Bajaj College of Science, Wardha

Departmental Profile: Chemistry

About the Department:

Chemistry is the central science. Its applications encompass all the aspects of human civilisation. Since many decades the subject has offered wide scale career opportunities to young and innovative minds.

With a very clear vision of nation building, the chemistry department of Bajaj College of Science was established by the management of Shiksha Mandal in 1962.

Since its establishment the department is known for its good faculty and has made enormous progress in academics and research. Today the department has eight permanent faculty members and two contractual faculty members. All are well qualified. Six of the faculty members hold PhD, five have qualified CSIR-NET and five have qualified SET exams. The faculty members command high level of respect amongst students because of their excellent teaching and student-friendly nature. Besides teaching, faculty members are also involved in research activities and have published papers in National and International peer reviewed journals. Some have successfully completed minor research projects funded by UGC. The department have been recognized as a place for higher learning and research.

Highlights of the Department:

- Qualified and experienced faculty
- Well equipped laboratory and instrumental facility
- Recognition of laboratory for research and higher learning
- Students consistently qualifying CSIR-NET, SET, IIT-JAM exams
- Chemical Society
- Organization of the guest lectures of eminent scientists/academicians
- Organization of Seminars of UG and PG students'.
- Placement of students
- Execution of 'Star College Scheme' of DBT, Ministry of Science and Technology, Govt. of India
- Students participating in intercollegiate seminar, elocution, conferences etc.
- UG students executing their experimental projects under CPE since 2010-11and PG students from 2006-07
- Research papers published by faculty and students in Journals and in conferences
- Faculty participation in Online Refresher Courses organized by National Resource Centre of Chemistry, MHRD, Govt. of Inda and SWAYAM.
- Department is doing some micro scale level practical at both U. G. and P.G. level, which saves lot of chemicals.
- Organization of Chemistry Talent Search Exam in collaboration with M. J. college, Jalgaon (Since 2010-11) .
- Organization of Chemiad Competition in collaboration with Department of Chemistry, Savitribai Phule Pune University, Pune.
- Educational tour to National Institutes and industries
- Mentoring of students through Cluster
- Hands on Training on sophisticated instruments
- Teachers' and Students' participation in different extension activities like CWSS, PEC, NSS, NCC etc

Courses/Programmes:

Courses		Specialization	No. of Seats
UG	Bachelor of Science	Students may opt for Chemistry in following combinations 1. Chemistry, Physics, Mathematics 2. Chemistry, Botany, Zoology 3. Chemistry, Zoology, Microbiology 4. Chemistry, Botany, Microbiology 5. Chemistry, Zoology, Biotechnology 6. Chemistry, Botany, Biotechnology 7. Chemistry, Microbiology, Biotechnology	220
PG	Master of Science	Organic Chemistry	22

Research Programme:

- Ph. D. – Laboratory recognized as a place for Higher Learning and Research (Ph.D.) by R. T. M. Nagpur University, Nagpur.
- Total No. of seats allotted = 10
  Ph. D. awarded = 03, Thesis Submitted = 02 and Registered = 01.

Name of the Ph.D. scholar	**Name of the guide**	**Awarded/Submitted**
Dr. S. D. Bajaj	Dr. Om A. Mahodaya	Awarded
Dr. R. R. Naik	Dr. S. V. Bawankar	Awarded
Dr S D Kukade	Dr. S. V. Bawankar	Awarded
Mr. Shrikant Thakare	Dr P.V. Tekade	Thesis Submitted
Mr Ajay Pisudde	Dr P. V. Tekade	Thesis Submitted
Mr. Wasim Khan	Dr. R. D. Raut	Registered

Minor Research Projects sponsored by UGC (2008 onwards)

S. N.	**Name**	**Title of Project**	**Funding Agency**	**Year of sanction and amount**
1.	Dr. P. V. Tekade	Environmental benign synthesis of 1,3 propanediones. An Interdiciplinary approach	UGC (WRO)	2008-10 (0.88 lakh)
2.	Dr. Mrs. N. P. Mohabansi & Prof. V.B. Patil	Study of efficiency of photo oxidation of organic contamination in waste water in various	UGC (WRO)	2009-11 (1.55 lakh)
3.	Dr. R.D. Raut	Synthesis and characterization & biological evaluation of derivatives of substituted pyrazolines	UGC (WRO)	2009-11 (0.90 lakh)
4.	Dr. S. V. Bawankar	Synthesis & characterization of co-polymers & their application as ion exchange resins	UGC (WRO)	2010-13 (2.0 lakh)
5.	Dr. R. D. Raut	Removal of heavy Elements from thermal power Stations by biological process	UGC (WRO)	2012-14 (0.90 lakh)
6.	Dr. Mrs. N. P. Mohabansi	Environmental remediation of waste water containing dyes with nanophotocatalyst.	UGC (WRO)	2013-16 (0.80 lakh)
7.	Dr. P. V. Tekade	Synthesis & Biocidal Activity of Benzene-1,2-dicarboxoamide of amino acids	UGC (WRO)	2014-16 (5.0 lakh)

Books published by faculty:

Title of the book/chapters published	Name of the author/s	Year of publication	ISBN/ISSN number	Name of the publisher
Chemistry of 3-aroyl flavanones and corresponding heterocycles	Dr. P. V. Tekade	2010-11	978-3-8383-9809-9	Lambert Academic Publishing, Germany
Investigatory Projects in Chemistry	Dr. P. V. Tekade	2011-12	978-3-8454-0554-4	Lambert Academic Publishing, Germany
Substituted Hydroxy 1,3-Propanediones: Green Synthesis, Characterization and Antibacterial Screening	Dr. P. V. Tekade	2013-14	978-3-659-45450-9	Lambert Academic Publishing, Germany
Chemistry Laboratory Course Book, for B.Sc. I Semester I of RTM Nagpur University, Nagpur	Dr. P. V. Tekade	2013-14	978-93-82962-01-4	G.C. Publisher
Soil Analysis: Study of physico-chemical properties and micronutrients in soil of Wardha region	Dr. P. V. Tekade	2013-14	9781492151609	Create Space, U. S.
A Text Book of Chemistry for B. Sc. I Semester II of RTM Nagpur University, Nagpur	Dr. N. P. Mohabansi	2013-14	978-93-5097-950-1	Himalaya Publication
A Text Book of Chemistry for B. Sc. I Semester I of RTM Nagpur University, Nagpur	Dr. N. P. Mohabansi	2013-14	978-93-5142-286-0	Himalaya Publication
Nanophotocatalysis of dyes in waste water	Dr. Mrs. N. P. Mohabansi	2015	978-3-659-77716-5	Lambert Academic publishing, Germany
Eco-friendly synthesis of few N-substituted heterocyclic	Dr. S. D. Bajaj, Dr. P. V. Tekade	2017	978-3-659-55565-7	Lambert Academic press Germany
Acoustical and spectrophotometric study of N-heterocyclics	Dr. P. V. Tekade	2017	978-620-2-05167-5	Lambert Academic press Germany
Proton/Metal-Ligand stability constants of complexes of N-heterocycles	Dr. P. V. Tekade	2017	978-613-6-62799-1	Lambert Academic press Germany
Organic Chemistry: Laboratory Course book	Dr. P. V. Tekade	2018	978-81-89128-66-1	Selective and scientific books, New Delhi
A textbook of fundamentals of chemistry (B.Sc. I-Sem-I)	Dr. P. V. Tekade, Dr. N. P. Mohabansi, Mr. M. D. Bansinge, Mr. N. A. Barwat, Dr. P. G. Borkar	2018	789-38-755-820-5	Meherbaba Publishers, Nagpur
A textbook of fundamentals of chemistry (B.Sc. I-Sem-II)	Dr. P. V. Tekade, Dr. N. P. Mohabansi, Mr. M. D. Bansinge, Mr. N. A. Barwat, Dr. P. G. Borkar	2018	978-93-87558-30-8	Meherbaba Publishers, Nagpur

Studies on homogeneous and heterogeneous photocatalytic degradation	Dr. N. P. Mohabansi	2019	978-620-010134-1	Lambert Academic publishing, Germany

Highlights of the Syllabus under Academic Autonomy:

- The syllabus ensures that the students graduating with Chemistry as one of the subject will have the academic standard required to pursue post-graduation in Chemistry in India and abroad.
- Students graduating as well as post-graduating with Chemistry will acquire skills that will be of tremendous value to them especially if they choose a career in Research, Academics or Industry.
- The graduates with Chemistry will be able to face any national competitive exams held for the graduates. Also the postgraduates of Organic Chemistry will be able to qualify examinations like CSIR-NET, SET, GATE etc.
- Syllabus contains the core branches including inorganic, organic and physical chemistry. In addition, important topics of analytical and biochemistry are also included in both UG and PG syllabi.
- Along with the theory, skill oriented experiments including some innovative projects will prepare the students to orient themselves to bridge the gap between science and technology.

Activities:

- Implemented Massive Open Online Course using MOODLE software since July, 2017
- Organized State Level Seminar Competition namely Scintillation every alternate year since 2015.
- Organized State Level Workshop on Microscale Technique and Instrumentation in October, 2014

Academic Achievement of the Students:

Student cleared competitive Examinations

S.	Name of the Student	Entrance/ Competitive Exam
1.	Mr. Sunit Singh	NET, GATE
2.	Mr. Shrikant B. Thakare	NET, SET
3.	Ms.Priti Zamre	SET,PET,GATE
4.	Mr.Bhagwan Kharche	GATE
5.	Ms.Bharati Manmode	GATE
6.	Mr.Suraj Kukade	PET ,SET-2016, Ph. D. Awarded-2019
7.	Mr.Ritesh Naik	Ph. D. Awarded
8.	Ms.Sonal D.Bajaj	Ph. D. Awarded
9.	Mr.Amol Kamdi	PET
10.	Mr. Aniket Balapure	SET-2016
11.	Ku. Bhagyasri Tale	SET-2015,PET- 2016
12.	Mr. Chetan Vaidya	NET-2013, SET-2013, GATE-2014
13.	Mr.Amar Uike	IIT JAM, VNIT, Pune University Entrance (2016)
14.	Ms. Neha M. Dehankar	IIT JAM 2016
15.	Mr. Deepa R, Mishra	IIT JAM 2016
16.	Mr. Vilom J. Jagtap	IIT JAM, VNIT, Pune University Entrance (2016)
17.	Ms. Pranali T. Bansod	IIT JAM 2016
18.	Ms. Kalyani R. Za	IIT JAM 2016
19.	Ms. Anuja P. Maitreya	IIT JAM 2016
20.	Mr. Rohit S.Talang	IIT JAM, VNIT, Pune University Entrance (2016)
21.	Ms. Konica R. Shewate	IIT JAM, VNIT, Pune University Entrance (2016)
22.	Ms.Gazal O. Chandak	IIT JAM, VNIT, Pune University Entrance (2016)
23.	Ms.Sakshi M. Poddar	IIT JAM, TIFR, VNIT, Pune University Entrance (2016)
24.	Ms. Prajakta M. Ramteke	IIT JAM 2014
25.	Mr. Pritesh R. Moon	IIT JAM 2014
26.	Mr. Sagar Bagwe	Pune University Entrance (2017)

27.	Ms. Amrapali Patil	IIT JAM 2017
28.	Ms. Neha Khobragade	IIT JAM 2017
29.	Mr. Vishnu Lokhande	Pune University Entrance (2017)
30.	Ms. Diksha Taksande	IIT JAM 2018
31.	Mr. Shubham Pusam	IIT JAM 2018
32.	Ms. Nidhi Dekate	Pune University Entrance (2019)
33.	Ms. Pratiksha Jagtap	IIT JAM, Pune University Entrance (2019)
34.	Mr. Pratik Lamsoge	IIT JAM, Pune University Entrance (2019)
35.	Ms. Ashlesha Nasre	IIT JAM, Pune University Entrance (2019)
36.	Ms. Vaibhavi Kukutkar	Pune University Entrance (2019)
37.	Ms. Dhanashri Mujbaile	Pune University Entrance (2019)
38.	Ms. Vaidehi Bhattalwar	Pune University Entrance (2019)

Students Participation and Prizes in Various Intercollegiate Competitions:-

State Level Chemistry Talent Search Examination for B. Sc. I Students (Organized by Moolji Jaitha College , Jalgaon in J. B. College of Science, Wardha)

Session	Date of exam & Time	Name of the student stood 1st Rank in College level	Rank in Maharashtra Level
2011-12	11-12-2011	Ms. Renu S. Dhale	9th
2012-13	23-12-2012	Ms.Prajakta M. Ramteke	5th
2013-14	15-12-2013	Ms. Gazal O. Chandak	4th
2015-16	13-12-2015	Ms. Anshukumari Singh	3rd
2016-17	08-01-2017	Ms. Pornima Gawande	2nd

Intercollegiate Seminar Competitions

Session	Competition	Organizer	Name of the student	Prize
2014-15	Intercollegiate Seminar Competition	S. K. Porwal College, Kamptee	Ms. Saveri Soni	1st
2014-15	Intercollegiate Seminar Competition	VMV Commerce, JMT Arts and JJP Science College, Nagpur	Ms. Saveri Soni and Ms. Sakshi Poddar	1st
2014-15	State Level Students' Seminar Competition, Scintillation '15	J. B. College of Science, Wardha	Ms. Saveri Soni	1st
2015-16	Intercollegiate Seminar Competition	S. K. Porwal College, Kamptee	Ms. Mehnaz Ali	2nd
2017-18	Intercollegiate Seminar Competition	S. K. Porwal College, Kamptee	Ms. Urvi Gupta	3rd
2017-18	"CHEM-MYSTERY 2017" Intercollegiate Quiz Competition	P. G. Department of Chemistry, Hislop college Nagpur in collaboration with RTMNUCTA	Ms. Suchita Nagpure & Ms. Nikita Gaur	-
2018-19	Intercollegiate Chemistry Seminar Presentation Competition CHEMS-COM 2018	Hislop College, Nagpur	Ms. Urvi Gupta	1st
2018-19	Intercollegiate Seminar Competition	S. K. Porwal College, Kamptee	Ms. Urvi Gupta	2nd

Teaching Staff:

S. N.	Name of faculty	Qualification	Designation	Date of Joining	Specialization	Area of Research	Photo
1	Dr. O. A. Mahodaya	M.Sc., Ph.D., D. B. M.	Principal	25/05/2006	Organc Chemistry	Synthetic chemistry	
2	Dr. R.D. Raut	M.Sc., B. Ed., Ph.D.	Associate Professor	28/08/1986	Organic Chemistry	Organic Chemistry	
3	Dr. P. V. Tekade	M.Sc., B.Ed., SET, NET, GATE, Ph. D.	Associate Professor and Incharge, Dept. of Chemistry	01/12/2004	Organic Chemistry	Synthetic chemistry; Pharmocology, stability of complexes, Medicinal chemistry, Bio-organic chemistry	
4	Dr. Mrs. N. P. Mohabansi	M.Sc., B.Ed., SET, Ph. D.	Assistant Professor and Coordinator, Post-graduate Dept. of Chemistry	04/01/2007	Physical Chemistry	Photocatalysis	
5	Dr. K. M. Dadure	M.Sc., M. Phil., Ph. D.	Assistant Professor	02/07/2007	Organic Chemistry	Organophysical Chemistry	
6	Mr.M. D. Bansinge	M.Sc. NET	Assistant Professor	29/.07/2013	Analytical Chemistry	Analytical Chemistry	
7	Mr.N. A. Barwat	M.Sc. SET, NET	Assistant Professor	29/.07/2013	Physical Chemstry	Nanochemistry	

8	Dr. P. G. Borkar	M.Sc. SET, NET, GATE, PhD, Post Doc	Assistant Professor	07/02/2017	Organic Chemistry	Synthetic Organic Chemistry, Asymmetric Synthesis, Organocatalysis, Heterocyclic Chemistry	
9	Ms. B. U. Tale	M.Sc. SET, B.Ed.	Assistant Professor on Contract basis	18/01/2013	Organic Chemistry	Organic Chemistry	
10	Mr. C. D. Vaidya	M.Sc., SET, NET, GATE, B,Ed.	Assistant Professor on Contract basis	11/12/2017	Organic Chemistry	Characteristics of total carbon in ambient air, source apportionments study of molecular markers	

Former Faculty Members of Chemistry Department:-

1. Shri. N.T. Galkar
2. Shri. R.D.Sarode
3. Shri. O. V. Maradwar
4. Shri. V.R.Chaudhari
5. Shri. S.G.Deshmukh
6. Shri. S.P.Naigaokar
7. Shri. N.W.Bhole
8. Dr. U.R.Chaudhari
9. Dr. S.V.Bawankar
10. Shri. V.B.Patil

Non-teaching Staff:

S. N.	Name	Designation	Experience
1.	Mr. R. J. Arvikar	Laboratory Assistant	15 years
2.	Shri. S. S. Gudadhe	Laboratory Attendant	24 years
3.	Shri. G. S. Lende	Laboratory Attendant	13 years
4.	Shri. A. D. Girde	Laboratory Attendant	08 years
5.	Shri. Vinay Rewatkar	Laboratory Attendant	01 year