



DEPARTMENTAL PROFILE

About the Department of Chemistry

The department was established in 1958. It is one of the oldest chemistry departments in the state of Gujarat. Department has been recognized as a **Centre of Excellence** in Supramolecules and Nanomaterials by Gujarat Council of Science and technology, Gujarat. Covered under UGC Special Assistance Programme (**DRS III**) in the thrust area of Supramolecules and Nanomaterials and also covered under **DST-FIST**. The department has organized 1 international conference, 3 national, 2 state level and 2 University level conferences during the last five years.

The department has stimulating postgraduate teaching programmes. Under the CBCS system adopted by the department in year 2010, the students are evaluated by Seminar, Quiz, Assignment, Internal exam (theory & Practical), Dissertation and Industrial visit. Frequent symposia, refresher courses have been organized for the benefit of University, College teachers as well as the talented students. The department is running remedial classes for UGC-NET exam for the benefit of students of Gujarat University.

The department has good library facilities with good collection of more than 5000 books. instrument labs having more than 20 major instruments, 3 labs for students with the capacity of 50 each and 6 research laboratories with all infrastructure facility. The department has access to e-books and journals through INFLIBNET.

The department has good instrumental facilities such as GF-AAS, FT-IR, UV-Visible Spectrophotometer, Powder X-ray diffraction unit, GC-MS, HPLC, Polarograph, Polarizing Microscope, DSC, TGA, DTA, Fluorescence Spectrophotometer, Cyclic Voltameter, TOC, DLS, CHNSO Analyzer, Impedence Meter, Ion Chromatograph, Microwave synthesizer and good computer facilities for carrying out advanced research.

The department is well-known for its research activities and has very well equipped research laboratories. The main areas of research include: Supramolecular Chemistry, Corrosion and material science, Bioanalysis, Synthetic Organic Chemistry, Medicinal Chemistry, Heterocyclic chemistry, Nanochemistry, Nanomaterials, Co-ordination chemistry etc. The department has organized **8 major scientific events** during the last five years.

Events Organized:

1. Refresher Course in the subject of Chemistry from 23/06/2014 to 13/07/2014.
2. Refresher Course in the subject of Chemistry from 04/02/2013 to 24/02/2013.
3. Refresher Course in the subject of Environmental Science from 03/06/2013 to 23/06/2013.
4. One day Colloquium on "Chemistry : Our Life Our Future" on 24th December 2011.
5. Competitiveness through Collaboration" Industry-Academia Congregate, January, 22, 2011
6. 'XXIV-Gujarat Science Congress'-March 21, 2010
7. National Seminar on Confluence of Supramolecular Chemistry and Nanoscience", during January 22 & 23, 2010
8. International Conference on Environmental Issues in Emerging and advanced Economies: Canada, India, December 6 – 8, 2009

9. National Seminar on Emerging Trends in Forensic Science, Forensic Science, Dept. of Chemistry, Gujarat University, Ahmedabad 27-28th April, 2008.
10. National Seminar on Emerging Trends in Supramolecular Research on 30th and 31st March 2007.
11. National symposium on Nanomaterials and Photochemistry, 23rd -24th October 2006.

Research Projects

Department has successfully completed 20 research projects of DST, CSIR, UGC, GUJCOST, GMDC during the last five years.

In all, department has received a grant of 2.2 crores from various bodies during the last 5 years. 1 faculty member is currently having project from DST, 1 member is currently having project from UGC and DRDO, 3 members are currently having project from GUJCOST.

Placement

Regular placement interviews are conducted during the month of January under the name "Karbon Konnect " More than 12 companies like Atul, Huback, Torrent, O2h, Zydys- Cadila Finar, Anil starch, Intas, Alembic, Sun Pharma, B A research, Weeda, Amneal Pharmaceutical conducted interviews in 2011. More than 50% was placed with an average percentage of 1.5-2.5 lacs.

Besides academics the students are actively involved in sports and the department team participated in the inter college Volleyball and chess competitions.

Research Collaboration

Department is collaborating with **Rega Institute of Medical Research, Belgium** for anti-HIV activity A tie up with **BITS-Pilani, Hyderabad** for anti-TB activity Collaboration with ANAR chemicals for research work on dyes and inks. Collaboration with Cancer research Institute for research work on anti-cancer drugs.

Research Achievements

Faculty is very actively engaged in research. Department has produced 15 Ph.D and 15-17 M.Phil in the past three years. This has resulted in 250 publications in national and international journals (average impact factor 1.5) with 2900 citations.

The department has organised 5 refresher courses during the last 5 years.

Department is conducting preparative classes for the UGC-NET exam coordinated by Dr.K.H.Chikhalia.

Faculty Profile

Professor & Head				
Dr.K.H.Chikhalia	M.Sc. M.Phil, Ph.D.	chikhalia_kh@yahoo.com (mobile)9427155529	Organic Chemistry	Medicinal Chemistry / Synthetic Organic Chemistry
Professors				
Dr.N.K.Shah	M.Sc., Ph.D.	nishchem2004@yahoo.co.in (mobile)9825312095 (Office) 079-26300969	Analytical Chemistry	Corrosion Inhibitors, Electroanalytical techniques
Dr.V.K.Jain	M.Sc.Ph.D.	drvkjain@hotmail.com (mobile)9327013263	Inorganic Chemistry	Supramolecular Chemistry, Coordination Chemistry
Associate Professors				
Dr.P.Shrivastav	M.Sc.,M.Phil, Ph.D.	pranav_shrivastav@yahoo.com (mobile)9925471963	Analytical Chemistry	Bioanalytical Chemistry , Supramolecular Chemistry & Complexation study
Dr.M.M.Maisuria	M.Sc.Ph.D.	mmmmaisuria@yahoo.co.in (mobile)9376832095	Physical Chemistry	Thermodynamic studies of binary ligand mixtures
Dr.H.D.Patel	M.Sc.,M.Phil, Ph.D.	hitesh13chem@rediffmail.com (mobile)9428417765	Organic Chemistry	Heterocyclic & Chiral Compounds& their biological activity
Assistant Professors				
Dr.H.Kaur	M.Sc.M.Phil, Ph.D.	hk_ss_in@yahoo.com (mobile)9427628565	Organic Chemistry	Supramolecular Chemistry, Nanocomposites

Courses offered

1. Master of Science (Chemistry)

Course Type :	Grant in Aid
Intake :	150
Eligibility :	B.Sc. (Chemistry)
Subject offered/Specialization :	Analytical / Inorganic / Organic / Physical
Duration :	2 yrs (4 semesters)
Course Commencement :	June
Selection Process :	By merit
Placement/Future Career Opportunity :	Ph.D. programme and employment in industry

2. M.Phil. (Chemistry)

Course Type :	Grant in Aid
Eligibility :	M.Sc. (Chemistry)
Subject offered/Specialization :	Analytical / Inorganic / Organic / Physical
Duration :	1 yr (2 Semesters)
Course Commencement :	June
Selection Process :	By written test and Interview
Placement/Future Career Opportunity :	Faculties in Colleges & Universities, Research Institute and industries

3. Ph. D. (Chemistry)

Course Type :	Grant in Aid
Eligibility :	M.Sc. (Chemistry)
Subject offered/Specialization :	Analytical / Inorganic / Organic / Physical
Selection Process :	By written test, group discussion and personal interview
Placement/Future Career Opportunity :	Faculties in Colleges & Universities, Research Institute and industries

Instrumental Facilities available at the Department

No.	Name of Instrument
1.	X-ray Diffractometer XRD-7 -SEIFERT
2.	GCMS – Shimadzu QP 5050
3.	Fourier Transform Infrared Spectrometer Bruker Tensor 27 with Microscope Helios ATR, DR with heating capsule
4.	Differential Thermal Analyzer Model DTA-50-Schimadzu
5.	Fluorescence Spectrophotometer F-2000 - HITACHI
6.	Spectrophotometer U-3210 - HITACHI
7.	Polarizing Microscope -Leica
8.	Total Organic Carbon Analyzer with PC and Printer- Anatoc
9.	Fourier Transform Infrared Spectrometer Jasco 410
10.	Vapour Pressur Osmometer - KNAUER
11.	UV / VIS Spectrophotometer- JASCO V-570
12.	Ion chromatography – Dionex ICS1000
13.	Atomic Absorption Spectrophotometer- Chemito
14.	HPLC- Chrompac with Integrator-Schimadzu CR 370
15.	Electrochemical Analyzer- CH instruments 620 A
16.	Spectrophotometer Ciba-Corning
17.	Dynamic lights scattering, nanotracs, METROHM
18.	CHNSO elemental analyser- ELEMENTAR
19.	AAS with graphite furnace- ANALYTICAL JENA- METROHM
20.	Electrochemical impedance meter – METROHM
21.	Microwave synthesizer – CEM
22.	Conductometer-Dosimeter-METROHM

Sr. No.	Name of Project ongoing	Grant	Funding Agency	Duration	Investigators
1	Rational Design, Synthesis and Anti-HIV activity of some novel Heterocyclic Analogues	3.5 lacs	GUJCOST	2 yrs	Dr.K.H.Chikhalia
2	Synthetic approach and discover new anti cancer drugs using computer aided drug design.	3 lacs	GUJCOST	2 years	Dr.N.K.Shah
3.	Design, Synthesis and applications of Supramolecular Fluorescent Sensors for Various Guests”.	44.07 lacs	DRDO	3 yrs	Dr.V.K.Jain
4.	A study on feasibility and sustainability of microwave enhanced sequential and cascade reactions using mono or bimetallic nanoparticles	25.9 lacs	DST - Nanomission	3 yrs	Dr.H.Kaur
5.	A study on nanoparticle catalyzed synthesis of heterocycles using sequential coupling reactions	2.4 lacs	GUJCOST	2 yrs	Dr.H.Kaur