

Departmental Report

Department of Chemistry

Session 2024-25

Department at a glance

The department of Chemistry was established in 1959 and since then it is flourishing continuously. The department comprise of seven regular faculties and three guest faculties led by head of the department Prof. Younus Raza Beg. Dr. Dakeshwar Kumar Verma, Dr. Priyanka Singh and Dr. Ashwani Kumar Sharma have been thriving in their areas of research as PhD. guides. The department offers various graduate and post-graduate courses under which the graduation courses are in both annual and semester system after the implementation of NEP-2020.

Departmental activities

From time to time, in order to foster awareness among the students, career guidance lectures are being organised in which expert faculties guide students about the scope in the field of Chemistry. A guest lecture on career guidance was organised on April 9, 2025 in which the speaker was Dr. Charu Arora, Professor, Department of Chemistry, Guru Ghasidas Central Unversity, Bilaspur. In this series another lecture was organised 4/04/205, in which guest lecture was Dr. Bhawna jain, Director Shiddhachalam Laboratory , Raipur.

Workshop on Indian Knowledge system

From time to time various activities are being organised by the department for the holistic development of the students focusing on their academic, personality and career's growth. A one day workshop on Indian knowledge system was organised on 10/08/2024, in which Mr. Jagdish Chandel, delivered his lecture on the topic "Prachin parampara chikitsa padhdhati se waat sambandhi Rogon ki pehchan evam Nidaan. Having received wonderful feedback of this successful workshop on demand of our beneficiary, another one day workshop was organised on 31/08/2025 from the same speaker.

One day Hands on Trainng

One day hands on training on 4/4/2025 was organised by the department on Pythochemical extraction and nanomaterial preparation. In which Dr. Bhawna jain, Principal Scientist- Sidhdhachal Laboratory, Raipur presented power point presentation and trained our students on methods of extraction and preparation of Nanomaterial.

Visit to Mohara Water Purification Plant

One day visit of Water Purification Plant , Mohara was organised on 9/4/2025 for better understanding of process of water purification. Beneficiary of this "Visit" were post graduate students and under graduate students of fourth semester from the department.

Plantation and cleanliness drive

A cleanliness and plantation drive was organised by the students of the department with the aim to create an Oxy-zone by planting the saplings of tulsi in the premises of the department.

Teacher's Day



Departmental students' achievements

Our postgraduate students Sanskriti Deshmukh, Shraddha Meshram won 1st prize on posters presentation in two days workshop organised by Guru Ghasdas Central University, Bilaspur. These students were prepared their poster on “synthesis of anti inflammatory salve from Marigold”.

NET/SET qualified students

This Session following student from our departments qualified in various exams. The list is as follows:

Sr. Number	Name of the student	Qualified for
1	Girish Kumar	NET, SET
2	Vijay Kumar	NET-JRF, GATE
3	Nemchand	SET
4	Om Prakash	SET
5	Om Prakash	GATE
6	Gayatri	SET
7	Jiteshwati	SET
8	Pushplata Thakur	SET
9	Humeshwari Sahu	NET-JRF

Research work and publications

The faculties apart from indulging in academics also are involved in research works. Various research papers, review articles, books and book chapters are being published in journals of repute and renowned publications respectively. A total of six books have been co-authored by Dr. Dakeshwar Kumar Verma, the titles and publications of which are as follows:-

Books

S.No.	Title of the book	Publication
1.	Advanced anti-corrosive materials	Taylor and Francis
2.	Biosorbents: Diversity, Bioprocessing and Applications	Taylor and Francis
3.	Green chemical synthesis with Microwaves and Ultrasound	Wiley-VCH GmbH
4.	Marine molecules from Algae	Elsevier

	and Cyanobacteria	
5.	Heavy Metals: Global Pollution update and Recent Management Series	ACS Symposium Series Book
6.	Carbon Dots in Biology: Synthesis, Properties, Biological and Pharmaceutical Applications	De Gruyter

Research Papers

Apart from the book's publication various book chapters also have been written. A total of 22 book chapters have been authored by the faculties in books of celebrated publications. In this session, 15 research papers have been published in journals of high impact factor which are as follows

Name of the faculty	Title of the paper	Publication journal
Dr. Ashwani Kumar Sharma	Isolation and Chemical Structural Elucidation of Antibacterial Bioactive Compounds from Endophytic Fungal Strain <i>Phoma sp.</i> D1	Springer International Publishing
Dr. Ashwani Kumar Sharma	The SARS-CoV-2 variant and its multiple sub-lineages: transmissibility, antiviral drugs, monoclonal antibodies, and strategies for infection control-a review	ChemistrySelect
Dr. Ashwani Kumar Sharma	Density Functional theory(DFT)-based molecular modelling	Elsevier
Dr. Priyanka Singh	Carbon dots Nanoparticles : promising breakthrough in bio sensing, catalysis, biomedical and authors application	Elsevier
Dr. Priyanka Singh	A review on the determination methods of nitrate and the routes for its removal from environmental samples	
Dr. Dakeshwar Kumar Verma	Principles and Theories of Green Chemistry in the Service of Corrosion Science and Engineering: Design and Application	Green Chemistry
Dr. Dakeshwar Kumar Verma	Electrochemical and DFT Studies of the PistaciaIntegerrima Gall Extract: An Eco-friendly Approach towards the Corrosion of Steel in Acidic Medium	ACS omega
Dr. Dakeshwar Kumar Verma	Integrating experimental and theoretical studies in the development of a novel alginate-based bio-composite for copper anticorrosion in 3.5% NaCl environments	International Journal of Biological Macromolecules
Mrs. Reema Sahu	Isatin is a new core in the developing of corrosion inhibitors: A comprehensive review	Journal of Molecular Structure

Patent

A patent has been published entitled, "NICOTIN HYDROXAMICACIDAS AN EFFECTIVE AND ENVIRONMENTALLY ACCEPTABLE CHELATING CORROSION INHIBITORIN THE GAS AND OIL INDUSTRY: EXPERIMENTAL, SURFACE AND COMPUTATIONAL STUDIES" in the field of Polymer Technology by Dr. Dakeshwar Kumar Verma, assistant professor, Mrs. Reema Sahu, assistant professor and Mr. Yeestdev Dewangan, research scholar.