# **PROSPECTUS** 2023-24

DST-FIST Supported NAAC A-Grade College RUSA, MHRD Institutional Innovation Cell (IIC), MHRD Rank Under TOP 100 (last 5 yrs.: India Today)



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# Shiksha Mandal's Bajaj College of Science, Wardha

(Formerly Known as Jankidevi Bajaj College of Science) (Autonomous College - Affiliated to RTM Nagpur University) Jamnalal Bajaj Marg, Civil Lines, Wardha - 442 001 (M.S.) Phone : (Office) 07152-241696 Fax : 07152-230515 Email : jbsciencewardha@yahoo.co.in Website : jbsw.shikshamandal.org



## PARENT ORGANIZATION SHIKSHA MANDAL

Shiksha Mandal is a century-old institution based at Wardha, the undeclared capital of pre-independence India. It was founded by Shri. Jamnalalji Bajaj, who was deeply influenced by freedom struggle and Gandhiji. Its faculty and students were involved in the freedom movement. The Nation's first education conference was held at Shiksha Mandal in 1937 and was presided over by Gandhiji. Shiksha Mandal is known for it's noble mission of providing quality education, steeped in nationalistic ethos and human values at an affordable cost. Six of its seven institutions are aided by the Government and its only engineering college known as Bajaj Institute of Technology (BIT) affiliated to Dr. Babasaheb Ambedkar Technological University (BATU), Lonere is adding many feathers and accolades on its cap on each passing day. Shri Shekharji Bajaj, Chairman, Bajaj Electric Ltd. is its current President. Recently our Management has been honoured with "Ideal Educational Institution Award" from R.T.M. Nagpur University, Nagpur. Eminent Alumni includes Late Shri. Madhukarji Chaudhary (Ex-Speaker of Maharashtra), Shri Harishji Salve and Shri Nitinji Gadkari to name a few.

Contact us: Phone: 07152-230506, 230507 / Email:shikshamandal@gmail.com



# Shri. Shekharji Bajaj President, Shiksha Mandal

# **INSTITUTES RUN BY SHIKSHA MANDAL**

#### Bajaj College of Science, Wardha

(Formerly known as Jankidevi Bajaj College of Science) (Autonomous College - Affiliated to RTMNU) Accredited 'A' grade by NAAC Jamnalal Bajaj Marg, Civil Lines, Wardha 442001 (M.S) Plv/Fax: 07152-230515/E-mail: jbsciencewardha@yahoo.co.in

#### G. S. College of Commerce & Economics, Nagpur

(Autonomous College - Affiliated to RTMNU) Civil Lines, Amravati Road, Nagpur -440001. Tel-0712-2531760 Fax-0712-2528747 E-mail: gscollegenagpur@rediffmail.com

#### G. S. College of Commerce, Wardha

Jamnalal Bajaj Marg, Civil Lines, Wardha-442001 Phone: 07152-230511 E-Mail: gscc wardha@rediffmail.com

#### Acharya Shrimannarayan Polytechnic, Wardha

Arvi Road, Pipri, Wardha- 442001 Tel.: 07152-230519, 230520, 230049 E-Mail: astsw@rediffmail.com **Shrikrishnadas Jajoo Grameen Seva Mahavidyalaya, Wardha** Arvi Road, Pipri, Wardha -442001 Tel.: 07152-230518. Email: info@shikshamandal.org

#### **Department of Management Sciences and Research, Nagpur** (GS College of Commerce and Economics, Nagpur)

Amravati Road, Nagpur-440010 Maharashtra, India. Tel.: +91. 712-2544950 Fax: +91. 712-2528124 Email:gsdmsr@rediffmail.com,gsdmsr@gmail.com

Department of Advanced Management Studies, Wardha (G. S. College of Commerce, Wardha) Jamnalal Bajaj Marg, Civil Lines, Wardha-442001 Phone: 07152-230511/E-Mail: gscc\_wardha@rediffmail.com

Ramkrishna Bajaj College of Agriculture, Wardha Arvi Road, Pipri, Wardha-442001 Tel.: 07152-231840 / Email: rbcapipri@gmail.com

#### Bajaj Institute of Technology, Wardha

Arvi Road, Opposite Ramkrishna Bajaj College of Agriculture, Pipri, Wardha :-442 001 Tel.: 07152-255770 Fax: 07152-230507 Email: bit@shikshamandal.com / Web: www.bit.shikshamandal.org

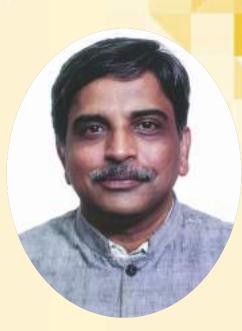
#### **OUR ASSOCIATE INSTITUTIONS**

#### Bajaj Science Education Center, Wardha

Gandhi Gyan Mandir, Civil Lines, Wardha:-442 001 Tel. : 07152- 247024 E-mail : bajajscience.wda@gmail.com

#### Jamnalal Bajaj Sewa Trust, Wardha (JBST)

Formerly Known as Jankidevi Bajaj Gram Vikas Sanstha (JBGVS) Gandhi Vichar Parishad, Gopuri, Wardha - 442 001



# Shri. Sanjayji Bhargava Chairman & Trustee

#### **AUTONOMY: THE QUEST FOR EXCELLENCE**

Shiksha Mandal is a pioneering institution. We believe it is the responsibility of good institutions to continually improve themselves and do what is good and right for its students. In the 1940s we started Commerce education in Hindi and Marathi to make it accessible to a larger section of society. Since then all our institutions consider it their obligation to continually develop.

Jankidevi Bajaj College of Science has been rechristened Bajaj College of Science. Shiksha Mandal is a Bajaj educational trust and it would be beneficial for our colleges if they bear the Bajaj name. The name stands for enduring values of ethics, quality, nationalism and social commitment. Jankideviji would continue to inspire us and her spirit guide us. But the world of tomorrow needs change, and we will continually evolve but stay rooted in our core values.

Autonomy has been the next step in adding higher value to our students. It is Shiksha Mandal policy. Bajaj College of Science, maintaining its tradition of being a pioneer within Shiksha Mandal, has received University Grants Commission approval for becoming an Autonomous College from the 2017-18 session, the first such College under RTM Nagpur University. It is only appropriate that the second grant college to become Autonomous in Vidarbha too is from our stable, viz. GS College of Commerce & Economics, Nagpur. I have to compliment the Principal & faculty of Bajaj College of Science, for working so hard to make it work. The feedback from students about it is consistently positive.

Autonomy has allowed us to upgrade the syllabus and make our students better suited for their careers. More importantly, the examination system has been of high quality in the quality of its questions and assessment. Control over examinations also shortens the time spent on examinations and increase the academic input; and more importantly allows results to be announced well in time.

There were apprehensions that Autonomy would lead to dilution of academic standards and sharply increased fees. In our case neither has happened.

By opting for Autonomy, we have subjected ourselves to some legitimately high standards of accountability. With the moral and professional integrity of our own faculty, we wish to place this institution on par with the most sought-after autonomous ones in the country for the sheer employability of their students

Our Inspiration The Late Mata Jankidevi Bajaj, Padma Vibhushan (1893 - 1979)

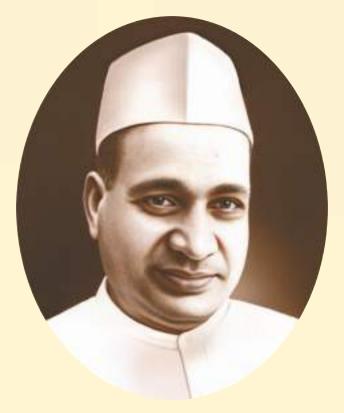


Jankidevi was as much a persona in her own right, as she was a dedicated wife to Jamnalalji. She didn't think twice before giving up her luxurious lifestyle when Jamnalalji adopted the Gandhian way of life. In the fight for her motherland's freedom, she even discarded foreign clothes and took to swadeshi and khadi. A progressive woman in thought, Jankidevi opposed orthodox customs of parda and untouchability and worked towards the upliftment of women.

After Jamnalalji's demise, and at the insistence of Gandhiji, Jankideviji committed herself to the cause of Go-seva becoming the President of the Goseva Sangh. She actively took part in Vinoba Bhave's 'Bhoodan' movement i.e. donation of land for the landless. Her innovative mind gave the idea of koopdan and she sought donation of wells from house to house. A revolutionary in spirit, Jankidevi undertook padyatras with Vinoba Bhave and was also actively involved in the Bhoodan, Koopdan, Gram Seva and Go-seva movements in post-independence period.

In recognition of her lifelong work, the Government of India honoured her with the Padma Vibhushan in 1956. In 1980, the Jamnalal Bajaj Foundation instituted a special award in her memory for women who are selflessly contributing for the development and welfare of women and children. The aura of her name continues to inspire every individual on the campus to work with a high level of dedication and commitment.

# Our Inspiration The Late Shri. Jamnalalji Bajaj (1889 - 1942)



History isn't created overnight. Enterprises aren't built in a day. It takes a visionary to lead a movement that profits the nation, a foresight followed by planning and years of perseverance. Shri Jamnalal Bajaj was one such visionary. His name is integral to the freedom struggle as well as to the Bajaj Group of Companies for sheer earnestness, single- minded commitment, depth and breadth of contribution and making words into deeds.

Humanitarian, freedom fighter, philanthropist, social reformer and a devoted Mahatma Gandhi follower, Jamnalalji was adopted as the fifth son by Gandhiji. He was the alter ego of the Mahatma in the Gandhian constructive movement. He took active part in the Indian freedom struggle. Jamnalalji also undertook pioneering work in the field of Go- seva (cow protection), upliftment of the dalits, education of women, propagation of Hindi, spread of Khadi and the development of village industries.

As an industrialist and a businessman, Jamnalalji was singular in enunciating for himself a strict code of ethics. He earnestly tried to practice the Gandhian ethic in every sphere of his life-political, social, business and personal.

With the sole aim of nation building Jamnalalji established Shiksha Mandal in 1912. Deeply influenced by Gandhiji, the faculty and students of Shiksha Mandal were involved in freedom movement. In 1937, Gandhiji presided over nation's first educational conference at Shiksha Mandal. Following the footsteps of Shri. Jamnalalji Bajaj, Shiksha Mandal has progressed to such an extent that it has been honoured with "Ideal Educational Institution Award" by RTM Nagpur University, Nagpur.

# Our Inspiration The Late Shri. Kamalnayanji Bajaj (1915 - 1972)



In 1942, at the young age of 28, on the demise of Jamnalalji, his son Kamalnayanji took on the mantle of head of the group. Kamalnayan Bajaj wore many hats effortlessly in his lifetime thinker, politician, philanthropist and entrepreneur. Raised under the inspirational umbrella of Gandhian principles and values inculcated by his guru Acharya Vinoba Bhave, he returned to India after studying at the University of Cambridge and put his heart into carrying forward the family business. At the same time he joined the fight against the British Raj alongside his mentor Mahatma Gandhi. He devoted himself not only to numerous social causes like education, medical care, famine and flood relief, but also to the promotion of Indian tradition in the form of art, crafts, literature and Ayurveda. He served as a MP from Wardha from 1952 to 1971.

As a member of the company's Board of Directors from 1946 to 1956 and Chairman from 1956 to 1970, he took the family business to the next level by branching out into manufacture of 2 & 3 wheelers, cement, electrical and ayurvedic products. He also started a travel agency.

Under his leadership Shiksha Mandal established the first Science College of Wardha District at Wardha, named after Mata Jankidevi Bajaj. Today, Bajaj College of Science, Wardha is a pioneer in many ways. It's the first college in Vidarbha & third in Maharashtra to get NAAC accreditation, the first science college in Vidarbha to be ranked in top 100 in the first NIRF ranking and the first science college in Vidarbha to receive Academic Autonomous Status





Dear All stakeholders,

Bajaj College of Science, run by Shiksha Mandal, Wardha ensures values-based quality education. We are committed to the overall development of our students with a discharge of student-centric teaching-learning programs. I believe that the purpose of science education is to solve the problems of society and make the world a happy place to live in.

BCS gives importance to co-curricular, extracurricular and sports activities for the overall development of the students. As a result, our students have been receiving several prizes at university, junior college, state and national level too. The efforts of our supportive management are reflected through facilities provided by it for student centric activities.

Alumni are the pillars and strength of any institution. We always strive to make strong parentteacher-alumni relationships which is veritably important for the academic success of our students. The college has been regularly conducting the various programs, webinars, lectures for students and faculties on various aspects of Life Sciences, Mathematical Sciences, Start-up programs, Entrepreneurship, IPR, etc. Competitive Examination Cell of the college has also been helping the students in the preparation of competitive examinations like NEET/JEE/MHT-CET /NET/SET/GATE/IIT-JAM, etc. The graph of percentage of students passing competitive exams is progressive.

For shaping the life of a student, a teacher plays a vital role which in turn makes remarkable share in the progress of any institution. We are fortunate to have all dedicated teachers at our college and they are always ready to give their best for the benefit of the students' community. They work in consonance with supporting staff as a team, because of which our institution has been progressing by leaps and bounds. Besides this, faculties are also involved in off-campus activity in association with Jamnalal Bajaj Sewa Trust (JBST) for supporting ZP Schools of Wardha District. Faculties are also actively involved in Bajaj Science Education Centre activities for the school students.

Being an autonomous college, our contribution towards New Education Policy (NEP 2020) is instrumental. We are committed for good opportunity -centric syllabus. The syllabus is framed considering the need of today's era. The job opportunities and overall enhancement of knowledge are going hand in hand. The practical -based syllabus with hands-on module will definitely benefit the upcoming generations.

Our commitment to society is to lead with enthusiasm and passion so as to achieve our end goals. Let us work together to make Bajaj College of Science more productive.

Happy Learning!!!!

# GOVERNING BODY MEMBERS

Member	Category	Nature	Name of the Member
5 Members	Management	Trust or management as per the constitution or byelaws, with the chairman or president/ director as	<b>Shri. Shekharji Bajaj</b> President, Shiksha Mandal, Wardha. (Bajaj Electricals Ltd., Akurdi, Pune - 35).
		the chairperson	<b>Shri. Sanjay Bhargava</b> Chairman, Shiksha Mandal, Wardha
			<b>Shri. P.D. Khemuka</b> Joint Secretary, Shiksha Mandal, Wardha
			<b>Shri. Anurag Bajaj</b> Member, Shiksha Mandal, Wardha
			<b>Dr. Arvind Sahu</b> Scientist G, NCCS, Pune
2 Members	Teachers of the College	Nominated by the Principal based on seniority	<b>Dr. V. V. Shinde</b> Head, Department of Electronic
	by rotation		<b>Dr. S. H. Bagade</b> Head, Department of Physics
1 Member	Educationist or industrialist	Nominated by the management	<b>Prof. Dr. W. N. Gade</b> Ex. Vice Chancellor, Savitribai Phule Pune University, House No. 4, Road No. 5, Gurudatta Colony, Walhekarwadi, Chinchwad, PUNE-411 003
1 Member	UGC Nominee	Nominated by the UGC	<b>Dr. (Mrs) Seema Jain</b> Principal, Jain Kanya Pathshala PG College, Meerut Road, Muzaffar Nagar, (U.P.) INDIA- 251001
1 Member	State Government Nominee	Academician not below the rank of professor or State Government official of Directorate of Higher Education/State Council of Higher Education	<b>Director</b> Higher Education
1 Member	University Nominee	Nominated by University	<b>Dr. Anjali Rahatgaonkar Director</b> Government Institute of Science, Nagpur.
1 Member	Principal of College	Government official	<b>Prof. Pradip Tekade</b> Principal, Bajaj College of Science, Wardha

## ACADEMIC COUNCIL MEMBERS

Member	Category	Nature	Name of the Member
1 Members	Principal	The Principal (Chairman)	Prof. Pradip Tekade, Offg. Principal
All the Heads of Department in the college	HOD		<ol> <li>Dr. S. H. Bagade, HOD, Physics</li> <li>Dr. P. F. Dhabarde, HOD, Botany</li> <li>Dr. M. R. Chandrakar, HOD, Zoology</li> <li>Dr. Mrs. S. S. Khandare, HOD, Microbiology</li> <li>Dr. S. S. Zade, HOD, Mathematics</li> <li>Dr. V. V. Shinde, HOD, Electronics</li> <li>Dr. Mrs. N. P. Mohabansi, Incharge, Chemistry</li> <li>Dr. U. A. Malode, Coordinator, Biotechnology</li> <li>Shri. R. K. Thombare, Incharge, Dept. of Languages</li> </ol>
4 Members	Teachers of the College	Four teachers of the college representing different categories of teaching staff by rotation on the basis of seniority of service in the college.	<ol> <li>Shri. R. T. Katre</li> <li>Dr. A. D. Theng</li> <li>Shri. N. A. Barwat</li> <li>Dr. D. D. Naik</li> </ol>
4 Member	Industry. Commerce, Law, Education, Medicine, Engineering, Sciences etc.	Not less than four experts/ academicians from outside the college representing such areas as Industry, Commerce, Law, Education, Medicine, Engineering, Sciences etc., to be nominated by the Governing Body.	<ol> <li>Shri. Makarand Pathak, Wardha (Engineering)</li> <li>Shri. Rajendra Bhutada, Wardha (Commerce)</li> <li>Dr. Rajesh Khaparde, Mumbai (Scientist/Alumni)</li> <li>Dr. D. K. Agrawal (Education)</li> </ol>
3 Member	University Nominee	Three nominee of the university not less than Professors	<ol> <li>Dr. M. P. Dhore, Principal, Shivaji Science College, Nagpur Email: shivajiscience_ngp@yahoo.com, mpdhore@rediffmail.com Mobile: 9423103043</li> <li>Dr. Jeevan R. Dontulwar, Principal, Shri. Mathuradas Mohata Science College, Umred Road, Nagpur. Email: mohatacollege@yahoo.in Mobile: 0712-2744992</li> <li>Dr. Santosh V. Kasbekar, Dada Ramchand Ramchand Bakharu, Sindhu Mahavidyalaya, Nagpur-440017 Email: principal@smvnagpur.ac.in principalsmvnagpur@yahoo.in Mobile: 91 712-2640368, 2642789</li> </ol>
1 Member	Faculty Member	A faculty member nominated by the Principal (Member Secretary)	<b>Dr. P. A. Saudagar</b> , Coordinator, Dept. of Computer Science

Student-centric approach	
More skillful teaching and learning	
Supportive learning environment to students	
Freedom to determine our own courses of study and syllabi	
Freedom to implement novel methods of conducting examinations and evaluation	
Inclusion of quality Internal assessment comprising of class test, MCQs, students' seminar	
Introduction of Instrumentation training course for students as a part of course work	
Improvement in teaching and learning process	
Timely Declaration of results	
Creating strong feedback system	
Enhanced Co-curricular and Extra Curricular Activities	
Projects for acquiring more practical knowledge	
Internship programme for meritorious students at National Institutes	

# **1. UNDERGRADUATE PROGRAM : (BACHELOR OF SCIENCE)**

S	Scheme of Teaching (NEP) B. Sc. Sem-I											
S .N.	Course Category	Name of Course		Teaching Scheme (Hrs.) TH TU PR		Total Credits						
1	DSC - I	Major	4	-	4	6						
2	GE/OE	Refer GE/OE Basket	2	-	-	2						
3	GE/OE	Refer GE/OE Basket	2	-	-	2						
4	VSEC	Refer VSC Basket		-	4	2						
5	VSEC	Refer SEC Basket		-	4	2						
6	AEC	English Compulsory	2	-	-	2						
7	VEC	Environmental Science	2	-	-	2						
8	IKS	Indian Knowledge System	2	-	-	2						
9	CC		-	4	2							
		TOTAL	14	-	16	TOTAL 14 - 16 22						

# Scheme of Teaching (NEP) B. Sc. Sem-II

S .N.	Course	Name of Course	Teachi	Teaching Scheme (Hrs.)			
0 .N.	Category		TH	TU	PR	Credits	
1	DSC - I	Major	4	-	4	6	
2	GE/OE	Refer GE/OE Basket	2	-	-	2	
3	GE/OE	Refer GE/OE Basket	2	-	-	2	
4	VSEC	Refer VSC Basket		-	4	2	
5	VSEC	Refer SEC Basket		-	4	2	
6	AEC	English Compulsory	2	-	-	2	
7	VEC	C Constitution of India		-	-	2	
8	IKS	Indian Knowledge System	2	-	-	2	
9	9 CC Health & Wellness			-	4	2	
	Total 14 - 16 22						

#### Abbreviations:

 OE: Generic/ Open Electives
 VSEC: Vocational Skill and Skill Enhancement Courses
 VSC: Vocational Skill Courses

 SEC: Skill Enhancement Courses
 AEC: Ability EnhancementCourses
 IKS: Indian Knowledge System

 VEC: Value Education Courses;
 FP: Fieldprojects;CC: Co-curricularCourses;
 RM: ResearchMethodology;

 RP: Research Project
 CEP: Communityengagementandservice
 OJT: On JobTraining:Internship/Apprenticeship;

 VSC- Opted by same discipline students thus skills related to major can be incorporated
 SEC- Opted by other discipline students thus fundamental skills of discipline could incorporated

MAJOR/Discipline Specific Courses (DSC) and Minor courses will be offered in the following subject from the academic session 2023-24 as per NEP 2020.

MATHEMATICS GROUP	BIOLOGY GROUP
1. CHEMISTRY	1. BOTANY
2. ELECTRONICS	2. Chemistry
3. MATHEMATICS	3. Microbiology
4. PHYSICS	4. Zoology

Besides above-mentioned subjects, Minor courses will also be available in following subjects

#### 1. COMPUTER SCIENCE

2. BIOTECHNOLOGY

Students have to select other subjects/courses from various baskets at the time of admission as per order of their merit. The list of baskets i.e GE/OE, VSC and SEC Baskets is available on college website.

#### UNDERGRADUATE DEGREE PROGRAMME (B.Sc.) For Admission in Semester I

A candidate for being eligible for admission to the three years integrated programme leading to the degree of Batchelor of Science (B.Sc.) must have passed the Higher Secondary School Certificate (H.S.C.) Examination conducted by Maharashtra State Board of Secondary and Higher Secondary Education with science subjects Physics, Chemistry, Biology, Mathematics & Statistics or Geology or Geography or Economics or Psychology or Equivalent. or The candidate must have passed an examination of another Board or University recognized as equivalent to H.S.C. Examination conducted by Maharashtra State Board of Secondary and Higher Secondary Education.

#### **Essentials for Admission**

- Two recent passport sized photographs Certificate
- Original and two photocopies of School/College Leaving
- Original and three photocopies of H.S.C. marksheet
- Copy of caste certificate
- Copy of Non-creamylayer certificate (For OBC/NT/SBC) students
- Eligibility or Migration Certificate (For other Board/University)
- Gap Certificate (If necessary)
- Sports Certificate
- Maharashtra State Domicile Certificate (Failure to produce this, candidate will not be considered for any reservation)
- Affidavit on stamp paper of Rs. 100/- for Linguistic Hindi Minority students in following proforma given below.
- Aadhar Card and Voter Card

## Proforma of Affidavit to be Submitted by Linguistic Minority Students Only

महाविद्यालय में प्रथम प्रवेश के समय हिन्दी भाषी (हिन्दी मातृभाषा वाले) छात्र तथा उसके माता या पिता से लिये जानेवाले शपथपत्र का नमुना (१०० रु. के स्टॅम्प पेपर पर)

मै	उम्र व्यवसाय
तथा मेरा पुत्र / पुत्री उम्रव्यवसाय	रहवासी
शपथ पूर्वक कहते है कि हम हिन्दी भाषी है और जाति से	हैं। तथा महाराष्ट्र में क्रमश: वर्ष और
वर्ष से निवासी है। हमारी मातृभाषा	है। तथा हम और हमारा परिवार ——— भाषा घर मे
और व्यवहार मे उपयोग मे लाते है जो भारत सरकार द्वारा घो	षेत ८ वे शेड्यूल के पार्ट 'ए' मे उल्लेखित हिन्दी भाषा के
अंतर्गत समाविष्ट है । हम हिन्दी भाषी है इसलिए यह शपथ पत्र आ	ज दिनांक को
(शहर का नाम) मे किया है।	
सत्याप	न
मै	उम्र व्यवसाय
एवं मेरा पाल्य व्यवसार	य (द्रोनो का पता)

प्रतिज्ञापूर्वक सूचित करते कि उपरोक्त शपथ पत्र मे लिखा हुआ मजकूर हमारे कहे मुताबिक लिखा गया है। उसे हम दोनो ने पढकर देखा है। उपरोक्त जानकारी सत्य एवं सही है। यदि इसमें कोई अंतर आता है उस स्थिती मे हम दोनो व्यक्तिगत रुप से और संयुक्त रुप से कानूनी तौर पर न्यायालयीन कार्यवाही के लिए जिम्मेदार रहेगें। अत: आज दिनांक \_\_\_\_\_\_\_ को यह शपथपत्र लिख रहे है और इस शपथपत्र पर हस्ताक्षर किये है।

स्थान	:		
दिनांक	:	पुत्र / पुत्री के हस्ताक्षर	माता / पिता के हस्ताक्षर

# ADMISSION PROCESS



\* At this stage, if any discrepancies are found, your application will be rejected and admission committee will not be responsible for the errors committed by you while filling up the form.

- Being a Hindi Linguistic Minority College, 50% seats are reserved for Hindi speaking students domiciled in Maharashtra.
- Remaining 50% seats and Vacancies left in Hindi Linguistic Minority quota will be available for Non-Hindi speaking students and will be filled according to Maharashtra Government Rules and Regulations.

Scheduled Caste (S. C.)	13 %
Scheduled Tribes (S. T.)	7 %
Nomadic Tribes (N.T.) - (A)	3 &
Nomadic Tribes (N.T.) - (B)	2.5 %
Nomadic Tribes (N.T.) - (C)	3.5%
Nomadic Tribes (N.T.) - (D)	2 %
Other Backward Class	19 %
Special Backward Class	2 %
Physically Handicapped	3 %
For various categories together i) Transferred Central/State Officer's Ward ii) Ex-serviceman/Defence Ministry iii) National level merit holders in the field of Sports and Cultural Programme iv) Widow v) Freedom Fighter's son/ grand-son/daughter	3 %

Change in the reservation criteria, if any, will be as per the government resolution.

# List of Languages Grouped under Hindi

As per the eight Schedule to the constitution of India, following languages are grouped under '**Hindi**' language

1) Awadhi	13) Garhwali	25) Lamani / Lambadi	37) Pahari
2) Bagheli / Baghel / khandi	14) Harauti	26) Laria	38) Pachpargania
3) Bagri Rajasthani	15) Haryanvi	27) Lodhi	39) Pangwali
4) Banjari	16) Hindi	28) Magadhi / Magahi	40) Pawari/ Powari
5) Bharmauri/ Gaddi	17) Jaunsari	29) Maithili	41) Rajasthani
6) Bhojpuri	18) Kangri	30) Malvi	42) Sadan/ Sadri
7) Braj Bhasa	19) Khairari	31) Mandeali	43) Sanori
8) Bundeli / Bundel / Khandi	20) Kortha/ Khotta	32) Marwari	44) Sirmauri
9) Chambeali	21) Kulvi	33) Mewari	45) Sondwari
10) Chattisgarhi	22) Kumauni	34) Mewati	46) Sugali
11) Churahi	23) Kurmali Thar	35) Nagpuria	47) Surgujia
12) Dhundhari	24) Labani	36) Nimadi	48) Sujapuri

# Shiksha Mandal's BAJAJ COLLEGE OF SCIENCE, WARDHA Tentative Academic Calendar for the session 2023-2024

	Months	Events / Activities		
		ssion From 16 <sup>th</sup> June 2023 to 10 <sup>th</sup> November 2023		
		Commencement of Odd Semester of B. Sc. Sem III and		
	16 <sup>th</sup> June 2023	Sem V and M. Sc. Sem III Classes		
		Admission of Odd Semester B. Sc. I and M. Sc. I under NEP		
Academic	July 2023	Commencement of Odd Semester of B. Sc. Sem. I and		
Part		M. Sc. Sem I Classes		
	Even Semeste	r Session from December 2023 to 5 <sup>th</sup> May 2024		
		Commencement of Even Semester Classes - B. Sc.		
	December	Sem IV, VI		
	2023	M. Sc. Sem IV		
		Commencement of Classes of		
	January 2024	B. Sc. Sem II and M. Sc. Sem II		
		1. Independence Day Celebration		
	August 2023	2. Motivational Talks		
	0	3. Library Day		
		1. Teachers Day Celebration		
		2. International Literacy Day		
	September	3. Quiz Competition		
	2023	4. Seminars Competition		
		5. Webinars / Seminars		
		6. Internal Class Exam (ICE - I)		
	October 2023	1. Mahatma Gandhi Jayanti		
		2. Internal Class Exam (ICE - II)		
		3. Impact Lecture Series Session - I		
Curricular (		4. Small Projects		
Curricular / Cocurricular		5. College Test		
Extra-		6. Wild Life Day		
curricular	December 2023	1. NSS Camp.		
Activities		2. Aids awareness programmers		
Activities		1. Republic day celebration		
		2. National Cleanliness Day		
		3. National Youth Day		
	January 2024	4. Internal Class Exam (ICE - I)		
		5. Quiz Competition		
		6. Seminars Competition		
		1. Small Projects		
	F.1 0004	2. College Day Function		
	February 2024	3. National Science Day		
		4. Innervate 2024		
	March 2024	1. Internal Class Exam (ICE-II)		
	-	Odd Semester Theory Exam of B. Sc. Sem III & V		
	November 2023	and M. Sc. Sem. III		
Examination		Declaration of Result Odd Semester		
Schedule	December 2023	Odd Semester Theory Exam of B. Sc. Sem- I and		
Scheuule	December 2023	M. Sc. Sem - I		
	Apri May 2024	Even Semester Theory Exam		
	Apri-May 2024	Declaration of Result Even Semester		
	1			

Diwali / Winter / Summer Vacation - As per RTM Nagpur University Academic Calender

13

Department of Botany was established in 1962. The post graduate Department was established in 2003. The Botany Department has received a place for Higher learning and Research, affiliated to RTM Nagpur University, Nagpur in 2012. Prof. V. P. Damle was the founder Principal and the founder Head of Botany Department. Since its inception, the Department was recognized for teaching and research in the various areas of Botany. A well balanced curriculum consisting theory and practicals and qualified faculty has been the hall mark of this Department. Today the department has 03 permanent and 02 contractual faculty members. All Five of the faculty members hold PhD, one of which have qualified CSIR - NET, IIT - GATE. Some have successfully completed major and minor research projects funded by UGC, RGST, Govt. of Maharashtra. Faculty members have active collaborations with scientists from Institutes in and outside India. The overall goal of Autonomous Botany Department is to impart quality education at senior, post graduate level along with continuous efforts on basic and applied aspects of plant science research at doctoral and postdoctoral level.

# HIGHLIGHTS OF THE DEPARTMENT:

- Qualified and experienced faculty.
- Well-equipped laboratory, Instrumental facility and Botanical Garden.
- Recognized as a place for Higher Learning and Research, with capacity of 20 students.
- Two faculties recognized as Ph.D Supervisors.
- Five students are awarded Ph.D and Five students are registered.
- Linkage for student Internship programme with recognized National Research Institutes.
- Certificate courses in "Herbs and Herbal Products" and "Statistical analysis using R".
- Two major and minor research projects are completed funded by UGC.
- One major project is ongoing funded by RGST, Govt. of Maharashtra.
- Consultancy services provided in Identification and Authentication of Plants.

# **MAJOR INSTRUMENTS**

Cooling Centrifuge, Tilak Air Sampler, Industrial Refrigerator Chiller and Deep Freezer -80°C, Laminar Air Flow, Incubator Shakar, UV-Visible Spectrophotometer



# DEPARTMENTAL PROFILE

# HIGHLIGHTS OF THE SYLLABUS UNDER AUTONOMY

Syllabus contains the core and applied branches including Viruses, Algae, Fungi and Bryophytes, Pteridophytes, Gymnosperms and Angiosperms, Cell Biology, Genetics and Plant Breeding, Plant Physiology, Plant Biotechnology and Plant Ecology both in Under Graduate and Post Graduate. 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.

# **TEACHING STAFF**

Name Designation Qualification DOJ Dr. P. F. Dhabarde Assistant Professor, Incharge M.Sc. Ph.D. 22/12/2004 Name Designation Qualification DOJ

Dr. D. D. Naik Assistant Professor M.Sc. Ph.D. 06/07/2015 Name Designation Qualification DOJ Dr. A. A. Maheshwari Assistant Professor M.Sc., NET, Ph.D. 02/12/2019

Name Designation Qualification

Dr. Arati Pranjale Ghuse Assistant Professor (Contract Basis) M.Sc., Ph.D. Name Designation Qualification

Dr. Swati N. Kalode Assistant Professor (Contract Basis) M.Sc., M. Phil, B. Ed., Ph.D.



Chemistry is the central science. Its applications encompass all the aspects of human civilization. Over the centuries the subject has offered wide scale career opportunities to young and innovative minds. Since its establishment the department has made enormous progress in academics and research. The department provides quality education in the subject with sufficient flexibility to enable students to specialize in the areas of interest to them.

Besides teaching, faculty members are also involved in research activities and have published papers in National and International peer reviewed journals. They have successfully completed nine minor research projects funded by UGC / RTM Nagpur Univesity, Nagpur.

#### **GLIMPSES OF THE DEPARTMENT**

- Well equipped laboratories and instrumental facility, Exposure of sophisticated instruments to the students through Skill enhancement programme
- Recognition of laboratory as a place for higher learning and research by RTM Nagpur Univesity, Nagpur. Six students awarded Ph.D. degree from our Department and 3 are working.
- Two days workshop on "Strategizing and Planning for competitive exams" was organised on 15<sup>th</sup> and 16<sup>th</sup>March 2023 for PG students. The three resource persons, Mr. Tauheed Nadeem (Chemical Sciences), Mr. Deepak Singh (Life Sciences) and Mr. Chandan Kumar Roy (Mathematical Sciences) from IFAS Academy, Pune guided the students regarding the syllabus, tricks, and strategies for the preparation of different competitive examinations
- Department undertakes various activities viz, guest lecturers educational tour, students' seminars etc under the banner of Chemical Society.
- Department has IIT-JAM, NET-SET, guidance cell for UG & PG Students. 29 B.Sc. students cleared IIT-JAM examination & 8 M.Sc. students cleared NET/SET/GATE examination.
- Department has implemented micro scale level practical at UG level, to certain extents which saves lot of chemicals.
- Department offers consultancies for FTIR, Flame Photometer, UV -Visible Spectrophotometer, Water-Soil analysis.
- Department has started Skill-based Certificate Course in "Industrial Wastewater Management" in collaboration with St. Xavier's College, Mumbai.
- Department has started " Cerficate Program in Banking, Finance and Insurance (CPBFI)" in collaboration with Bajaj Finserv.
- Hands on training workshop on "ICT Learning Environment Blended Mode of Teaching of Gnomio" for UG & PG students was organized on 19<sup>th</sup> September 2022.
- A talk on "Carrier Awareness" for Undergraduate Students on 21<sup>st</sup> September 2022 was organised. Prof. P. V. Tekade, guided about the pattern & syllabus of entrance exams such as IIT-JAM, TIFR, IISER, CSIR/NET/SET, GRE, etc.
- State Level Students Seminar Competition, "Scintillation- 2023" was organised 24<sup>th</sup> Feb. 2023, wherein 25 UG students participated for Subject Chemistry.
- 153 UG students registered for Concept Test in Chemistry (CONTECH) organised by Association of Chemistry Teachers (ACT) C/o Homi Baba Centre of National Science, Education (HBCSE), TIFR, Mumbai.

#### MAJOR INSTRUMENTS

Fourier-Transform Infra-red spectrophotometer, UV-Visible Spectrophotometer, Flame Photometer, Polarograph, Guoy's Balance, Centrifuge machine (16000 rpm), Microwave Synthesis set up, Rota Evaporator



## CHEMISTRY DEPARTMENT

# SYLLABUS HIGHLIGHTS

Syllabus provides comprehensive knowledge of chemistry (theory & practicals) and will prepare students for entry into a wide variety of careers. It covers wide range of topics from Inorganic, Organic and Physical Chemistry as

- Fundamentals of core Chemistry
- Stereochemistry
- Heterocyclic Compounds
- Natural Products
- Thermodynamics
- Reaction Dynamics
- Electrochemistry

- Nuclear Chemistry
- Surface Chemistry
- Retrosynthesis
- Quantum Chemistry
- Spectroscopy
- Coordination Chemistry
- Biochemistry

- Photochemistry/Pericyclics
- Environmental Chemistry
- Analytical Chemistry
- Green Chemistry
- Organometallics
- Instrumental Analysis

# **TEACHING STAFF**

Designation

Qualification

Assistant Professor (Cont.) M.Sc., SET, NET, GATE





Since the inception of the college, in year 1962, the Department of Zoology has been established as a leading centre for higher education in animal sciences. The department has a basic equipped instrument facility, which has been upgraded and a number of new modern Analytical instruments have been added. At present, the department is running 3 years UG (B.Sc. course) and 2 years PG course. Laboratory has been upgraded with audio-Visual facility. Department has up-to-date departmental library with latest edition of books, internet facilities for students and well established museum of local fauna having unique collection.

# **GLIMPSES OF THE DEPARTMENT**

- Teaching faculties with different specializations.
- Group Projects.
- Hands on trainings for students.
- Workshop for students skill enhancement
- Educational tours.
- Upgraded laboratory with latest instruments and animal cell culture laboratory.
- Up-to-date departmental library, internet facilities for students and well established museum.

## **MAJOR INSTRUMENTS**

Trinocular Research Microscope, Digital cell Image analysis system, Double beam U. V. Visible Spectrophotometer, Magnus inverted microscope, Microfilt Biosafety Cabinet class II Type A2, CO<sup>2</sup> Incubator Water jacketed series, Cooling Centrifuge, Cryostat.



# **SYLLABUS HIGHLIGHTS**

#### At Undergraduate Level :

Theory and practicals related to Animal Diversity -Non chordates; Environment Biology & Ecology; Cell Biology; Animal Diversity (Chordates) & Evolution; Genetics; Developmental Biology; Molecular Biology and Immunology; General Mammalian Physiology; Bio molecules, Biotechnology and animal cell culture will be included. Projects would also be part of practical. The syllabus has been reframed considering students should be able to clear competitive exams and should be able to opt for higher studies.

#### At Postgraduate Level :

Theory and practicals related to Invertebrates; Physiology Cell Biology and Genetics; Reproductive Biology; Vertebrates; Molecular Biology and Biotechnology; Parasitology and Immunology; Entomology; Fish and Fisheries; Bio-technique, Bio statistics, Ethology, Toxicology and Bio informatics. Projects would also be part of practical. The syllabus has been reframed considering students should be able to clear competitive exams and should be able to opt for research.

# **TEACHING STAFF**





# MICROBIOLOGY DEPARTMENT

# ABOUT THE DEPARTMENT

Department of Microbiology started in 1980 and now recognized as centre of excellence in Microbiology with respect to teaching and learning. The department runs B. Sc. Course with Microbiology as one of the subject at undergraduate level. Additional non grant U. G. course was introduced in 2006 with Biotechnology, Microbiology and Chemistry. M. Sc. Microbiology started in 2007 (CBCS pattern). Career Oriented Programme, Clinical Laboratory Technology (on Self Finance basis) started from 2016 with intake capacity of 40 students. Post Graduate Diploma in Clinical Research started from 2021-2022.

Department received the Best Department award given by Microbiologist Society, India (MBSI). Dr. Kane Vice Chancellor RTM Nagpur University, Nagpur, and Dr. A.M Deshmukh, President, MBSI handed over the award to the Head department of Microbiology on 29 September 2019.

## **GLIMPSES OF THE DEPARTMENT**

- Well equipped laboratory
- Highly qualified staff
- Self sufficient departmental library with several books
- Consistent improvement in the result of the department.
- The department provides the consultancy services for microbial analysis of water, soil and biofertilizers.
- The alumni of the department occupy the higher positions at NCCS, Pune, Institute of Microbial Technology, Chandigarh and some are working with NEERI, Institute of clinical research, Nagpur and National research centre for Citrus, Nagpur.

#### **MAJOR INSTRUMENTS**

PCR thermal cycler, Gel Documentation System, U.V. Visible spectrophotometer, Fermentor, Trinocular Microscope, Bio safety cabinet, BOD incubator, Rotary incubator shaker.



# MICROBIOLOGY DEPARTMENT

# SYLLABUS HIGHLIGHTS

#### **Undergraduate Programme**

#### Major topics to be covered under UG programme is as follows:

- Microbial physiology
- Industrial Microbiology
  - Environmental Microbiology
- Genetic Engineering
- Techniques in Advance Microbiology

Medical Microbiology

Molecular biology

On completion of the B.Sc. Microbiology Programme the students will

- Get the knowledge of bacteriological analysis of drinking water, Biofertilizer production, Microbiological analysis of Milk, Industrial production of Antibiotics, Organic solvents, Single cell proteins, Vitamins.
- Have sound skills in various techniques like gel electrophoresis, Chromatography, Immunoelectrophosesis, PCR.
- Develop themselves as a entrepreneur

## Postgraduate Programme

#### Major topics covered under this programme is as follows:

Bioenergetics, Biomarker genes, Designs and applications of GC, HPTLC, Nanotechnology, DNA sequencing, Drug designing and delivery system, Bioinformatics, Medical Microbiology, Immunotechniques, Recombinant DNA technology, Animal Tissue culture.

On completion of the M.Sc Microbiology Programme the students will

- Get the knowledge of DNA Cloning, Transformation, Restriction digestion, animal tissue culture, plant tissue culture, PCR, Fermentation kinetics, Industrial production of Antibiotics, Single cell proteins.
- Have sound skills in Identification of Bacteria and various techniques like gel electro- phoresis, lon exchange chromatography, Immunoelectrophoresis, PCR, SDS PAGE.

# **TEACHING STAFF**





The department of Physics was established in 1962 under the guidance of Dr. D.S. Supe which is now one of the best well-equipped centre for undergraduate studies in this part of India. Department aims to enable students to enjoy the subject and to stimulate an interest in the social and economic implications of Physics in society. It has three separate laboratories including a dark room containing more than 100 experimental set up. Every year it caters around 300 UG students for in-depth understanding of the subject.

# **GLIMPSES OF THE DEPARTMENT**

- Well-equipped spacious laboratories with more than 100 experimental set ups, computer and internet facility, separate departmental library
- Involvement in the organization of state level and national level event (Scintillation and Innervate)
- Online Digital Teaching Methodology used, includes, online video classes using digital platforms, YouTube video lectures by faculty members of Department, e-contents, Google classrooms, Moodle, etc.
- Certificate course on Nanoscience and Nanotechnology (Nanosense)
- Recognized center for National Graduate Physics Examination (NGPE).
- Guidance for active participation in various intercollegiate competitions viz. quiz, seminars etc.
- Linkage for student Internship programme in national recognized institute/departments
- Night sky watching (Astro club activity)

# **MAJOR INSTRUMENTS**

X-ray diffractometer (XRD), G.M. Counter, Digital Ultrasonic Pulse Echo Velocity Meter, Hall Effect Apparatus, Magnetic Susceptibility apparatus, Four probe Apparatus, Dielectric Constant and Curie Temperature apparatus,, Dual Trace C.R.O, digital polarimeter, Fabry-Perrot Interferometer, B-H loop tracer, LCR Meter.



#### **HIGHLIGHTS OF THE SYLLABUS**

Syllabus contains the core branches including mechanics, oscillations and waves, thermodynamics, electro statics, electricity and magnetism, electrodynamics, optics, atomic and molecular physics, statistical mechanics, solid state physics, quantum mechanics, electronics and solid state devices, nano physics, astrophysics, relativity, nuclear physics. 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.

The course design will ensure that graduating students with Physics as one of the subject will have the academic standard pre-requisites to take post-graduate programme in Physics as well as in many allied fields in India and abroad. The multi disciplinary skills they will acquire will be of tremendous value to them especially if they choose to enter such cutting edge research areas; be it in Academia or in Industry. We believe that the graduates with physics will be a complete package to face any national competitive exams held for the graduates.

#### TEACHING STAFF





Electronics today stands at the forefront of the rapidly expanding horizon of Science and Technology. Growth in the field of electronics has been so phenomenal in the recent years that it has entirely changed the life style of people. The ease, the precision, the sophistication and the exibility provided by electronics in all walks of life and industrial systems has made it a very important subject of study. It is indeed considered as a catalyst of scientific and technological progress. Electronics has, therefore, become a core subject in the curricula of all disciplines. Bajaj College of Science, Wardha started B.Sc. (Electronics) programme in 1985.

# **GLIMPSES OF THE DEPARTMENT**

- Well-equipped electronics laboratory
- Computer laboratory for languages and simulations
- Consistent good results
- · Seminars and projects for the students
- ICT based teaching aids
- Qualified staff

## **MAJOR INSTRUMENTS**

Temperature Dependent Two Probe Resistivity Measurement Set Up, NI ELVIS, Spartan 3 FPGA Based Development Board, Digital storage Oscilloscope, Kelvin Double Bridge, AM Transmitter



# **ELECTRONICS** DEPARTMENT

# SYLLABUS HIGHLIGHTS

Syllabus includes the following core topics of electronics:

- Electronic Components, Network Theorems & Semiconductor devices
- Fundamentals of Digital Electronics
- Semiconductor Devices
- Advanced Digital Electronics
- OP AMP And Power Supply

- Electronic Circuit Design
- Analogue And Digital Techniques
- Electronic Instrumentation
- Electronic Communication
- Fundamentals of Microprocessor
- Programming in "C"
- Microcontroller 8051

On completion of the B.Sc. (Electronics) Programme, the student will:

- Directly employed or start his/her own work as Electronic circuit designer, Electronics consultant, Testing professional, and even an entrepreneur in electronic industry
- Compete for seats for advanced degree courses like M.Sc. (Electronics).
- Have sound knowledge of the theory behind core subjects like, Electronic components, Electronic measuring and testing instruments, Analog and Digital IC's, Electronic circuit design and implementation, Troubleshooting and maintenance of electronic and electrical devices.
- Have sound skills in assembly Language and High Level Language programming interfacing of electronic devices with computers, etc.
- Be in a position to develop industrial and entrepreneur applications.

#### **TEACHING STAFF**

Name Designation Qualification DOJ

Dr. V. V. Shinde Associate Professor & Head M.Sc., PGDCS, Ph.D. 28/08/1986

Name Designation Qualification M.Sc., PGDCS, Ph.D. DOJ

Prof. V. M. Ghodki Professor 13/08/1988

Name Designation Qualification DOJ

Dr. P. A. Saudagar Assistant Professor M.Sc., PGDCS, M. C. A., NET, Ph.D. 02/12/2013



The Mathematics department was established in the year 1962 offering B.Sc. Mathematics at UG level. Presently the department has an intake of 120 students for B.Sc. The department started M.Sc. in Mathematics from session 2020-21 with an intake of 22 students.

Students are imparted Mathematical education founded on value based academic principles where in all involved contribute effectively, efficiently and responsibly. The faculties take keen interest and efforts for the overall development of students through academic and co- curricular activities..

#### **GLIMPSES OF THE DEPARTMENT**

- Qualified and experienced faculty
- Sincere efforts for mathematical and overall development of students.
- Interactive teaching learning
- Efforts to develop conceptual understanding, problem solving skills and applications
- Guidance for co-curricular activities and competitive exams

## **SYLLABUS HIGHLIGHTS**

Mathematics is the core of every academic discipline and essential to the development of science and technology. The present syllabus has been designed as per the NEP model curriculum. A few changes to the extent of 20% according to the guidelines of UGC are intended which mostly include the application of mathematics as per the present need of industry and employability. Some topics in applied mathematics such as Numerical analysis, Graph theory, LPP have been added. The present syllabus would also support other subjects, especially Physics at the undergraduate level. The curriculum aims to improve conceptual understanding, problem solving skills and relating Mathematics to applications.

#### **TEACHING STAFF**





Department of Biotechnology was established in the year 2006 to run B.Sc. undergraduate course. Current intake capacity for the course is sixty students. We offer Biotechnology subject with Chemistry and any one option from Microbiology/Botany/Zoology. The Department has also run post graduate courses during the year 2010-2014. The department has highly qualified, experienced and dedicated faculty with specialization in Molecular Biology, Plant Tissue Culture, Agricultural and Environmental Microbiology, Immunology and Bioinformatics. The aim of department is to foster knowledge in students pertaining to basic and advance in biotechnology field.

The department has well-furnished laboratories with all equipment's to impart more hands on training to the students and to carry out their projects. Alumni of the department occupy good positions in various industries like Meril Diagnostic Pvt.Ltd., Glenmark Pharmceutical Ltd., Wipro Ltd, TCS, Eclerx services; Cap Gemini India Pvt Ltd. Graduating students normally find good fellowships in higher education and pursue their career in reputed institutes like NISER, Bhubaneswar and IIT-Roorkee.

#### Highlights of the Syllabus under Academic Autonomy:

- The syllabus ensures that the students graduating with Biotechnology as one of the subjects will have the academic standard required to pursue post-graduation in Biotechnology in India and abroad.
- Students graduating with Biotechnology 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 Biotechnology will be able to face any national competitive exams held for the graduates will be able to qualify examinations like JAM, CSIR-NET, SET, GATE etc.
- Syllabus contains important topics like Microbiology, Enzymology, Cell Biology, Biochemistry, Molecular Biology, r-DNA Technology/ Genetic Engineering, Immunology, Virology, Fundamental of Biomolecules, Biophysical Technique, PCR (Polymerase Chain Reaction), Bioinformatics, Environmental Biotechnology, Industrial Biotechnology, Food Biotechnology, Tissues Culture, etc. are included in UG syllabi and PG Syllabi of other university.
- 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.

## **TEACHING STAFF**



Dr. Ulka A. Malode-Badwai Co-coordinator Dept. of Biotechnology M.Sc.,Ph.D. 15/06/2012

Name Miss. Komal S. Dhumane Assistant Professor M.Sc.



## MAJOR INSTRUMENTS:

Incubator, Gel electrophoresis, Micro centrifuge, Cooling centrifuge, Orbital shaking incubator, Autoclave 35 Lit, Cap., Microwave oven, Vertical Laminar air flow, Microscope Olympus, Deep Freeze, etc.



# COMPUTER SCIENCE DEPARTMENT

## ABOUT THE DEPARTMENT

The Department of Computer Science is one amongst the nine academic departments of the Bajaj College of Science, Wardha. The Department came into existence in 1988 and is affiliated to Rashtrasant Tukadoji Maharaj Nagpur University. Global Excellence, teaching and technology development is the vision of the Department. Since 1988, it has been committed to the best IT education and has been continuously scaling new heights in the eld of Information Technology. It is providing quality education to students.

#### GLIMPSES OF THE DEPARTMENT

- Well-equipped laboratory
- ICT Center and Language Laboratory
- Departmental Library
- Live Projects, Seminars by the students
- Laboratory with computers of highest configuration
- Internet Broadband Facility with 100 Mbps Speed
- Computer Awareness Course to impart basic computer skills for all the UG students of the college.
- Skill enhancement courses for the students apart from their regular syllabi through Spoken Tutorial Programme of IIT Bombay.

#### HIGHLIGHTS OF THE UNDERGRADUATE PROGRAMME

On completion of the B.Sc. Computer Science Programme, the students:

- Will have sound knowledge of the Programming languages such as C,C + + Java, VB and SQL Also they will have knowledge about Information technology, Operating System, System Analysis and Design and Development.
- Can participate in campus internships, independent study projects, part-time computer employment, lectures by guest speakers, Society of Computing Students programming and on- campus employment as lab assistants, lab supervisors and Helpdesk assistants.
- Can develop industrial and entrepreneur applications.

#### Major Subjects To Be Covered Under This Programme

- Programming In 'C' Fundamentals of Information Technology Object Oriented Programming Using 'C++'
- System Analysis and Design Data Structures Operating Systems Java Programming Linux Operating System • Visual Basic Programming • Data Base Management System • Compiler Construction
  - SQL and PL/SQL

#### **TEACHING STAFF**

Name Designation Qualification DOJ DC-ordinator M. Sc. PGDCS, M.C.A., NET, Ph.D. 02/12/2013 Name Designation Qualification M.Sc. (Ph.D.

Mr. S. A. Durge Assistant Professor (Cont.) M.Sc. (CS), NET, SET, MCA (Ph.D. Pursuing)

Name Designation Qualification Experience

Mr. M. M. Wasu Assistant Professor M.Sc., MCA, NET, SET (Ph.D. Pursuing)



The Department of Languages has its inception with the establishment of the college in the year 1962, since then it has been consistently providing the students of undergraduate classes a base for English Communication, thereby enhancing their written and spoken aspect as well. Besides Compulsory English, the department offers three options as a second language to its students, i.e. i) Marathi.ii) Hindi and iii) Supplementary English.

Apart from regular curriculum, all the teachers from the department render their valuable guidance to the students participating in various quiz, debate, elocution, essay or poster competitions organized by various colleges or universities round the country.

#### **Highlights of the Department:**

The department of Languages has a dedicated digital language lab, which helps students a lot while confronting campus recruitment drives conducted by various National and Multinational companies visiting the college. The department is known for excellent performance regarding overall development of students which is reflected in their academics and outstanding results.

#### Courses :

 Compulsory English Marathi Hindi Supplementary English

Name

#### **Special Feature**

#### Language Lab

The department of Languages runs a digital language lab, wherein a special software has been installed as students' console and teacher's console to improve the accents and overall spoken aspect of the students. Here, students can listen to their own accent, pronunciations through a headphone and rectify their mistakes while speaking. This helps them a lot while confronting campus recruitment drives conducted by various National and Multinational companies visiting the college.

These classes of Language Lab are conducted batchwise in the lectures of tutorials. All the students of B. Sc. Part I are benefitted every year by this Language Lab. Around 250 to 300 students avail benefit of it. At present, 11 computers are dedicated for Language Lab, out of which 1 is a Teacher Console which is also the server of the main software and 10 computers are Student Consoles, all connected in LAN .{Local Area Network} Mr. Rupesh Thombare, assistant professor, department of Languages is the in-charge of it.

#### **TEACHING STAFF**

Name Designation Qualification DOJ

Mr. R. K. Thombare Assistant Professor M.A.(Eng.) NET. M.A. (Eco.) 02/01/2007

S. R. Khode Designation Visiting Faculty Qualification M.A. (Mar.), B.Ed., NET, SET. Name Designation Qualification

S. R. Dubev Visiting Faculty M.A. (Hindi), B.Ed.



# **ABOUT LIBRARY**

Newly constructed Library the college is committed to fulfill its mission by acquiring the requisite information and documents to cater the needs of its borrowers to help them in achieving excellence in teaching and learning.

Library is fully computerized using customized software 'LIBMAN'. All transactions are carried out in automated environment. All the books are provided with barcode so as to avoid mistakes in manual feeding. Barcode scanner is available in the library for scanning. Our software is installed in IBM Server and all machines are in LAN. Terminals are provided in reading room for access of OPAC and Internet.

The library is housed in 624.325 Sq.mt. area where in there is a separate Reading Room, Reference Section, Issue Counter, Stack Rooms and Bound Volume Room. The capacity of the reading room is to accommodate 150 readers. Separate arrangement is done for faculties to study in the library.

#### FACILITIES

- Reading Room Facility
- Internet Facility
- INFLIBNET Facility Books on Deposit Basis

- Reprography Facility Orientation to Users
- **HEALTHY PRACTICES**
- Reprography

Text

Other

Reference

- Display of new arrivals
- Orientation to users
- CCTV Cameras surveillance in library

#### **STATISTICAL DATA OF LIBRARY**

**TOTAL NUMBER OF BOOKS** 

# WEB OPAC

- Working in an automated environment Online Public Access Catalogue (WEB OPAC)
  - Free Internet access
  - Issue of books on deposit basis during examperiod

**DR. DAMLE LIBRARY** 

Suggestion box

45335

29761

2326

13248

1704

#### Some of our pride collection includes

- Cambridge Natural History
- Scientific American Resource Library
- Encyclopaedias
- Bharatiya Sanskriti Kosh
  - Marathi Vishwakosh
- Botanica Rich collection of Floras

TOTAL NUMBER OF NEWSPAPERS TOTAL NUMBER OF MULTIMEDIA COLLECTION Name

TOTAL NUMBER OF BOUND VOLUMES

TOTAL NUMBER OF JOURNALS

TOTAL NUMBER OF PERIODICALS

# Mr. Praful B. Bhoyar

Designation Librarian Qualification M.L.I. Sc., SET, M. Phil 01/01/2020

# **Library Website**



Web OPAC







DOJ



- Encyclopedia Britannica

- - Tropica

31 19 18 371

• Display of New Arrivals

# DEPARTMENT OF PHYSICAL EDUCATION AND SPORTS

#### **SPORTS FOR MEN**

1	Swimming	9	Base Ball	17	Archery
2	Basket Ball	10	Chess	18	Badminton
3	Hand Ball	11	Foot Ball	19	Cricket
4	Boxing	12	Ball Badminton	20	Hockey
5	kho-Kho	13	Soft Ball	21	Taikwando
6	Kabaddi	14	Base Ball	22	Lawn Tennis
7	Volley Ball	15	Table Tennis	23	Sepak Takraw
8	Athletics	16	Net Ball		

#### **SPORTS FOR WOMEN**

1	Swimming	9	Base Ball	17	Archery
2	Basket Ball	10	Chess	18	Badminton
3	Hand Ball	11	Foot Ball	19	Cricket
4	Boxing	12	Ball Badminton	20	Hockey
5	kho-Kho	13	Soft Ball	21	Taikwando
6	Kabaddi	14	Base Ball	22	Lawn Tennis
7	Volley Ball	15	Table Tennis	23	Sepak Takraw
8	Athletics	16	Net Ball		



# DEPARTMENT OF PHYSICAL EDUCATION AND SPORTS



SANKET INGOLE National Ball Badminton Champion, Imphal (Manipur) University Ball Badminton Champion, Kuppam (A.P.)



**JAGDISH KADU** University Ball Badminton Champion, Kuppam (A.P.)



**KU. JUHI RAUT** University Ball Badminton Champion, Vishakhapatanam (A.P.)



**KU. MANJIRI DHANUSKAR** University Ball Badminton Champion, Vishakhapatanam (A.P.)



KU. SAMIKSHA GHODE University Hockey Champion Gwalior



**RAJ KHARDE** University Handball Champion, Gwalior & Gold Medal in All India University Handball Champ.



**KU. AARZOO PATEL** University Handball Champion, Gwalior



**KU. MANISHA SAHU** University Handball Champion, Gwalior



**KU. NIKITA ALURI** University Baseball Champion, Baramati



ADARSH BANGADE University Softball Champion, Kudapa Vemana



CHETAN BOTKULE University Softball Champion, Kudapa Vemana



SUSHANT MENDHE University Softball Champion, Kudapa Vemana



**KU. JHAVERIYA QURESHI** University Sepak Takaraw Champion, Bareli



**KU. MAYURI KAPSE** University Sepak Takaraw Champion, Bareli



ADARSH BANGADE University Softball Champion, Kudapa Vemana



**ANUJ M. THAKRE** Indian Handball Men Team, Sweden



**KU. KALYANI BADHIYE** University Netball Champion, Annamalai



RAHUL BAISWARE University Netball Champion, Calicut



**VEDANT D. GHODMARE** Indian Handball Men Team, Sweden

# STUDENT ENRICHMENTS

#### **CAREER KATTA** :

(Career and Entrepreneurship Counseling, Skill Development, Internships, Placement, etc.)

Career Katta is an initiative of Department of Higher and Technical Education, Govt of Maharashtra and in coordination with Maharashtra Information Technology Support Centre. The college conducts various activities to guide students about Career, Competitive Examinations (UPSC, MPSC, Banking. SSB, SSC, Police, LIC, etc.), Entrepreneurship, Skill Development; Credit Earnings under new CBCS and NEP Curriculum Framework, Internship and Placement Opportunities, etc.

#### **Eligibility to Join:**

Any student admitted for any regular course in the college or college alumni referred by College Coordinator.

**Registration Fees:** One Time Rs. 365 for Three-year degree period (Rs. 0.36 per day). which will be reimbursed in the form of subsidy on examination charges of CBCS. It including free access to all the activities, courses, State Level Competitive Exams, etc.

**How to Register:** Download the MITSC application from Google Play Store and pay fees using any online payment mode

#### करियर कट्टा मध्ये विद्यार्थ्यांनी नाव नोंदणी करण्यासाठी



यूटयूब वरील उपक्रमांमध्ये सहभागी होण्यासाठी सबस्क्राईब करा



करियर कडा नियमित उपक्रमाची माहिती

मिळवण्यासाठी सबस्काईब करा



#### ASTRO CLUB : A New Era of Observation

Astro Club is the club for incubating astronomical knowledge to the students who are interested to know what's happening in the universe which is visible to known source of observatory. It is the initiative of Department of Physics, Bajaj College of Science in the academic session 2017-18. The objective is to inspire students and others to know more about the world around the earth. Also, it is an effort to make social awareness about the facts and finding of the astronomy.

#### **PROCEDURE OF ENROLMENT**

Students, alumnae, staff of Bajaj College of Science are eligible to join Astro club. The life time membership free is as follow.

Categories	Students	Alumnae	Staff
Amount	150/-	1000/-	1500/-

#### **COMMITTEE MEMBER AND WORKING**

Out of the registered members 7 members (SAPTRUSHI) are selected as working committee members of Astro Club (Current Students Only). They will be categorized as follow.



#### **RICH CLUB**

The main objective of "Research Innovation Curricular Hour Club [RICH Club]" is to promote proformed academic ecosystem among the students and to motivate them to think on novel ideas in all 37 UG and PG students are selected as a functional group member. There is one teacher mentor from each department to monitor and facilitate the activities. The RICH club works under the umbrella of Research Promotion Cell.



# EXTRA-CURRICULAR ACTIVITIES

#### **Cultural Events**

Every year cultural programmes are organized by college as College Day Celebration. Students are encouraged to participate in various activities like Dance, Drama, Singing, Plays, etc including various competitions such as Debate, elocution, quiz, etc. Artistic students are promoted for the participation in Youth Festival organized by RTMNU, Nagpur.

#### NSS

National Service Scheme (NSS) has been in operation in our college since 1965. Since then it has been involved in various social service activities including blood donation, plantation drive, gender empowerment, national integration & social harmony, disaster management, environment protection and awareness, engaging with new frontiers of knowledge, social defense, health and well-being, legal literacy, awareness building about India's national heritage, culture and traditions, road safety campaigns, etc. NSS functions as a learning and resource centre for the benefit of the youth.

#### **CWSS**

Centre for Womens Studies and Services established in the college in 2001-02. This centre stress to increase the analysing capacity, research ability and leadership qualities among the students. Various programmes are conducted as per the directives of UGC, Government of Maharashtra and RTM Nagpur University, Nagpur, CWSS facilitates students to learn various social problems like, water pollution and harvesting, dowry system, organic farming, child labor, woman literacy, equality and laws for women, health and family welfare. CWSS activity helps the students to study these issues which help to develop their overall personality. The students get the incentive marks and the marks are counted for division and merit.

#### PEC

Population Education is an integral part of Adult Education and Extension activity. It is important because it changes the way of living and use of natural resources. It learns to realize the responsibility regarding the population, situation of small family and the communities. It is also needed to control the population growth and to improve the better quality of life. Objectives: (1) To create awareness about the population explosion problems related to population. (2) To create awareness for small family (3) To create health awareness (4) Social and personality development.

#### NCC

National Cadet Corps Girls as well as Boys battalion is integrated in our college. Active participation of students in various events at the State as well as National level.

#### ICC

The institute established the Internal Complaints Committee (ICC) in the session 2016-17 as per the direction given in the "The sexual harassment of Women at workplace (Prevention, Prohibition and Redressal Act 2013)". The aim of the committee is to provide a safe working environment to girls and women.



# CO-CURRICULAR ACTIVITIES

#### Seminars & Conferences

In order to promote awareness and understanding of emerging trends in science, our college organizes **INNERVATE** Series (National Seminars & Conferences) on various topics as innovations in basic sciences in the realm of modern educational system, Life science technologies: an Emerging Frontier, Stepping up with bio scientific technologies, Nano technology.

#### **Students Seminar Competition**

Scintillation is the state level Seminar Competition organized by Bajaj College of Science, Wardha every alternate year. The aim of this competition is to provide an academic platform to the B. Sc. students for expressing their views on a science topic of their own interest.

#### **Skill Enhancement Programme**

To improve the skills of the students, hands on training is provided on sophisticated instruments like FTIR, PCR, XRD, etc., either by engaging parallel sessions or by conducting Workshops on topics like Micro scale techniques, Synthesis of Nonmaterials.

#### **Inter-Collegiate Competitions**

Students of the college are encouraged to participate n various inter-collegegiate competitions. Our college has a tradition of bagging prizes every year at various seminar, quiz, project competitions. Our students have also excelled in various talents search examinations and aptitude tests.

#### **Students Internship Programme**

Meritorius B.Sc. students have received prestigious INSA summer interns in the summer season of 2019. These INSA recipients of BCS had received research training in some of prestigious National Institutions such as National Centre for Cell Science (NCCS), Pune, Central Drug Research Institute (CDRI), Lukhnow and Indian Institute of Astrophysics (IIA), Bangalore. Apart from these internship placements, other meritorious B.Sc. and M.Sc. students have received summer training in other Institute from Pune. BCS teaching staff enthusiastically support and help B.Sc. and M.Sc. students for various internship programmes.



### STUDENTS ACHIEVEMENTS

# **University Rank Holders**



#### Joint Admission Test for M. Sc. (IIT-JAM) 2021



Mr. Rahul Baisare



Ms. Pranjal Nandeshwar

war Mr. Karti



Mr. Kartik Gokhe



**Glimpses of Autonomy** 

Indian National Science Academy (INSA) Summer Intern Fellows - 2019

Miss Trupti Murkute



**Miss Annam Sayyad** 

#### **Opportunities Encashed**

Title of the linkage	Name of the partnering institution/ industry/ research lab with contact details	Duration (From-To)	Participant
Summer Internship program for UG students	Centre for Materials for Electronics Technology C-MET Pune: Ministry of Electronics & Information Technology (Meity), Govt. of India	02/05/2019 to 05/07/2019	Ms. Urvi Gupta
students	National source of microbial resource (NCMR), Pune	20/05/2019 to 28/06/2019	Ms. Kalyani Badhiye
	National Institute of Technology, Rourkela, Odisha	May 2019 to July 2019 (3 Months)	Ayushi D Chaudhari
	National Institute of Technology, Rourkela, Odisha	May 2019 to July 2019 (3 Months)	Aaditya Vilas Bhaskarwar
	Department of Instrumentation Science, Savitribai Pune University, Pune	6/5/2019 to 17/6/2019	Mr AC Nagrale
Summer Research Fellowship	Sponsored by IASC (Banglore) and INSA (New Delhi) and NASI (Allahabad)	2/5/2019 to 2/7/2019	Mr Kartik G. Gokhe
Programme	National centre for cell sciences (NCCS), Pune	10/5/2019 to 12/07/2019	Ms. Trupti Murkute
	Wadia College, Pune	22/5/2019 to 23/6/2019	Ms. Naincy Jalan

The college is spread over 37.55 acre area. It has well ventilated sufficient number of spacious classrooms. These classrooms are well acquainted with conventional as well as advanced teaching aids. All science departments have separate sections and laboratories for general as well as research programmes. The college has got a separate multipurpose hall (Gandhi Memorial Hall) and a separate seminar hall. Newly constructed Dr. Damle library with a massive diverse collection of books adds to the strength of the college. Special research facilities include Central Instrumentation laboratory which has high-end research equipment like X-ray diffraction, FTIR, UV-vis., Gel doc, PCR etc. Other teaching-learning facilities include Language Laboratory cum ICT center with net connectivity for students. College also has a separate Girl's common room. Girls' hostel and faculty quarters are located in the campus itself.

College has a separate health center, gymnasium, botanical garden, canteen and different playgrounds for different sports. Open area activity center Kalaniketan adds to the rich cultural heritage of the college. Recently college has got a newly constructed separate life science wing and smart classrooms.

Explore our campus via google earth: https://goo.gl/XtYLby



Access To Library Stacks



High Speed Internet in ICT Center



CCTV Surveillance



College Canteen



Reprography Facility



Fire Extinguisher



Wi-Fi Facility



Health Club



First Aid Kit

# Why to get into Bajaj College of Science?

DST-FIST Supported



Extra-curricular activities Autonomous Institute with NAAC 'A' Grade RUSA Supported

# Nationalistic, Values based, quality Education

College with Potential for Excellence (UGC)

Bajaj College of Science, Wardha was established in 1962 by Shiksha Mandal, Wardha with the prime objective of catering science education. It is a grant in-aid college under Maharashtra State Board of Secondary and Higher Secondary Education, Nagpur. It is a Linguistic Minority institution offering Std XI and XII, undergraduate, postgraduate and Ph.D. programme in science. The college was the first institution to be accredited in the entire Vidarbha in 1999. The 55 year long academic voyage of the college has culminated in reaccreditation by NAAC with CGPA 3.21 leading to 'A' grade institute. College has already been honored with a status of College with Potential for Excellence (CPE-11) by UGC, New Delhi. Since its inception in 1962, the college has continuously produced number of scientific minds who are rendering their services in different reputed institutions of our Nation. Now, as the trendsetter pioneering institute, we are ready to fly even higher to provide more opportunities to our students for higher studies and placement.



Sports (Gymnasium, separate playgrounds of Basketball, Volleyball, Badminton, Cricket, Football etc.) Qualified Staff Well Equipped Laboratories ASTRO CLUB RICH CLUB INCUBATION CENTER Linkage with topmost National Research Institutes

**Dr. Damle Library** 

# Bajaj College of Science, Wardha

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