



DEPARTMENT OF CHEMISTRY

FACULTY OF SCIENCES

**J C BOSE UNIVERSITY OF SCIENCE AND TECHNOLOGY,
YMCA, FARIDABAD HARYANA -121006**

ABOUT THE DEPARTMENT

The Department of Chemistry, established in 2016, is one of the newly constructed departments of the J. C. Bose University of Science and Technology, YMCA and is committed to research and teaching since its inception. The department started Master's in Science (Chemistry) 2-year programme in 2016 and immersed with Ph. D. programme in 2017 and B. Sc. Chemistry (Honours) in 2018, and obligated to core courses in Chemistry for undergraduate B. Tech. students. The objective of Chemistry department is to equip students with techniques and skills so that they can contribute to achieving innovative and indigenous solutions to scientific problems related to our society. The faculty members of the department are dedicated to quality teaching and research. At present, faculty and students are engaged in a range of dynamic research programs that include organic synthesis, medicinal chemistry, materials chemistry, theoretical and computational chemistry and others. The Department has a dedicated team of faculty members trained at renowned institutes in India and abroad. This growing department with young faculty offers a vibrant atmosphere to nurture the spirit of scientific inquiry.

We are constantly on the lookout for bright young minds who would enrich our department by joining us in the capacity of students and researchers. Whoever you are and whenever you are on your journey in the direction of chemical sciences, you are always welcome here in J. C. Bose University of Science and Technology, YMCA. We shall be delighted to hear from you.

VISION

To develop into a department that can effectively harness its multispecialty strengths to create an academically stimulating atmosphere; evolving into a well-integrated system by developing in students heightened intellectual, cultural, ethical, and humane sensitivities; to foster a scientific temper, and to promote professional and technological expertise.

MISSION

- To create well-rounded individuals ready to comprehend scientific and technical challenges offered in the area of specialization.
- To awaken the young minds and discover their talents both in theory and in practical chemistry, through dedication to teaching, commitment to students and innovative instructional methods.
- To encourage critical thinking and develop research acumen by aiding the nascent spirit for scientific exploration.
- To infuse intellectual audacity that makes them take bold initiatives to venture into alternative methods and modes to achieve technological breakthroughs.
- Lead in fostering solutions to problems of global significance by collaborating across many disciplines both within and external to University.

STRATEGIC GOALS

- The Dept. of Journalism and Mass Communication endeavours to fulfil the Vision of the University and the department, and work steadfastly to achieve the Mission of the University as well as the department.
- The strategic goals of the department are, as such, aimed at benefitting the students, taking the department towards constant progress/ betterment, contributing towards meaningful community and social causes, national development as well as nation building.
- Strategic planning regarding the period 2021-22 to 2025-26 has been done keeping in view the various parameters and quality indicators.

SWOC ANALYSIS

STRENGTHS

- Well defined Vision, Mission and Value System of the Dept.
- Well qualified teaching staff with high motivation.

- Well planned, well defined syllabus of UG, PG and Ph.D courses with a mix of theoretical, practical papers (courses) relevant to the needs of academics and industrial sector.
- Dept. offering Four Open Elective Courses to the students of other Depts. as per Choice Based Credit System programme.
- Holistic personality development of students with multiple activities and programmes on regular basis.
- Active interaction between the faculty members (Mentors) and students (Mentees) to cater to the academic, personal, career guidance needs.
- Establishment of state of art facilities for practical training of students (Research labs, wet and dry labs).
- Regular Academic Audit of the Dept.

WEAKNES

- Lack of diverse student profile i.e. less number of students from other states.
- Lack of Departmental Tie- ups with Institutions of National Repute/ International Organizations.
- Sponsored research projects.

OPPORTUNITIES

- Leveraging the alumni network of the department to enhance placements of the students.
- Ensuring Tie- ups with different industries for practical training and skill updation of the students.
- Ensuring tie- ups/ linkages with Institutions of National repute/ International Organizations.
- Planning effective social outreach and community engagement programmes involving the faculty members, research scholars, and students.
- To prepare E- contents for MOOC courses on UGC SWAYAM portal.
- Consultancy projects.

CHALLENGES

- Keeping pace with changing global trends in chemical science education and research.
- To attract students from a wider socio- cultural base, including students from other states and international students.
- To provide more opportunities for career placements for the students.
- To get more funding for infrastructure development and expansion of the department.
- To enhance the communication skills of students.

ACTION PLAN

The Five Year Plan of the Department consists of multi- pronged activities for growth and development of the department.

2021-22

- ✓ Relationship with the different alumni and employers will be strengthened for the employment of students.
- ✓ The Alumni Forum of the Department will be made more active with greater department Alumni Interaction(s).
- ✓ A workshop on “IPR” will be conducted to enhance knowledge in the filed of patents for faculties and students.
- ✓ Organizing various academic, and awareness programmes in the department for the benefit of the students.
- ✓ National conference will be organized in the month of November.
- ✓ One day workshop and Seminars will be organized for the benefit of students and faculties.
- ✓ Industrial visit will be conducted for the postgraduate students in the month of March.
- ✓ Efforts will be made to collaborate with national and international Universities and research laboratories.
- ✓ Further strengthening of the department will be planned by signing MOUs with industries for consultancy projects and student exchange programs.
- ✓ A chemical society function will be organized probably in the month of October.

2022-23

- ✓ Increase faculty awards and recognition – internal and external.
- ✓ Faculty members and students will be motivated to publish their research work in high impact factor journals of national and international reputation.
- ✓ Annual facilities committee meeting to evaluate emerging research needs and deficiencies within facilities.
- ✓ A chemical society function will be organized probably in the month of October.

- ✓ Build an external reputation for producing safety-conscious graduates.
- ✓ Enhance students interest in research by encouraging more science club activities.
- ✓ Develop and implement more informative approaches to student assessment that yield better measures of student learning and understanding.
- ✓ Encourage faculty, student and staff participation in outreach activities.
- ✓ Purchase new equipment and update current equipment in the project
- ✓ Encouraging more patent based research
- ✓ Value Added Course on the topic of “Advanced Techniques used in characterization of organic compounds and studying their biological activity” will be conducted.
- ✓ National Science Day will be celebrated to make students aware of latest researches in chemistry.
- ✓ Latest edition of relevant text books along with their e-copies will be purchased for departmental library.

2023-24

- ✓ The Alumni Forum of the Department will be made more active with greater department Alumni Interaction(s).
- ✓ Student will be encouraged by consultation programmes regarding the application for various international fellowships.
- ✓ Efforts will be made to submit research proposals to various funding agencies by the faculty members.
- ✓ Organizing various academic, and awareness programmes in the department for the benefit of the students.
- ✓ National conference will be organized in the month of November.
- ✓ One day workshop and Seminar will be organized for the benefit of students and faculties.
- ✓ A chemical society function will be organized probably in the month of October.
- ✓ One educational tour will be programmed.
- ✓ The honest ethical practices of scholarship and teaching are essential in the academic environment. We will make efforts to inculcate these qualities in our students.

2024-25

- ✓ Increase faculty awards and recognition – internal and external

- ✓ Evaluate and prioritize departmental resources and facilities for upgrade or repair
- ✓ Annual facilities committee meeting to evaluate emerging research needs and deficiencies within facilities
- ✓ Build an external reputation for producing safety-conscious graduates
- ✓ Enhance students interest in research by encouraging more science club activities.
- ✓ Develop and implement more informative approaches to student assessment that yield better measures of student learning and understanding
- ✓ Encourage faculty, student and staff participation in outreach activities
- ✓ Purchase new equipment and update current equipment in the project
- ✓ Encouraging more patent based research
- ✓ A chemical society function will be organized probably in the month of October.
- ✓ Efforts will be made for proper documentation of the departmental activities, students and alumni database etc.
- ✓ The honest ethical practices of scholarship and teaching are essential in the academic environment. We will make efforts to inculcate these qualities in our students.

2025-26

- ✓ One day workshop and Seminars will be organized for the benefit of students and faculties.
- ✓ Industrial visit will be conducted for the postgraduate students in the month of March.
- ✓ Efforts will be made to collaborate with national and international Universities and research laboratories.
- ✓ Further strengthening of the department will be planned by signing MOUs with industries for consultancy projects and student exchange programs.
- ✓ Increase faculty awards and recognition – internal and external
- ✓ Evaluate and prioritize departmental resources and facilities for upgradation.
- ✓ Student will be encouraged by consultation programs regarding the application for various international fellowships.
- ✓ Efforts will be made to submit research proposals to various funding agencies by the faculty members.

Activity Calendar 2021-22

August 2021

- Admission process
- Induction programme form newly admitted students

September 2021

- Career Counselling & Placement Activity.
- Mentor-Mentee meeting for the counselling of students.

October 2021:

- International webinar on Synthetic Organic Chemistry.
- Value added course on Futuristic Research & Related Experimentation Techniques.
- Career Counselling & Placement Activity related Workshop.

November 2021:

- Seminar on Analytical Chemistry
- Mentor-Mentee meeting for the counselling of students.
- Career Counselling & Placement Activity.

December 2021:

- Mentor-Mentee meeting for the counselling of students.
- Career Counselling & Placement Activity.
- Semester Examinations for B.Sc. I semester and M.Sc. I semester.

January 2022:

- Semester Examinations for B.Sc. 1st and M.Sc. 1st semester.
- Field Project Work / dissertation / Internship of M.Sc. students

February 2022:

- Mentor-Mentee meeting for the counselling of students.
- Career Counselling & Placement Activity.
- B.Sc. 4th semester and M.Sc. 4th semester examinations.
- Special Lecture on Science Communication to observe National Science Day-28th February

March 2021:

- International webinar on Modern Materials.
- Value added course on Futuristic Research & Related Experimentation Techniques.
- Career Counselling & Placement Activity related Workshop.

April 2021:

- Student's Club Activities "Rasayance"
- Mentor-Mentee meeting for the counselling of students.
- Career Counselling & Placement Activity.

May 2021:

- Mentor-Mentee meeting for the counselling of students.
- Career Counselling & Placement Activity.
- Semester Examinations for B.Sc. I semester and M.Sc. I semester.

June 2022:

- Semester Examinations for B.Sc. 1st and M.Sc. 1st semester.
- Value added course on Nano Materials

July 2022:

- Field Project Work / dissertation / Internship of M.Sc. students.
- Mentor-Mentee meeting for the counselling of students.
- Career Counselling & Placement Activity.