

Shiksha Mandal's
Bajaj College of Science, Wardha (Autonomous)

Department of Zoology

About the Department

The department aims at providing the students with a comprehensive foundation in basic and applied aspects of Animal Science enhancing their employment potential, and embarking on meaningful research. Since the inception of the college, in the year 1962, the Department of Zoology has been established as a leading centre for higher education in animal sciences. The Department was the first recognized Department in the District of Wardha. The department is equipped with a basic instrumentation facility, which has recently been upgraded with a number of modern Analytical instruments by prestigious grants fetch by the college (Centre Potential for Excellence from the University Grant Commission and Star College status from the Department of Biotechnology, Government of India). At present, the department is running 3 years of UG (B.Sc. course), and 2 years of PG course. The Department of Zoology has been holding various workshops, conferences, and Seminars of leading scientists to provide a platform for scientific insights and update the latest frontier of research to students. To further strengthen teaching and research separate laboratories with state of art teaching-learning facility is available. Department has an up-to-date departmental library with the latest editions of books, internet facilities for students and a well-established museum of local fauna with a unique collection.

Highlights of the Department

- Well-equipped UG and PG laboratories with more than 50 experimental setups.
- Models and specimens for a better understanding of the animal World.
- Well-arranged museum with representatives of all phylum.
- Activities like guest lectures, educational tour to research institutes, workshops on animal cell culture, molecular biology and apiculture.
- Model competition.
- Seminar competition

Courses / Programmes Offered

Undergraduate

Three year B.Sc. Course

Postgraduate

Two year M.Sc. Course

Specialization: Animal Physiology

Certificate Course

Certificate course in Vermicompost Technology

Faculty Profile

| Name | Qualification | Designation | Specialization | Area of Research |
|------------------------------|----------------------------------|------------------------------------|------------------------|--|
| Regular faculties | | | | |
| Dr. M.R. Chandrakar | M.Sc , Ph.D., SET | Associate Professor and Head | Animal Physiology | Molecular Biology |
| Dr. A. D. Theng | M.Sc, Ph.D., CSIR-UGC NET | Assistant Professor | Molecular Biology | Free radical Biology and ageing |
| Mr. V. P. Khandwekar | M.Sc. CSIR- UGC NET | Assistant Professor | Entomology | Entomology and biomaterials |
| Dr. V. J. Sharma | M.Sc, Ph.D. | Assistant Professor | Fresh water Zoology | Toxicology, Solid waste management, vermicomposting |
| Dr. Saikat Biswas | M.Sc., Ph.D., CSIR-NET JRF | Assistant Professor | Molecular Biology | Neurobiology Neuroendocrinology |
| Contractual faculties | | | | |
| Ms. Suchita Tingusale | M.Sc., SET | Assistant Professor | Animal Physiology | Animal Physiology |
| Ms. T.R. Bhute | M.Sc. | Assistant Professor | Animal Physiology | Animal Physiology |

Supporting Staff

| Name | Designation |
|--------------------|---------------|
| Mr. S. H. Yende | Lab Assistant |
| Mr. P. S. Sable | Lab Attendant |
| Mrs. N. N. Jugnake | Lab Attendant |

Highlights of Syllabus under academic Autonomy

- The Syllabus is framed to ensure that undergraduate students with Zoology as one of their subjects can avail of higher studies in Zoology or any other allied fields of Biology. The postgraduate students learning Zoology will have the academic standard in theory and practical for applying in research or in industry.
- Modifications are done in UG Syllabus where repetition of topics is avoided and more practical-based concepts are included.
- The syllabus ranges from traditional Zoology like classification and systematics to more modern Zoology like molecular biology and cell culture.
- The postgraduate syllabus is revised keeping in mind competitive exams like CSIR-UGC NET and SET.
- Multidisciplinary subjects like Biochemistry is included in the postgraduate syllabus which gives the students a wider scope in research and in academics.
- More practical based topics are included in the postgraduate giving students more hands on approach to learn the subject.

Research

List of approved Research Supervisors / Guide

| Sr. No. | Name |
|---------|---------------------|
| 1 | Dr. M.R. Chandrakar |

List of ongoing projects

| Sr. No. | Name of Project | Funding Agency | Name of Investigators | Amount Sanctioned |
|---------|---|--------------------|--|-------------------|
| 1 | Investigations on Larvacidal activities of different green synthesized nanoparticles on various genus of mosquitos found in Wardha region | RGSTC, Maharashtra | Mr. V.P. Khandwekar (Investigator) Dr. S. P. Biswas (Co-Investigator) | Rs. 2,00,000/- |

List of completed projects

| Sr. No. | Name of Project | Funding Agency | Name of Investigators | Amount Sanctioned |
|---------|---|--------------------------------|-----------------------|-------------------|
| 1 | Effect of waves generated by mobile phones on development of chick embryo | UGC 42- 510/2013 (SR) | Dr. M.R. Chandrakar | Rs. 11,78,400 |

Research articles

Papers published in National/International Journals (*Last 5 years*)

| Sr. No. | Authors | Paper Title and Journal information | Year |
|-----------------------------|---|---|------|
| Dr. M. R. Chandrakar | | | |
| 1 | Chandrakar M. R., Kalwade P. S., Pachlore G. S. | Biodiversity of Moths in Hinganghat Taluka, Wardha, Maharashtra (India). <i>Advances in Zoology and Botany</i> , 10(1), 18 - 24. DOI: 10.13189/azb.2022.100103. | 2022 |
| 2 | Mamata Chandrakar | The effect of exposure of EMF radiations from cell phones on percentage of Glucose, Cholesterol and Protein in developing chick embryos <i>Applied ecology and environmental sciences</i> , 2020, vol.8, No. 6, 422-427. | 2020 |
| Dr. A.D. Theng | | | |
| 3 | Amol D. Theng | A Correlational study of cranio-vertebral angle with smart phone uses time in progression of forward head syndrome among post graduate students. <i>Int.Res.J. of Science and Engineering</i> , 2019, vol 7, issue 3 47-50 | 2019 |
| Dr. S.P. Biswas | | | |
| 4 | Jadhao, A.G., Biswas, S.P., Bhoyar, R.C., Pinellie, C | The distribution of nicotinamide adenine dinucleotidephosphate-diaphorase(NADPH-d) in the medulla oblongata, spinal cord, cranial and spinal nerves of frog, <i>Microhyla ornata</i> . <i>J. Chemical Neuroanatomy</i> 2017, 81:76-86 | 2017 |
| 5 | Bhoyar, R.C., Jadhao, A.G., Sivasubbu, S., Singh, A.R., Sabharwal, A., Palande, N.V., Biswas, S | Neuroanatomical demonstration of calbindin 2a-and calbindin 2b-like calcium binding proteins in the early embryonic development of zebrafish: mRNA study. <i>J. Dev Neurosci.</i> 60: 26-33. | 2017 |

Papers published in conference (Last 5 years):

| Sr. No | Title of Invited Talk /Paper Presented | Title of Conference / Seminar/Year | Event Organized by | International/ National /State/ regional/ college or university level |
|-----------------------------|---|--|---|--|
| Dr. A. D. Theng | | | | |
| 1 | Screening and exploration of microbe based attractant for mosquito : One step toward novel mosquito control method | 2 nd virtual annual international conference on naturopathy, nanotechnology, nutraceuticals and immunotherapy in cancer research ICN3IC 21, 11-12 JUNE 2021 | Jointly organized by School of life sciences,BSACIST, Purdue University USA | International |
| 2 | Evaluating the potential of hen egg albumin for supporting the survival of human lymphocytes in primary cell culture. | National conference on basics in advances in biological sciences 8-9 Apr, 2022 | DRB Sindhu mahavidyalayat Nagpur | National |
| Mr. V. P. Khandwekar | | | | |
| 3 | Biogenic synthesis of silver nanoparticles using aqueous plant extracts of <i>Azadirachta indica</i> , <i>Laurus nobilis</i> and <i>Melaleuca alternifolia</i> for targeting opportunistic microbes | National conference on basics in advances in biological sciences 8-9 Apr, 2022 | DRB Sindhu mahavidyalayat Nagpur | National |
| Dr. M.R. Chandrakar | | | | |
| 4 | Effect of allethrin based mosquito repellent inhalation on haematological parameters of common male Indian Field Rat, <i>Rattus rattus</i> | Second international web conference on Advanced material science and nanotechnology 23-25 November, 2021 | Pravin Khodke memorial trust Amravati's Vinayak Vidnyan Mahavidyalaya, Nandgaon Khandeshwar, Amravati | International (Within country) |

| | | | | |
|---|--|---|--|--------------------------------|
| 5 | Comparative Study Of Body Mass Index among male and female student groups | International web conference on Advanced material science and nanotechnology , (NANOMAT-2020) 20-21, June 2020 | VinayakVidnyanMahavidyalaya, NandgaonKhandeshwar, Dist. Amravati. | International (Within country) |
| 6 | A survey to understand the impact of home schooling on children's due to lockdown and role of women as a bridge between school and schooling; International journal of science technology and management | One day international E-conference Queens of ERA – 2021 23 March, 2021 | G.S.Tompe Arts, Commerceand Science College, Chandur Bazar, Dist. Amravati | International (Within country) |
| 7 | Constraints analysis of Kadaknath Meat preference over other poultry birds meat in the district of Amravati using Garret Ranking Method. | National multidisciplinary e- conference on research in science & technology for sustainable development 23 March 2021 | Rajashri Sahu Science College, Chandur Railway Dist.- Amravati | National |

Facilities

| Departmental Library | Session | No. of Books /Journals |
|--|---|------------------------|
| | 2021-22 | 445 |
| Internet facilities for Staff & Students | 3 desktop with internet facility Central Library with ICT facility | |
| Laboratories and Staff room (with dimensions) | UG Lab - 54' x 27.3' Lab No. 1 PG - 21.6 'x 27.6' Lab No. 2 PG- 21.6' X 32' Research Lab- 21.6'x 22.6' | |

| | |
|--------------------|----------------|
| Museum - | 27' X 21.6' |
| ATC Storage- | 21.6'x10' |
| Media Preparation- | 18'x12' |
| ATC Laboratory - | 21.6' X 22.00' |
| Staff Room- | 27' X 21.6' |



Undergraduate Laboratory



Post-graduate Laboratory

Research Laboratory



Departmental Museum



Departmental Library

Sophisticated Instruments / Major Laboratory Equipment

| Sr. No. | Name of Equipments | Make | Qty. |
|---------|---|-----------------------------|------|
| 1 | Water Bath | Tempo | 1 |
| 2 | Single distillation unit | Bhanu | 1 |
| 3 | Incubator | Tempo | 1 |
| 4 | Hot air oven with digital controller | Tempo | 1 |
| 5 | Digital Colorimeter | Systronics | 1 |
| 6 | Deep freezer | Remi | 1 |
| 7 | Cooling Centrifuge with voltage stabiliser & Angle head | Remi | 1 |
| 8 | Water & Soil analysis kit | Naina | 1 |
| 9 | Trinocular Research Microscope with digital camera | Olympus Canon G11 camera | 1 |
| 10 | Mini Vertical Gel Electrophoresis Unit | Genei | 1 |
| 11 | Mini Submarine Gel Electrophoresis Unit | Genei | 1 |
| 12 | Variable Type power pack | Genei | 1 |
| 13 | Pipette Variable Volume - 2 (0.5-10 ul) | Bioera | 1 |
| 14 | Pipette Variable Volume - 4(20-200 ul) | Bioera | 1 |
| 15 | Pipette Variable Volume - 3 (5-50 ul) | Bioera | 1 |
| 16 | Autoclave | Tempo | 1 |

| Sr. No. | Name of Equipments | Make | Qty. |
|----------------|---|-------------|-------------|
| 17 | Analytical Balance | LCGC RADWAG | 1 |
| 18 | U. V. Visible Spectrophotometer | Schimatzu | 1 |
| 19 | Microscope | Magnus | 2 |
| 20 | Horizantal electrophoresis | Genei | 1 |
| 21 | Vortex | Genei | 1 |
| 22 | Microwave Oven | Koryo | 1 |
| 23 | Gel rocker | Genei | 1 |
| 24 | Magnus image Projection system | Magnus | 1 |
| 25 | Magnus inverted microscope | Magnus | 1 |
| 26 | Microfilt Biosafety Cabinet class II Type A2 | Microfilt | 1 |
| 27 | CO2 Incubator Water jacketed series (With Voltage stabilizer and CO2 regulator) | Cintex | 1 |
| 28 | Medimeas Cryostat Microtome with Voltage stabiliser | Medimeas | 1 |
| 29 | Refrigerator | Samsung | 1 |
| 30 | UPS | APC | 1 |
| 31 | Variable Volume Micropipette (0.5 - 10 ul) | GENEI | 1 |
| 32 | Variable Volume Micropipette (20 - 100 ul) | GENEI | 1 |
| 33 | Variable Volume Micropipette (40 - 200 ul) | GENEI | 1 |
| 34 | Micropipette (200 - 1000 ul) | GENEI | 1 |
| 35 | Stereo Zoom Research Microscope with adapter | Carl zeiss | 1 |

| Sr. No. | Name of Equipments | Make | Qty. |
|----------------|--|-------------|----------------|
| 36 | Inclined Monocular Microscope (Model No. MLX-M) | Magnus | 4 |
| 37 | Burette metal stand with clamp | LLS | 10 |
| 38 | Air Curtain 3' x 7 with sensor | Russ. | 1 |
| 39 | Variaspenser 0.25 - 2.5ml | Tarson | 2 |
| 40 | Variaspenser 0.5- 5ml | Tarson | 2 |
| 41 | Variaspenser 1-10 ml | Tarson | 2 |
| 42 | Variaspenser 2.5 - 25 ml | Tarson | 2 |
| 43 | Variaspenser 5-50 ml | Tarson | 2 |
| 44 | Binocular Microscope LED Model : Vision 2000 | Labomed | 5 |
| 45 | Homoenizer | Remi | 1 |
| 46 | Advance Rotary Microtome (Latest "Spencer" 820-Type) | Medimeas | 1 |
| | Disposable blade holder for low profile/high profile blades | | 1 |
| | Disposable blade for low profile/high profile blades (pack of 50) | | 1 |
| | Automatic knife sharpner (spencer type) | | 1 |
| | Knife Sharpner abrasive (two bottles of 200 ml) | | 1 pack of 2 |
| 47 | UV Face Shield (imported) | | 1 |
| 48 | UV Trans-illuminator Regular, Viewing Area of 20 x 14 cm | | 1 |

| Sr. No. | Name of Equipments | Make | Qty. |
|----------------|--|--------------------------|-------------|
| 49 | Contech Digital Balance (Model No. CAS-234 without motorized internal calibration | Contech | 1 |
| 50 | Magnetic Strirrer cum Hot plate (Cat-6030, Size 18x18 cm, Capacity 5Ltr | Tarson | 1 |
| 51 | Microscopes (Molocular Laboratory Microscope Model HB) | Magnus | 10 |
| 52 | Digital Micro Pipette, Increment 0.2 μ l : 20-200 ul | Genaxy (GENSLEEK - 200) | 10 |
| 53 | Digital Micro Pipette, Increment 1 μ l : 100-1000 ul | Genaxy (GENSLEEK - 1000) | 2 |
| 54 | Magnus Mono Microscope (Model no. HM 100) | Magnus | 7 |
| 55 | Digital Portable Muscle Stimulator | Biotech | 1 |
| 56 | Soxhlet Extraction Unit | B.K. Instrument Co. | 1 |



UV-Visible Spectrophotometer



Vortexer



Dissecting Microscope



pH meter



Water bath



Microtome



Homogenizer



Centrifuge



Soxhlet Apparatus

Activities

- Organized a study tour to NEERI, Nagpur on 28.2.2018.
- Organized guest lecture and workshop under the banner of Edu- Bridge in association with NCCS Pune by Dr. Abhitabha Mujumdar (Scientist D) on 21.12. 2018.
- Organized State-level Biogenius Competition in association with Alumni Association Govt. Vidarbha Institute of Science and Humanities, Amravati on 13.12.2020.
- On 28.2.2020 organized quiz competition, model exhibition and bird feeder distribution.

- Organized Online workshops and Lectures for UG and PG students. Two lectures by Dr. Jayant Biswas and Dr. R.P. Chondekar and Three days of an online workshop conducted by CUBE, HBCSE, Mumbai (08.06.21 to 16.06.21)
- Organized an online lecture on Next Generation Sequencing by Dr. Rahul Bhojar (28.09.2021)
- Organized a guest lecture in association with Department of Botany on 'All about owls' by Dr. Jayant Wadatkar to celebrate Wildlife week (04.10.2021)
- Organized a guest lecture on 'Introduction to forensic biology' by Dr. Archana Mahakalkar to inaugurate the Zoological Society of the Department. (12.02.2021)
- Organized Scientific Model, Rangoli and Poster Competition to Celebrate the National Science Day (28.02.2022)
- Organized State-level Biogenius Competition in association with Alumni Association Govt. Vidarbha Institute of Science and Humanities, Amravati on 28.03.2022
- Organized an Elocution Competition on the occasion of International Tiger Day on 29.07.2022
- Organized a guest lecture of Dr. Kanchan Phatak in association with Bajaj Science Education Center on 11.09.2022
- Celebrated the Wildlife week by organizing a postcard painting competition and a guest lecture of RFO Rupesh Khedkar on 4.10.2022

Photo Gallery

Link for Photo Gallery : [Click here](#)

Academic Achievements of Students

| Sr. No. | Name of the student | Competitive/Entrance Exam |
|---------|--------------------------------|---------------------------------|
| 1 | Ms. Rewati Lonkar | SET 2021 |
| 2 | Ms. Prajakta Rajesh Chalurkar | SET 2022 |
| 3 | Mr. Tejas Diliprao Tajane | SET 2022 |
| 4 | Ms. Pranita Diliprao Ashtankar | RTMNU PET |
| 5 | Ms. Kaumudini Bhimrao Ambade | Gondwana University PET 2022 |

| | | |
|---|---------------------|----------|
| 6 | Mr. Prafull Kalwade | NET 2022 |
|---|---------------------|----------|

Student Placements

| Sr. No. | Name of students placed | Name of the employer | Pay package at appointment |
|---------|-------------------------|---|----------------------------|
| 1 | Ms. Prajkta P. Bhutey | Tata Consultancy Services, Nagpur | NA |
| 2 | Ms. Pallavi D. Ughade | Tata Consultancy Services, Nagpur | NA |
| 3 | Ms. Vedika D. Fatinge | Tata Consultancy Services, Nagpur | NA |
| 4 | Ms. Aishwarya Mhaiskar | Tata Consultancy Services, Nagpur | 3.0 Lakh |
| 5 | Ms. Suhas Dandekar | Xeam Ventures Pvt. Ltd. | 3.24 Lakh |
| 6 | Ms. Ashlesh Katpatwar | NEERI, Nagpur | 3.0 Lakh |
| 7 | Ms. Afsana Saudagar | Dept. of Paediatrics, MGIMS, Sewagram | 3.72 Lakh |
| 8 | Ms. Revati Lonkar | Shiksha Mandal's Bajaj College of Science, Wardha | 1.65 Lakh |
| 9 | Ms. Trupti Bhute | Shiksha Mandal's Bajaj College of Science, Wardha | 1.65 Lakh |
| 10 | Mr. Sanket Bhoyar | Uttam Value Steel Limited, Wardha | 1.85 lakh |
| 11 | Mr. Snehal Dhone | Jennifer, Project Manager, TCS, Nagpur | 3.5 Lakh |
| 12 | Ms. Sayali N. Jagtap | Pyramid IIT-JEE Medical Foundation Nagpur. NANDANVAN CENTRE Bhande plot square, Umred road, Nagpur. | 2.4 Lakh |
| 13 | Ms. Pratiksha Getme | Ishved Biotech Pvt Ltd. (Tissue culture laboratory) Aurangabad-Nagpur Highway, Sindkhedraja, Buldhana-443001 | 1.2 Lakh |
| 14 | Ms. Nikita Khare | Dr. Suvarna Patil, HoD, Taywade College, Mahadula- Koradi (Nagpur) | 0.96 Lakh |
| 15 | Mr. Anup Mate | New Arts, Commerce and Science College, Wardha | 0.96 Lakh |
| 16 | Ms. Hemlata Wanjari | Excellence Academy, Karanja Ghadge, Dist. Wardha - 442001 | 0.96 Lakh |

| | | | |
|----|-----------------------------|--|-----------|
| 17 | Ms. Laxmi Gharpure | Punjab National Bank, Wardha | 2.76 Lakh |
| 18 | Mr. Praful Kalwade | Vidya Vikas Arts, Commerce and Science College, Samudrapur | 1.2 lakh |
| 19 | Ms. Kalyani Sahare | Swami Vivekanand College, Amgaon | 0.84 Lakh |
| 20 | Ms. Prajakta Charulkar | Mount Carmel Convent School, Samudrapur | 1.8 lakh |
| 21 | Miss. Snehal Mogarkar | Aditi Healthcare Management, Mumbai | 2.00 Lakh |
| 22 | Miss. Vaishnavi Chauhan | Oasis Fertility, Secunderabad, Hyderabad | 3.80 Lakh |
| 23 | Ms. Ashwini Nasare | Bajaj Science Centre, Wardha | 1 lakh |
| 24 | Mr. Snehal Dhone | Tata Consultancy Services, Nagpur | 3.5 lakh |
| 25 | Ms. Vishuddha Alone | School Teacher | 1 lakh |
| 26 | Mr. Tejas Tajne | MGIMS, Sewagram | 3.6 lakh |
| 27 | Ms Shivani Ramesh Bhomle | Shiksha Mandal's Bajaj College of Science, Wardha | 1 lakh |

E-content

E content Links for UG

- <https://firstyearbcsw2021.gnomio.com>
- <https://biobcsw.gnomio.com>
- <https://ugzoology.gnomio.com>

E content Links for PG:

- <https://pgzoology.gnomio.com/>