Rayat Shikshan Sanstha's

Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College, Manchar, Tal-Ambegaon, Dist-Pune, 410503

Department of Chemistry 2023-24

Highlights of Department

Student Strength:

- T.Y.B.Sc. : 25
- M.Sc. I & II : 36
- Ph.D. : 10

Workshop/Seminar/Conference Organized:

- National conference on Emerging Trends in Science and Technology (ETST-2024 Conference)
- Seminar on Opportunities in Science and Technology for PG Students.
- Seminar on Carrier Opportunities in chemical sciences.
- 120 Virtual Lab Practical usages

Functional MoUs: 05

- C-MET, Pune
- MAGS-IATRC Bhosari, Pune
- Parag Foods Ltd. Manchar
- Morade Foods Ltd. Manchar
- BJ College Ale

Industrial Visit/ Study Tour:

- T.Y.B.Sc. Students visited Gowardhan Pvt. Ltd.
- T.Y.B.Sc. Students visited Morade food industries.
- T.Y.B.Sc. & M.Sc.-I & II Students study tour to Research Center C-MET Pune.
- T.Y.B.Sc. & M.Sc.-I & II Students study tour to MAGS-IATRC Bhosari, Pune.
- T.Y.B.Sc. & M.Sc.-I & II Students study tour to Department of Chemistry CIF Pune.

Research:

- 03 Seed Money Project Completed.
- 10 Book Chapters Published.
- 03 Research Paper.
- 15 M.Sc.-II Students completed Research Project.
- Department made MOU with MAGS-IATRC, Research and Training Pvt. Ltd. For OJT for M.Sc.-I Student for implementation of NEP-2020. As an output of this 06 students of M.Sc.-I completed OJT.
- One student completed OJT at IIT Bombay.
- One student completed OJT at Industry----

A. A. College Chem Dept.

Patents:

- Dr. Shinde S. T. – Designating of Fruit Processing Machine- Granted
- Dr. R. B. Gawade- Pollution Control Device- US Patent-Registered

Short term course completed:

- Dairy Science for F.Y.B.Sc. Students.
- Instrumental Methods for Chemical Analysis for T.Y.B.Sc. Students.

Faculty Achievements:

- Dr. A.K. Valvi get recognition as Ph. D. Research Guide (SPPU Pune)
- Dr. R. B. Gawade Awarded Ph. D. Degree
- 02 Faculty doing Ph.D.
- 02 Faculties completed NEP 2020 Orientation & Sensitization Programme.
- NAAC Contribution: 03 faculty work as a criteria chairman.

Head
Department of Chemistry
Annasaheb Awate College, Manchar

A. A. College

Rayat Shikshan Sanstha's

Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College, Manchar,

Tal-Ambegaon, Dist-Pune, 410503

DEPARTMENT OF CHEMISTRY

Reports of 2024-25

Department of Chemistry at principle level was established in the year 1985. The PG for Organic Chemistry and Analytical Chemistry started from June 2011 and June 2019, respectively. The department have Ph.D. research center recognized by SPPU, Pune. In the academic year 2024-25 total 11 number of teaching faculties are working. The quantitatively consolidated activity report of the department for the academic year 2024-2025 is as following.

The student strength at the UG level was F.Y. B.Sc. (69), S.Y. B.Sc. (44) and T.Y.B.Sc. (18) While for PG level it was M.Sc. I & II (34), Ph.D. (09).

The modern NEP Teaching Pedagogy has been implemented. The details of workshop, conference & seminar organized by the department is as follows.

The department have following functional MOUs

1) C-MET, Pune 2) MAGS-IATRC, Bhosari, Pune 3) Parag Foods Ltd., Manchar

4) Morade Foods Ltd. Manchar 5) BJ College, Ale

Various Industrial Visit / Study Tour were organized by the department were as follows.

1) T.Y.B.Sc. Students visited Gowardhan Pvt. Ltd.
2) T.Y.B.Sc. Students visited Morade food industries.
3) T.Y.B.Sc. & M.Sc.-I Students study tour will be arranged shortly to visit Research Center, C-MET Pune; Department of Chemistry, CIF, Pune and MAGS-IATRC Bhosari, Pune.
4) M.Sc.-I Organic and Analytical Students have been completed on the Job training as per new NEP curricular at MAGS-IATRC Bhosari, Pune.

The research activities of the department were as follows.

1. One seed money project sanctioned to Mrs. R. S. Pawar

2. Total five Papers were published by the faculty in the reputed chemistry journal

3. M.Sc.-II students 07 numbers of research projects are ongoing under the guidance of the faculty.

4. Department made MOU with MAGS-IATRC, Research and Training Pvt. Ltd. for OJT of M.Sc.-I Student for implementation of NEP-2020. As an output of this 06 students of M.Sc.-I completed OJT.

5. The department have arranged short term course on Dairy Science for F.Y.B.Sc. Students in the month of February 2025.

6. Dr. A. K. Valvi has submitted the proposal to the ASPIRE Research Proposal 2024-25, an assistance by SPPU for project-based innovative research.

A. A. College Chem. Dept.

The achievements by the faculty of the department in academic year are as follows.

7. Dr. A. A. Kale and Dr. R. B. Gawade worked as subject experts of Assistant Professor Selection committee.
8. Dr. A. A. Kale Worked as Internal and External Subject experts for students Ph.D. six month progress report of pre Ph.D. Presentation at HRM Rajgurunagar.
9. Almost all faculty worked as examiners for university internal and external theory and practical examination.

Publications:

1. Shaikh, Samir, **Santosh Shinde**, Mansur Moulavi, and Shaukatali Inamdar. "A systematic review on catalytic Wittig and Knoevenagel condensation reactions." International Journal of Modern Physics B (2024): 2530002.

2. Thakare, S.S., **Shinde, S.T., Pawar, R.S.**, Sonawane, K.G. and **Kale, A.A.**, 2024. Adsorption of methylene blue using untreated biosorbent prepared from Geranium plant waste: Isothermal, kinetic and thermodynamic study. Indian Journal of Chemical Technology (IJCT), 31(4), pp.571-580.

3.Gaikwad, Dhananjay N., Suresh T. Gaikwad, Rajesh K. Manjul, Dayanand M. Suryavanshi, Anjali S. Rajbhoj, Swapnil R. Bankar, **Santosh T. Shinde**, and Nilam S. Dhane. "Magnetite-supported salicylic acid (Fe3O4@ SA) as a magnetically separable and reusable catalyst for the synthesis of 3, 4 dihydropyrimidin-2 (1H)-ones/thiones and benzylidenemalononitrile derivatives under solvent-free conditions." Iranian Journal of Catalysis 14, no. 3 (2024).

4. **Pawar R. S. & Kale A. A.**, Kinetics and thermodynamics study of adsorption of 2, 4-dichlorophenol by sulphonated biomass of ailanthus excels, Journal of Environmental Protections, 44, Issue 08, 675-686.

5. Adsorption of ortho-Nitrophenol from Aqueous Solution using Phosphated Biomass of Ailanthus excelsa: Kinetic and Equilibrium Studies Asian Journal of Chemistry; Vol. 36, No. 11 (2024), 0000-0000 **Reshma S. Pawar**, Kisan M. Gadave, Shantanu S. Thakare and **Anandrao A. Kale.**

6. Principles of Green Chemistry: Innovative Approach for Sustainability Development **Anandrao Akaram Kale, Vikram Baban Hinge**, Atharva Anandrao Kale. International Journal of Current Science (IJCSPUB) www.ijcspub.orgwww.ijcspub.org © 2024 IJCSPUB | Volume 14, Issue 3 July 2024 | ISSN: 2250-1770

7. **Dr. A. K. Valvi**, Determination and analysis of heavy metals presents in water from Datav village of Raigad district, Maharashtra, India. 2024, Advances in Bioresearch, Vol. 15[1-6], **Accepted.**



Books/CHAPTER Publications

1. **Dr. A. K. Valvi** has been published 02 chapters in the international book named Nanotechnology in Miniaturization, published by Springer Nature Link having Print ISBN 978-3-031-72003-1.

2. Drug Analysis Handbook was published by **Dr. S.T. Shinde** having ISSN Number 978-81-967529-2-7 on July 2024.

Research Centre activity

The university subject expert panel has been evaluated and submitted of 06 students Ph.D. six months progress report presentation were completed on 07-01-2025

The university subject expert panel has been evaluated and submitted of 01 students Ph.D. admission interview report on 22-01-2025

Ph.D. research students Mrs. R.S.Pawar of this center will appear for pPre- Ph.D. synopsis presentation under the guidance of Dr. A.A.Kale on 5th April 2025

Curricular and Co- Curricular Activities:

1. IPR Workshop organized in association with IPR cell on the topic "Idea to Patent" on 3rd august 2024. About more than 100 teachers and students get benefit of it.

2. 150 students will perform Virtual Laboratory Practical's reflecting total usage of about 500.

3. CHEM-FEST-Activities like Quiz competition, Scientific Rangoli, Poster presentation, Magical experiment etc carried out by department. About 125 students get participated.\

4. CHEMIAD examination were conducted for F.Y.B.SC. Chemistry students as per the guidelines of Dept. Of Chemistry S.P.P U , Pune . Miss Neha Tayade has been awarded by silver medal for the chemiad examination in the year 2023-2024.

5. About 29 number of students has been completed short term course of Dairy science certificate course.

6. April/May result of academic year-2024-25 are good. T.Y.B.Sc-87.50% and M.Sc. 52%.

Extension activity-y

1. All faculty visited to different villages to meet students and parents as a part of Gav-bhet activity to enhance students attendance.

CAS Placement:

Two faculties namely **Dr. Shinde S. T. & Dr. A. K. Valvi** has been promoted by CAS from stage evel **10** to level **11** on 30-09-2024.

A. A. College Chem Dept

Head
Department of Chemistry
Annasaheb Awate College, Manchar