



D Y PATIL INTERNATIONAL UNIVERSITY, AKURDI, PUNE

School of Biosciences & Bioengineering

DEPARTMENT OF LIFE SCIENCES AND BIOTECHNOLOGY

M.SC. IN MEDICINAL CHEMISTRY

Computer-Aided Drug Design, Synthetic Organic Chemistry & Pharmaceutical Discovery

★ **Mandatory Peer-Reviewed Research Publication**

UGC 2(f) Recognized State Private University

Approved Intake: 30 Seats

Full-Semester Industry Dissertation



The Department of Life Sciences and Biotechnology at the School of Biosciences & Bioengineering (SoBB), DYPIU, Akurdi, Pune, delivers advanced postgraduate education bridging rational in silico drug design with synthetic organic chemistry and API process development. Established under Govt. of Maharashtra Act No. VI of 2018 and recognized by the UGC under Section 2(f), the program trains next-generation discovery chemists, CRAMS scientists, and pharmaceutical R&D innovators with hands-on mastery in molecular docking, heterocyclic synthesis, and ADMET pharmacokinetics.

Visionary University Leadership



Hon. Dr. D. Y. Patil

Founder President, DYP Group
Former Governor (Bihar, WB)



Hon. Dr. Sanjay D. Patil

Chancellor, DYPIU Pune
President, DYP Pratishthan



Hon. Shri Tejas S. Patil

Trustee
DYPIU Pune



Prof. (Dr.) Manish Bhalla

Vice Chancellor, DYPIU Pune
FRSC (Royal Society of Chem)

Institutional Vision & Mission

Vision

Creating technologically equipped action leaders of Future in chemical discovery and pharmaceutical sciences by providing high-quality experiential research and innovation.

Mission

To impart futuristic education in medicinal chemistry through computational drug design, sustainable synthetic methodologies, and active industry-aligned pharmaceutical R&D.

Programme Structure & Intake (2026–27)

Degree Awarded	Master of Science (M.Sc.) in Medicinal Chemistry
Department	Department of Life Sciences and Biotechnology (HoD: Dr. Parth Sarthi Sen Gupta)
Duration	2 Years (4 Semesters) Full-Time Optional Integrated Ph.D. Pathway
Approved Intake	30 Seats (Dedicated organic synthesis & CADD workstation)
Eligibility	B.Sc. in Chemistry / Applied Chemistry / Pharma Chemistry / Biochemistry / B.Pharm (min 50% / 45% reserved).
Tuition Fee	Rs. 50,000/- per Semester (Rs. 1,00,000/- p.a.) Caution Deposit: Rs. 10,000/- (Refundable)
Mentorship	Direct guidance from Vice Chancellor Prof. (Dr.) Manish Bhalla, FRSC (Fellow of Royal Society of Chemistry).

Academic & Executive Leadership Desk



Dr. Anupama V Patil
Dean, Faculty of Engg. & Tech.

"Our focus is on building strong fundamentals while encouraging hands-on learning, modern laboratories, innovation, and interdisciplinary thinking."



Prof. (Dr.) Ramendra Pati Pandey
Deputy Dean (R&D) & Director, SoBB

"Mandatory research publication ensures every scholar graduates with proven scientific authorship and hands-on synthesis capabilities."



Dr. Parth Sarthi Sen Gupta, Ph.D.
Head, Life Sciences & Biotech

"Scholars gain intensive mastery in multi-step synthesis, spectroscopic analysis, and CADD molecular docking for pharmaceutical innovation."

Thematic Curricular Journey

In Silico Drug Design

Molecular docking, QSAR, pharmacophore mapping, ADMET prediction, and ligand-target binding energy modeling.

Synthetic Organic Chemistry

Heterocyclic synthesis, multi-step API pathways, green catalysis, reaction optimization, and microwave-assisted synthesis.

Characterization & IPR

FTIR, UV-Vis, Flash Chromatography, NMR spectra interpretation, patent drafting, and regulatory affairs.

Specialized Chemical Discovery Infrastructure



Synthetic Chemistry Suite: Digital rotary vacuum evaporators & chemical fume hoods.



Analytical Chemistry Station: Scholar monitoring reaction kinetics and purification.

Dedicated Postgraduate Chemical Laboratories

Synthetic Organic Chemistry

Chemical fume hoods, multi-neck reaction vessels, and magnetic stirrers.

CADD & Molecular Modeling

Docking suites, AutoDock, and computational binding simulations.

Analytical Spectroscopy

UV-Vis spectrophotometers, flash chromatography, and polarimeters.

Product Recovery Suite

Digital rotary vacuum evaporators and vacuum drying chambers.

Phytochemistry & Extraction

Soxhlet extraction units and plant bioactive isolation benches.

Targeted Oncology Synergy

Small-molecule screening in synergy with ₹1.39 Cr ICMR grant.

- ✓ **Full-Semester Major Dissertation:** Extensive 6-month industrial R&D or academic thesis with mandatory manuscript submission.
- ✓ **Industrial Consultancy Linkage:** Active screening projects including ₹2.50 Lakhs consultancy with Indus Biotech Pvt. Ltd.

Placement & Pharma Recruiter Network



Recruitment & training synergies with Cipla, Lupin, Dr. Reddy's, Sun Pharma, Piramal, Syngene, and Indus Biotech.

Research Accolades & Achievements

Scientific Manuscripts

Every graduating scholar submits a peer-reviewed research manuscript to a Scopus/SCI-indexed journal before final degree award.

Consultancy & Corporate Projects

₹2.50 Lakhs research consultancy with Indus Biotech Pvt. Ltd.; student participation in sponsored natural product isolation and synthetic screening.



INNOVFEST Laurels: SoBB students winning 1st Prize at Entrepreneurship Summit in DYPIU Auditorium.



DYPIU Residency — Safe & Secure Campus Living

Comprehensive on-campus multi-storey residential towers providing a safe, secure, and modern living facility for outstation students with 24/7 security, high-speed Wi-Fi, dining hall, recreation, and medical care.

Admissions & Contact Page

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Admissions Helpline: +91 8600091180 / +91 8600091190 | Email: admission@dypiu.ac.in

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Dean, Faculty of Engg. & Tech.: Dr. Anupama V Patil (anupama.patil@dypiu.ac.in)

Deputy Dean (R&D) & Director, SoBB: Prof. (Dr.) Ramendra Pati Pandey (dean.sobb@dypiu.ac.in)

Head, Life Sciences & Biotech: Dr. Parth Sarthi Sen Gupta (parth.gupta@dypiu.ac.in)

Official Web: www.dypiu.ac.in/msc-medicinal-chemistry



SCAN TO APPLY