4. Understand the various chromatography techniques to identify different compounds.

III Year SEMESTER - VI

Chemistry – VI (Agricultural & Fuel Chemistry)

CO1. Compare and correlates pesticides based on their preparation, use, toxicity, structure,

adverse effects of pesticides and its impact on environmental pollution.

CO2. Negotiate the study of organic farming by understanding principal methods, Crop rotation, Green manures and compost and learns its uses

CO3. Analyze the Petroleum products and summarize its applications, Petro chemicals and their uses, Lubricants – types, properties and mechanism of lubrication.

CO4. Understand Coal gasification, coal liquefaction and solvent refining, fractionation of coal tar and its uses.

INFRASTRUCTURE

S.No.	Infrastructure	Details
1.	Classroom	UG - 8
2.	Classroom with LCD facility	UG- 5
3.	Laboratories	UG -3
5.	Balance Room	UG - 3
6.	Chemical Preparation cum Store Room	UG- 2
7.	UV-Visible Spectrophotometer	1
8.	Computer	1
9.	Library	UG general Library: 3,904 books
		Departmental Library: 508 books



UG Chemistry Lab- I





UG Chemistry Lab- II Michael Faraday Lab



UG Chemistry Lab- III Asima Chatteriee Lab



UG Balance Room



UG Preparation Room

UG CHEMISTRY

TIME TABLE (2023-2024) SEM (II, IV and VI)

	1	2	3	4	5	6
II	←	MbBcC, BCAN	ZCAN→	С	В	
IV	(C+D)		В	←	BcCAN	ZCAN,MPC→
VI		B,D	(C+D)			
II	←	BZC, ZMC,	BcCAN→			
IV	(C+D)			SEC		D
VI			PROJECT	(C+D)	B,(C+D)	
II	В	C				
IV			(C+D)		D	
VI	B,D		PROJECT	←	BCAN,	MbCAN,ZCAN→
II						
IV	В	D			SEC	
VI			PROJECT	←	BZC,	BcCAN→
II		C		В		
IV		В	(C+D)	←	ZMC	·→
VI	B,D			(C+D)		
II		В	C			
IV		В	D	<i>←</i>	BCAN,	MbBcC,BBcC,BZC- -→
VI	←	ZMC,MPC	→	(C+D)		PROJECT

B.Sc. CHEMISTRY

WORKLOAD ALLOTTED TO UG FACULTY

ACADEMIC YEAR 2023-24 SEMESTER – II, IV, VI

S.No.	Name of the Faculty	No. of theory hrs / week	No. of Practical hrs/ week	Total teaching hrs/week
1.	Dr. B. Vanaja Reddy	9	9	18
2.	Ms. Ch.Swapna	8	12	20
3.	Ms. A.Radhika	8	9	17
4.	Ms. Sri Vidya	5	15	20
5.	Ms. Shafaath Fatima	8	9	17
	TOTAL	38	54	92
	Overall workload	l/week	92 hrs/week	

TEACHING METHODOLOGIES

- 1. Lecture method is used to explain the concepts.
- 2. Demonstration method is used to understand the working of the instruments.
- 3. Lecture cum demonstration method is used for more easy way of understanding the concepts.
- 4. ICT tools are used for understanding the abstract concepts.
- 5. Project method is used for developing innovative skills and to develop the scientific temper.

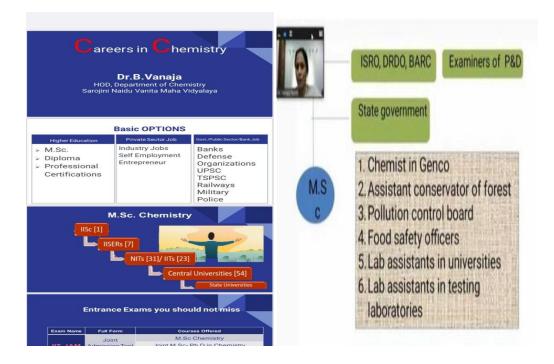
STUDENT SUPPORT SERVICES

 Miss. Swapna, alumnae enlightened B.Sc. Chemistry students on "Career guidance & opportunities in Chemistry" on 14th December2021.





 Dr. B. Vanaja Reddy delivered a lecture on "CAREERS IN CHEMISTRY" for all U.G & P.G students of life science & physical sciences on 14th August 2020.



COMPILED BOOK

A B.Sc. Chemistry lab manual (Semester- I, II, III, IV, V, VI) and important chemistry questions of six semesters was compiled by

- Dr. Saroja Peyyeti, Retired Professor in Chemistry
- Dr. B. Vanaja Reddy, Head, Department of Chemistry.
- Faculty, Department of Chemistry.

<u>MOU</u>

Memorandum of Understanding between Sarojini Naidu Vanita Maha Vidyalaya and Packaging Clinic & Research Institute (PCRI) in activities such as:

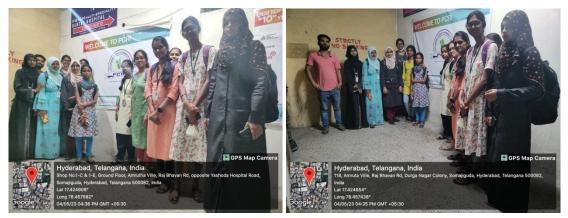
- Student internships and projects, when possible.
- Joint Conferences/ workshops
- Certificate Courses including Online Courses.
- Visit by faculty, professional staff and students.





CERTIFICATE COURSE

Certificate course on "Green chemistry and sustainable packaging" was conducted from 03-05-2023 to 22-05-2023 by Prof. Karna. B.K, (Resource Person) Director, PCRI.



PO Attainment target vs Attainment Achieved- 2019-22- UG

COURSE CODE	COURSE WISE TARGET LEVEL	COURSE ATTAINMENT LEVEL ACHIEVED
COURSE 106	2.5	1
COURSE 206	2.4	3
COURSE 306	2.25	3
COURSE 406	2.5	3
COURSE 506	2.4	3
COURSE 606	2.4	3

PO Attainment target vs Attainment Achieved- 2020-23- UG

COURSE CODE	COURSE WISE TARGET LEVEL	COURSE ATTAINMENT LEVEL ACHIEVED
COURSE 106	2.5	3
COURSE 206	2.4	3
COURSE 306	2.25	3
COURSE 406	2.5	3
COURSE 506	2.4	3
COURSE 606	2.4	3

FACULTY PUBLICATIONS

Dr.K.Eshwari published a research paper entitled "Synthesis and Characterization of 4-(4'-Methoxy) Benzylidene Amino-5-Phenyl-3-Mercapto-1,2,4-Triazole and its Complexes with Cu(II), Mn(II) " in **International Journal of Research and Analytical Reviews (IJRAR)** on August 2021, Volume 8, Issue 3.

STUDENT ACHIEVEMENTS

S.No.	Event	Date	Organized	Student Achievement
1.	Poster Presentation in "Applications of Industrial Chemistry in Agriculture	14-02-2020	Keshav Memorial Institute of Commerce & Sciences	D. Swathi & K. Keerthana (B.Sc. III yr) won 2 nd prize
2.	Inter collegiate Quiz and Power point Competition in Commemoration of 153 years of periodic table	14-02-2022	Department of Chemistry, Sarojini Naidu Vanita Maha Vidyalaya	2 students from B.Sc. & 2 students from M.Sc. won 1 st prize in Quiz. Kulsum Fatima- 2 nd Prize in Power point
3.	National Workshop on Nutritional Science	15-11-22 to 17-11-22	AV College of Arts and Science	Ayesha, Anu Sreeja & Vasavi (B.Sc. III year) won 2 nd prize
4.	Intercollegiate Quiz Competition on the occasion of National Pollution Control Day	02-12-2022	AV College of Arts and Science	Nandini & Hema Varshini (B.Sc. III yr) won 1 st prize
5.	Poster Presentation Competition on the occasion of National Science Day	25-02-2023	Keshav Memorial Institute of Commerce & Sciences	Simran Palan & Sri Varsha (B.Sc.III yr) won 2 nd prize

STUDENT ACHIEVEMENTS

S.No.	Event	Date	Organized	Student Achievement
6.	Power Point Presentation Competition on the occasion of National Science Day	28-02-2023	RBVRR college for women	Hameera Neha & K. Nandini (B.Sc. II yr) won 2 nd prize
7.	Power Point & Poster Presentation Competition on the occasion of National Science Day	24-02-2023	Sarojini Naidu Vanita Maha Vidyalaya	Hameera Neha & K. Nandini (B.Sc. II yr) won 1 st prize Mounika, Sri Varsha & Simran Palan won 2 nd prize
8.	Teach in Asifabad Social project internship	May- June 2023	District Administration and Piramal Foundation	Durgam Rachana, B.Sc. 2019-22 batch
9.	Enrolled in Ph.D programme in College of Science	02-12-2024	University of Texas, USA	B. Swapna 2018-21 batch

STUDENT ACHIEVEMENTS

<u>2019-2020</u>

D. Swathi and K. Keerthana of B.Sc. III year **won 2nd prize** for the poster presentation entitled "Applications of Industrial Chemistry in Agriculture" in a National Seminar conducted by Department of Chemistry, Keshav Memorial Institute of Commerce & Sciences on 14th Feb 2020. Dr..Eshwari, Associate Professor, Department of Chemistry mentored the students for the presentation.



<u>2021-2022</u>

B.Sc. and M.Sc. students from the college **won 1st prize** in Inter collegiate Quiz Competition in Commemoration of 153 years of periodic table organized by Department of Chemistry on 14th February 2022.



<u>2022-2023</u>

1. Ayesha, Anu Sreeja and Vasavi B.Sc. III year students participated and **won 2nd prize** for "Millets-based products" food stall in Food Festival conducted as a part of "National Workshop on Nutritional Science" organized by AV College of Arts, Science and Commerce in collaboration with Sarojini Naidu Vanita Maha Vidyalaya from 15th to 17th November 2022.



2. Nandini, Hema and Varshini B.Sc. 2nd year students participated and **won 1st prize** in Quiz Competition, in Intercollegiate Quiz & Poster Presentation conducted by A.V College of Arts, Science and Commerce on the occasion of National pollution Control Day "on 2nd December 2022. 24 students from Sarojini Naidu Vanita Maha Vidyalaya participated in the competition.



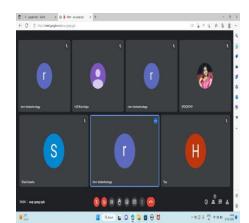
3. PG and UG students Ms. G. Thriveni, Ms. B.Shruthi, Simran Palan and Sri Varsha, presented a paper entitled "Nano materials & their Applications " in a National conference on " Recent Advances in Green & Sustainable Chemical Science" organized by Department of Chemistry, St. Pious X Degree College, Nacharam, on 20thJAN 2023.



4. Simran Palan, Sri Varsha of B.Sc. 3rd year participated and **won 2nd prize** in Poster Presentation Competition, in accordance with National Science Day" conducted by Keshav Memorial Institute of Science & commerce, Narayanaguda on 25th Feb 2023.



.5. Hameera Neha and K. Nandini of B.Sc. 2nd year participated and **won 2nd prize** in Power point Competition conducted by Department of Physical & Chemical Sciences, RBVRR college for women on occasion of 'National Science Day' on 28th Feb 2023



WHO IS A NOBEL LAUREATE ?

A Nobel laureate is a recipient of the Nobel Prize, an award given annually for outstanding achievement in the fields of physics ,chemistry ,medicine or physiology, literature, and economics , and for the promotion of peace.



6. B. Swapna, alumna, 2018 batch is currently pursuing Ph.D. in University of North Texas, USA



COMMUNITY CONNECT

Durgam Rachana, B.Sc. student actively participated and successfully completed "Teach in Asifabad" **social project internship** organized in collaboration with the District Administration and Piramal Foundation during May- June 2023.



DEPARTMENTAL ACTIVITIES- 2018- 2023

<u>S.No.</u>	<u>Activity</u>	<u>Details</u>	Date
1.	6- Day Faculty Development Programme	Organized in collaboration with A.V College of Arts, Science & Commerce	23- 28 th Sept. 2021
2.	MOU- Certificate Course	Green chemistry and sustainable packaging	3 rd - 22 nd May2023
3.	Inter Collegiate Quiz & Power Point Competitions	Commemoration of 153 years of periodic table	14 th February 2022
4.	Industrial Visit	 ARCI Sai Life Sciences Lab 	19 th January 2023 25 th January 2023
5.	Seminar	Dr.Mahender Dewal, Principal Scientist & Founding Member Massachusetts, USA - "Novel bio medical research tools & techniques"	16 th August 2023
6.	Add- on Courses	1. UG – 5	

<u>S.No.</u>	<u>Activity</u>	<u>Details</u>	Date
7.	Guest Lectures Organized	 Dr.Bhanudas, Senior Scientist, Escentia Lab "Analytical & Purification Techniques- Industry Prospective." Dr. P. Subhashini, Dept. of Chemistry, O.U "Proton Magnetic Resonance Spectroscopy" 	31 st January 2023 14 th December 2022
8.	Webinars organized	 "Dr.Ch. Raji Reddy, Sr. Principal Scientist, CSIR-IICT, Hyderabad- Role of Chemistry in mitigating COVID-19." Dr.Mahender Dewal, Principal Scientist & Founding Member Massachusetts, USA - "COVID- 19 a Pandemic of Corona virus: Underlying Chemistry from Cause to Cure " 	13 th June 2020 15 th June 2020
9.	Workshop organized	 1.Dr. B. Vanaja Reddy (HOD) conducted one day workshop on "Research and its importance in innovations." 2. Prof. M. Vithal, CSIR Emeritus Scientist , O.U. – resource person for One Day Workshop on " Synthesis of Nano Particles." 	29th August 2022 2nd February 2024
10.	Open Day	Open Day for different school students	4th August 2022

ACTIVITIES ORGANIZED

WEBINARS

1. Department of Chemistry organized a Webinar on "Role of Chemistry in mitigating COVID-19" by Dr.Ch. Raji Reddy, Sr. Principal Scientist, CSIR-IICT, Hyderabad, on 13th June 2020.



 Department of Chemistry organized an International Webinar on "COVID-19 a Pandemic of Coronavirus: Underlying Chemistry from Cause to Cure" by Dr. Mahender Dewal, Principal Scientist & Founding Member, Head of Research & Development ,Expansion Technologies, Cambridge, Massachusetts, USA (MIT Affiliate) on 15th June 2020.



SEMINAR

- Professor M. Vithal, CSIR Emeritus Scientist, Department of Chemistry, University College of Science, Osmania University addressed M.Sc. students on the topic "Research Methodologies" as a part of Lecture series for PG Staff and students on 23rd January 2024.
- One day seminar on "NOVEL BIO MEDICAL RESEARCH TOOLS & TECHNIQUES" for cancer therapy was organized on 16TH August 2023. Guest Speaker- Dr. Mahender B Dewal founding member & chief scientific officer expansion technologies Inc. Cambridge Massachusetts.



WORKSHOP

 A One Day Workshop on "Synthesis of Nano Particles" was conducted for B.Sc. and M.Sc. Chemistry students on 2nd February 2024. Resource Person- Professor M. Vithal, CSIR – Emeritus Scientist, Department of Chemistry, University College of Science, Osmania University.









• A one day workshop on "Research and its importance in innovations" was conducted for degree students by Resource person Dr. B. Vanaja Reddy (HOD) on 29th August 2022.

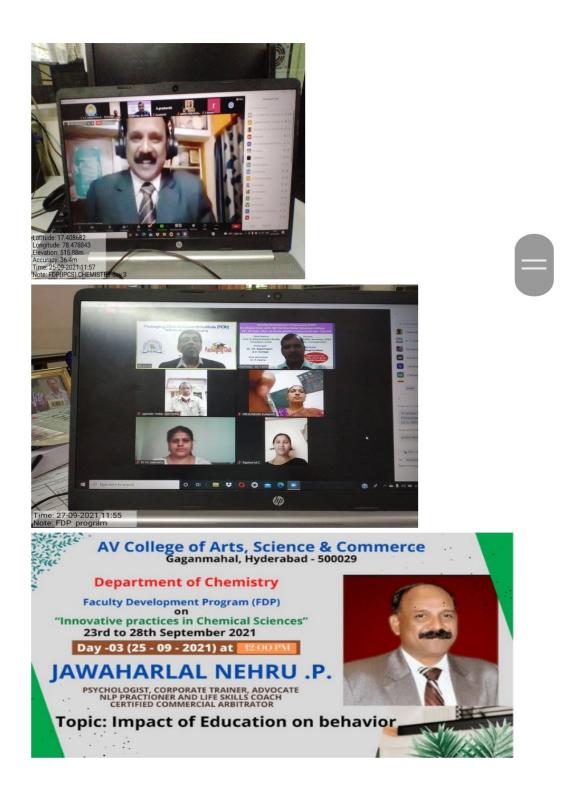


FACULTY DEVELOPMENT PROGRAMME

Department of Chemistry associated with A.V College of Arts, Science & Commerce organized a Faculty Development Programme (FDP) from 23-28th Sept. 2021.

A.V. College of Arts, Science & Commerce Gaganmahal, Hyderabad - 500 029 (Affiliated to OU) (Accredited with 'B++' grade by NAAC)				
Faculty Development Program (FDP) on "Innovative practices in Chemical Sciences"				
The Department of Chemistry is organizing a Faculty Development Programme (FDP) in collaboration with SN Vanitha Maha Vidyalaya College. 23 - 28 Sept. 2021, on Zoom platform from 10:30 AM - 1:00 PM				
Chief Patron Prof. K. Ramchandra Reddy President, AVES. Principal Dr. Ch. Rajalingam A.V. College Vice principal Dr. P. Padma	Patrons Dr.G.Prakash Reddy, Secretary, AVES Dr.K.Gouthami, Correspondt Director Dr. S.Gopi krishna Registration Link: https://forms.gle/Q gVokURE7fwaDfgXA			
Convener Dr. A. Jagan Mohan Reddy Head, Department of Chemistry College of Arts, Science and Commerce Contact: 9440350514 DEA Head, Department of Chemistry St.Vanithe Mahavidyalaya College, Nampaliy Organizing Coordinator Mr.Ch.Anjaiah PG, Department of Chemistry AV, College of Arts, Science and Commerce	Mr.C.Upender			





INTERCOLLEGIATE COMPETITIONS

Department of Chemistry organized an Inter collegiate Quiz & PowerPoint Presentation Competition in Commemoration of 153 years of periodic table on 14th February 2022.



ADD-ON COURSES - UG

- Conducted an add on course titled "Analysis of Chemical compounds used in daily life" from 18-06-2018 to 13-08-2018 by Resource person- CH. Swapna.
- 2. Conducted an add- on course titled "Analysis of Chemical compounds used in daily life" from 10-1-2019 to 5-03-2019 by Resource person- CH. Swapna.
- 3. Conducted an add- on course titled "Analysis of Chemical compounds used in daily life" from 09-11-2021 to 20-12-2021 by Resource person- CH. Swapna.
- Conducted an add on course on "Green chemistry" from 21 -02-2023 to 28-04-2023 by Resource person- Dr.B.Vanaja Reddy.
- Conducted an add- on course on "Analysis of Chemical Compounds used in daily life" from 19-04-2023 to 22-05-23 by Resource person-CH.Swapna & Afshan.

GUEST LECTURES DELIVERED- UG

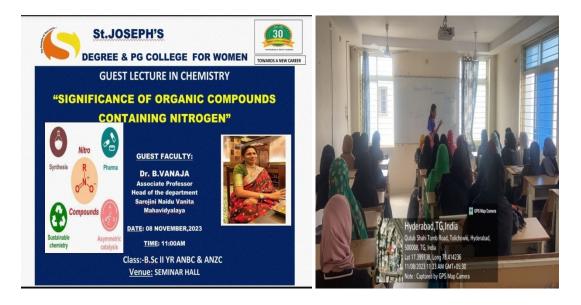
 Dr. K. Eshwari delivered a guest lecture on "Photochemistry" for B.Sc. II year students at St. Joseph's Degree College for Women on 14th March 2023.



2. Dr. B. Vanaja Reddy delivered a guest lecture on "The significance of Hydroxy compounds" for BSc students in AV College of Arts Science and Commerce on 19th April 2023.



3. Dr.B.Vanaja Reddy delivered a guest lecture on "Significance of Organic Compounds containing Nitrogen" for BSc II year students on 8th November 2023 at St. Joseph's Degree and PG College for Women.



GUEST LECTURE ORGANIZED - UG

1. A Guest lecture on "Proton Magnetic Resonance Spectroscopy" was organized on 14th September 2022- Resource Person- Dr. P. Subhashini, Associate Professor of Chemistry, Department of Chemistry, Osmania University.



2. A guest lecture on "Vital Nutrients for Human Body general Medical Conditions and their Management by G. Amritha (Medico) on 12th November 2022.



INDUSTRIAL VISIT

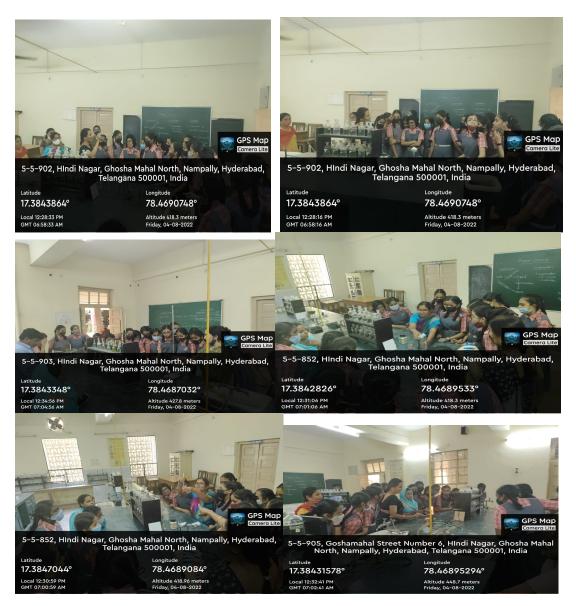
1. A Visit to ARCI Lab with B.Sc. & M.Sc. Final year students along with the faculty, Department of Chemistry on 19th January 2023. The students gained practical knowledge about Nano materials & their applications.



2. A visit to Sai Life Sciences Lab, Thurkapally with B.Sc. & M.Sc. Final year students along with the faculty, Department of Chemistry on 25th Jan 2023 where the students were able to see the working models related to biological & bulk synthesis of chemicals. They have also seen the Mass spectrometers, Proton NMR instruments. M.Sc. students had a better understanding of the concepts as a part of add- on course.



OPEN DAY FOR SCHOOL STUDENTS



Every year college organizes "Open Day" for different school students.

OUTCOME:

The faculty, Department of chemistry demonstrated various experiments like flame test, titrations etc as per school academic syllabus which was helpful to the students in learning chemistry by understanding the concepts.

SWOC ANALYSIS

Strength:

- The department has well equipped labs with adequate instruments for UG & PG and special instrument UV- Visible Spectrophotometer with computation.
- Dedicated and qualified teaching and non- teaching staff.
- ICT furnished classrooms for UG and PG students.
- Departmental library with ample number of reference books.

Weakness:

- Lack of industry connections resulting in fewer opportunities for students to engage in application of their knowledge.
- Lack of knowledge regarding career opportunities in the pharmaceutical sector and in academics.

Opportunities:

- Tie up with industries can provide opportunities for student internship and placement.
- Interdisciplinary collaborations with other departments can attract diverse students and foster for their holistic development.

Challenges:

- To meet the industrial needs by the existing curriculum.
- To establish link with industries.
- To enrich students with the subject.

FUTURE PLANS

- To organize National seminar/ conferences.
- To organize Faculty Development Programmes.
- To initiate collaborative activities with other colleges and industries.
- To organize placement drive (Pharmaceutical Companies) for M.Sc. students.
- To start career oriented certificate courses.