

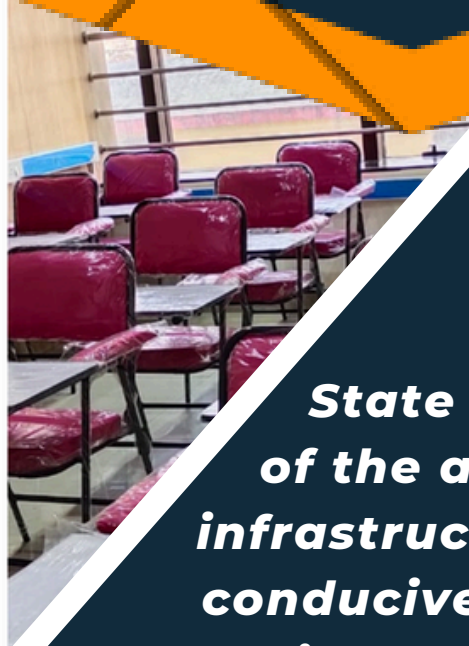


*Jai Hind College Autonomous
Department of Chemistry*

MSC CHEMISTRY

PHYSICAL, INORGANIC, ORGANIC





**State
of the art
infrastructure
conducive for
teaching, learning
& research**

Dept. of Chemistry

The department of Chemistry offers an aided/unaided PG program in Physical, Inorganic & Organic Chemistry. The syllabus framework post-autonomy has been defined to offer multiple learning opportunities to students with **active classroom teaching, practical coursework, internships, MOOCs, literature review, and research projects.**

The department comprises of 12 highly qualified and experienced teaching staff members who are actively involved in PG teaching & research.

The college has an **advanced Central Instrumentation Facility (CIF)** with high-end analytical instruments such as HPLC (Agilent Infinity 1220), FTIR (Bruker Alpha II), DSC (Shimadzu 60 plus), Spectrofluorimeter (Shimadzu RF 6000), Uv-vis spectrophotometer (Shimadzu), Rotavap etc.

About the program

- The autonomous M.Sc. program is **aligned with NEP** and has two exit options- after first year with PGD (Post-graduate Diploma) & after two years with the Master's degree.
- CBCS (Choice Based Credit System) with 22 credits to be earned by a student per semester.
- Credits for **internship & research projects** incorporated within the curricular framework.
- **Research Methodology and MOOCs** to offer multiple learning avenues for students.
- Curriculum aligned with **industry demands** and **current research** areas.
- Syllabi across the semesters inspired from premiere academic institutes like IITs, IISERs & oriented towards **competitive examinations** like- NET, GATE, SET, PET etc.

Intake 2024-25

Branch of Specialization	Number of students
Physical Chemistry (Aided)	5
Inorganic Chemistry (Aided)	5
Organic Chemistry (Unaided)	10

Visit the college website for fee structure

Salient Features

Highlight 01

Lectures for Competitive Examination:

- 2018-20: University of Mumbai PET (03)
- 2019-21: University of Mumbai PET (06); GATE (02)
- 2020-22: University of Mumbai PET (04); GATE (01)

Ph.D. enrolments/Project Positions:

- University of Geneva
- Polish Academy of Science
- Institute of Chemical Technology
- DAE-CEBS, UoM
- CSMCRI-CSIR Bhavnagar
- IIT Hyderabad (Young Researcher Program)
- BARC

Highlight 02

Student research papers



Transition metal-catalyzed C–H functionalization of arylacetic acids for the synthesis of benzothiadiazine 1,1-dioxides

Bhauasheb N. Patil^{a,1}, Jatin J. Lade^{a,1}, Aniket S. Karpe^a, B. Pownthurai^a, Kamlesh S. Vadgaonkar^{b,c,*}, V. Mohanasrinivasan^c, Atul C. Chaskar^{a,c}

^aNational Centre for Nanosciences and Nanotechnology, University of Mumbai, Vidyasagar, Mumbai 400038, Maharashtra, India
^bDepartment of Dyestuff Technology, Institute of Chemical Technology, Mumbai 400079, Maharashtra, India
^cDepartment of Biomedical Sciences, Vellore Institute of Technology, 632014, Tamil Nadu, India

Recent Advances of Functionalized Carbon Nanotubes for Biomedical and Device Applications (A Review)

Published: 16 April 2024

Volume 94, pages 246–264, (2024) [Cite this article](#)

M. H. Sayed & A. H. Shaikh

34 Accesses [Explore all metrics](#) →



Magical moiré patterns in twisted bilayer graphene: A review on recent advances in graphene twistrionics

Shreyas S. Dindorkar^a, Ajinkya S. Kurade^b, Aksh Hina Shaikh^{b,c}

^aDepartment of Chemistry, Jai Hind College, Churchgate, Mumbai 400020, India
^bDepartment of Chemistry, Institute of Chemical Technology, Marol, Mumbai 400079, India

ARTICLE INFO

Keywords:
Twisted bilayer graphene
Moiré patterns
Recent advances
van der Waals heterostructures

ABSTRACT

Graphene has recently become an area that is experiencing rapid growth. The observation of moiré patterns in mechanically stacked graphene layers has triggered rapid progress in graphene research. These moiré patterns arise due to the relative difference in the orientation of the mechanically stacked graphene layers. Since their first

ZnO Nanostructure Based Gas Sensors: Critical Review Based on their Synthesis and Morphology Towards Various Oxidizing and Reducing Gases

Tarannum Shaikh¹ and Shilpa Jain^{1,*}

¹Department of Chemistry, Jai Hind College, University of Mumbai, Churchgate, Mumbai, 400020, India

ARTICLE HISTORY

Received: 29 July 2022
Revised: September 17, 2022
Accepted: October 24, 2022

DOI: 10.2174/24048413190866212220103713

Abstract: Nanotechnology has enabled sensors to detect and sense a very small amount of chemical vapors. Sensors play a major role in our daily life. The use of sensors has made human life easy. One such type of sensor is the Gas sensor made up of Semiconducting metal oxides. These sensors have their own unique features which help in the easy monitoring of toxic gases. Out of all the metal oxide present, the gas sensors made up of ZnO nanostructures are mostly used in the gas sensing industry. ZnO has become a research hotspot of gas-sensing material because of the variation in resistance observed on the surface. These resistance changes are observed due to the adsorption & desorption of gases. In this review, we will be discussing the ZnO nanostructures, their preparation and their applications in the sensing of various toxic and flammable gases.

Highlight 03

Student Internships

BASF
We create chemistry



Nature kissed
FROM NATURE WITH LOVE



NARSIPUR



btra



Highlight 04

Seminars/Workshops & Lab Visits:

- Computational Tools for Chemists: E-internship (June 07-12, 2021); Workshop (October 12-15, 2022)
- Training Workshop on HPLC: 18/09/2019
- Training Workshop on DSC: 11/02/2020
- Anchrom Enterprises Visit: 21/09/2019
- Institute of Chemical Technology Visit (GC-MS training): 29/09/2019
- Anton Paar Lab Visit: 20/10/23
- CEBS, UM-DAE Center 28/2/24





Students Achievements

Placement Records (2023-24)

- Anagha Anilkumar: HP Green R&D Center
- Aashish Lad: BTRA Ghatkopar Mumbai
- Sayali Kate: BPCL Apprentice
- Monil Shah: Rawji Fine Fragrances Pvt Ltd
- Monish Jatakiya: Sardar Vallabhai Patel School, Mira-road

Ph.D Positions (2023-24)

- Aniket Chaydhari: Polish Academy of Sciences, Poland
- Atharva Sapre: Czech Academy of Sciences, Prague
- Shreyas Dindorkar: IIT Gandhinagar

Qualified Competitive Candidates

- Shreyas Dindorkar: GATE (AIR: 2182)
- Anagha Anilkumar: GATE (AIR: 3128)
- Tejasvi Naik: ICT Entrance Exam

Poster/Paper Presentation (2023-24)

- Meher B. & Aisha S.: Chemscope (Sophia College)
- Manali & Kishan G.: Chemscope (Sophia College)
- Kunika & Juhina: Xplore (Jai Hind College)
- Arsalan: Xplore (Jai Hind College)



Student Feedback

Teachers backing up for each subject, Having 2 internships in within the course and having NPTEL too for additional credits and knowledge. Project was one of the interesting part since it stimulated a lot of interest and gave practical knowledge about Chemistry and where it is applied.

Ayesha Siddique (2021-23)



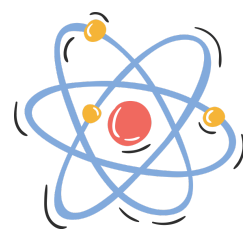
A lot of things such as the literature review and project work added value to the course but the one thing that was of most value to me was the computational softwares that were taught to us as a part of our internship. It has helped me a lot. The computational softwares that we were taught have also given all of us students an edge over the others.

Dhwani Kapadia (2018-20)



1. Sessions for competitive examinations 2. MOOCS and internship components 3. Well-structured syllabus covering both traditional and present-day information 4. Quality and diversity of the internal assessment methods 5. Prompt and fair feedback and assessment mechanisms.

Shreyas Dindorkar(2021-23)



Admissions 24-25

Eligibility & Admission Criteria:

A learner for being eligible to apply for admission to the M.Sc. degree course by papers in Chemistry must have passed: -

The B.Sc. degree examination of this University or degree of any other University recognized as equivalent thereto with Minimum 46 credits or its equivalent (i.e, the minimum credits required for majoring in a subject, and excluding the credits for optional courses) of the subject which he wants to offer (Chemistry) for the M.Sc. degree course by papers.

Admissions will be based on semester 5 & 6 grades.

Syllabus & Course Structure:

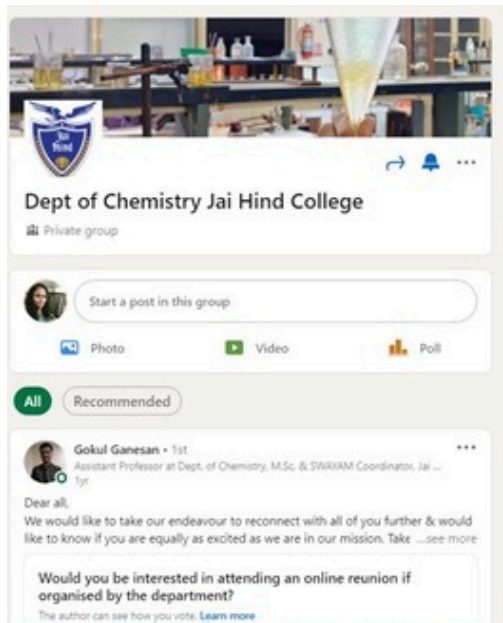
M.Sc. Part 1 Semester 1 & 2 under NEP

M.Sc. Part 2 Semester 3 & 4 Physical Chemistry

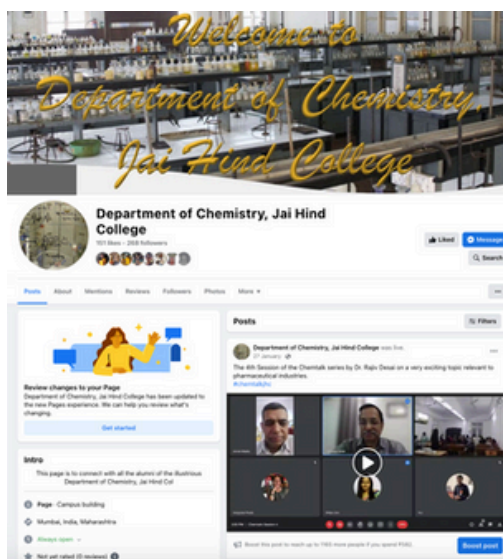
M.Sc. Part 2 Semester 3 & 4 Inorganic Chemistry

M.Sc. Part 2 Semester 3 & 4 Organic Chemistry

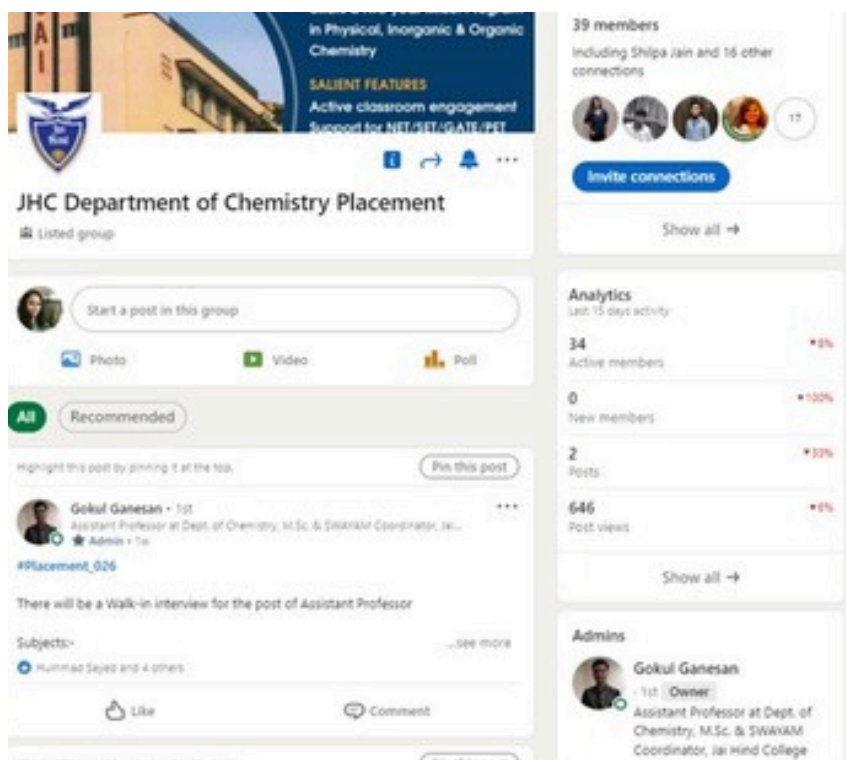
Digital Presence



Departmental LinkedIn Page



Department Facebook Page



Placement Support LinkedIn Page



For more details email us:

admissions.pg@jaihindcollege.edu.in