

• **About the Department:**

Department of Microbiology

Mahatma Gandhi Sarvodaya Sangh's

Padmashri Manibhai Desai Mahavidyalaya, Uruli Kanchan

Affiliated to Savitribai Phule Pune university

• **Departmental Overview:**

Established in **2002**, the **Department of Microbiology** has grown into a vibrant academic unit committed to excellence in teaching, learning, and research. With an **annual intake of 120 students**, the department offers a comprehensive **three-year undergraduate program (B.Sc. Microbiology)** that equips students with in-depth knowledge and practical skills in various fields of microbiology.

Since its inception, the department has been committed to producing skilled microbiologists capable of contributing to diverse sectors such as healthcare, pharmaceuticals, biotechnology, food and dairy industries, environmental management, and scientific research. Through continuous improvement and innovation, the Department of Microbiology strives to nurture responsible, knowledgeable, and employable graduates who can address current and emerging challenges in the microbial world.

• **Highlights:**

- ICT-enabled and experiential teaching-learning practices
- Mentor–Mentee and Class Guardian system for academic and personal guidance
- Strong industry collaboration for internships, projects, and placements
- Regular guest lectures, industrial visits, departmental activities, model and poster competition, Quiz competition
- Focus on innovation, skill enhancement, and holistic student development
- Certificate courses in Biofertiliser Production, Mushroom Production and Cultivation, Milk Adulteration

• **Infrastructure :**

- The Department of Microbiology is well-equipped with modern infrastructure to support effective teaching, hands-on training, and research.
- Spacious and well-ventilated classrooms equipped with projectors, boards, and audio-visual aids.
- The department has **fully functional and specialized laboratories** for undergraduate training and student research
- Modern instruments and equipment available in the department include:
 1. Autoclaves and Laminar Air Flow Cabinets
 2. Incubators
 3. Centrifuge

4. pH Meters and Colorimeters
5. Gel Electrophoresis Unit
6. Hot Air Oven and Rotary Shaker
7. Microscopes: Light, Compound

• **Objective:**

- To impart comprehensive knowledge and practical skills in microbiology
- nurturing students with scientific temper, critical thinking, and ethical values to prepare them for careers in research, healthcare, industry, and higher education.

• **Vision:**

To be a center of excellence in microbiological education and research, fostering innovation, sustainability, and societal impact through scientific advancement and skilled human resource development.

• **Mission:**

1. To provide a strong foundation in microbiological concepts through high-quality teaching and hands-on laboratory training.
2. To encourage curiosity-driven learning and promote research aptitude among students.
3. To develop competent microbiologists capable of contributing to healthcare, agriculture, environment, and industry.
4. To instill values of scientific ethics, environmental responsibility, and lifelong learning.
5. To establish collaborations with academic, research, and industrial organizations for student development and knowledge exchange.

• **Staff Details**



Name: Anuja Sudhakar Zate

Designation: Head of the Department

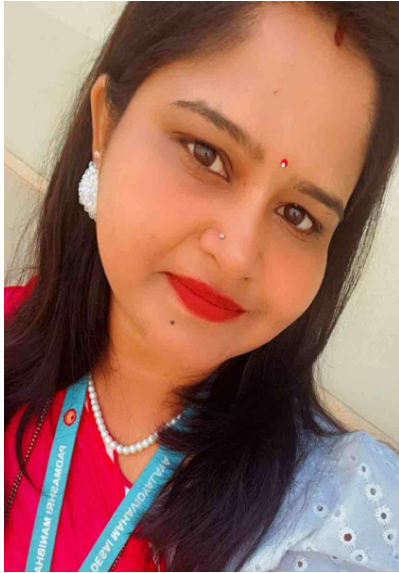
Qualification: B.Sc. Microbiology, M.Sc. Microbiology, SET

Email ID: anujazate122@gmail.com

Contact No: 9175275168

Experience (in Years): 9 Years

Expert Area: Genetics, Agriculture, Molecular Microbiology, Food Microbiology



Name: Pratiksha Dilip Kodre

Designation: Assistant Professor

Qualification: B.Sc. Microbiology, M.Sc. Microbiology, DMLT, Post Graduate Diploma in Clinical Research

Email ID: kodrepratiksha@gmail.com

Contact No: 8600742592

Experience (in Years): 5 Years

Expert Area: Medical Microbiology, Fermentation Technology, Air and Water Microbiology



Name: Swati Dnyaneshwar Masalkar

Designation: Assistant Professor

Qualification: B.Sc. Microbiology, M.Sc. Microbiology, B.Ed

Email ID: swatidm96@gmail.com

Contact No: 7758897713

Experience (in Years): 6 Years

Expert Area: Immunology, Enzymology, Bacterial Physiology



Name: Vrushali Prafull Mahadik

Designation: Assistant Professor

Qualification: B.Sc. Microbiology, M.Sc. Microbiology

Email ID: vrushaliprafull5454@gmail.com

Contact No: 9854375454

Experience (in Years): 0.4 Years

Expert Area: Dairy Microbiology, Marine Microbiology, Nanobiotechnology



Name: Seema Rajendra Visnagarkar

Designation: Lab Attender

Qualification: HSC

Email ID: seemavishnu12@gmail.com

Contact No: 8329524068

Experience (in Years): 6 Years

Photos of Infrastructure





















• **Research Paper-**

Sr. No.	Name of Faculty	Workshop/Seminar/Conference	Level (National/International/State)	Activity (Participation/Paper Presentation)	Journal Name	ISB N/ISSN No.	Title of Paper
1	Prof. Anuja Zate	Conference	International	Paper Presentation	International Journal of Multifaceted and Multilingual Studies	978-81-984753-50	Study on antimicrobial property of <i>Agaricus bisporus</i>
	Prof. Anuja Zate		International	Paper Publish	International Journal of Recent Scientific Research	978-81-984753-50	An attempt to reduce the fermentation time for making idlis faster
	Prof. Anuja	Seminar	State	Participation		978-81-	Ancient Groves

	Zate					984-753-50	and Modern Science: Bridging Wisdom in Conservation
2	Prof.Pratiksha Kodre	Conference	International	Paper Presentation	International Journal of Multifaceted and Multilingual Studies	978-81-984-753-50	Soil and its role in Sustainable Ecosystem
	Prof.Pratiksha Kodre	Conference	International	Paper Presentation	Sustainable Development; Conference Proceedings	978-81-984-753-50	Isolation of fungi Producing pigment and Characterization of pigment
	Prof.Pratiksha Kodre	Conference	National	Participation			Recent Studies in Applied Sciences
	Prof.Pratiksha Kodre	Seminar	State	Participation			Ancient Groves and Modern Science: Bridging Wisdom in Conservation
3	Prof.Swati Masalkar	Conference	International	Paper Presentation	International Journal of Multifaceted and Multilingual Studies	978-81-984-753-50	Development and Formulation of natural room freshener from <i>Azadirachta indica</i>
				Paper	Gorteria	001	MICP

				Publish	Journal	7-2294	For Sustainable Green Environment
		Seminar	State	Participation			Ancient Groves and Modern Science: Bridging Wisdom in Conservation

• **Book Publish -**

Sr.No	Name of Teacher	Book Name	ISBN/ISSN No.	Name of Publisher
1	Prof.Zate.A.S	Food and Dairy Microbiology	978-93-5473-221-8	International Journal of Microbial Science
		Fermentation Technology and Agricultural Microbiology Practical Handbook	978-93-93337-17-7	International Journal of Microbial Science
		MB-3510 Marine Microbiology	1675371178	International Journal of Microbial Science
2	Prof.Masalkar.S.D	Immunology I	978-93-54-73-210-2	International Journal of Microbial Science
		Fermentation Technology and Agricultural Microbiology Practical Handbook	978-93-93337-17-7	International Journal of Microbial Science
		MB-3510 Marine Microbiology	1675371178	International Journal of Microbial Science

• **Course Structure-**

Sr.No	Course Name	Course Detail	Part	Syllabus
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1	B.Sc. Microbiology	Bachelor of Science in Microbiology	NEP Pat tern	http://collegecirculars.unipune.ac.in/sites/documents/Syllabus2025/S.Y.B.Sc.%20(Microbiology)_14082025.pdf
	B.Sc. Microbiology	Bachelor of Science in Microbiology	NEP Pat tern	http://collegecirculars.unipune.ac.in/sites/documents/Syllabus2025/S.Y.B.Sc.%20(Microbiology)_14082025.pdf
	B.Sc. Microbiology	Bachelor of Science in Microbiology	CB CS Pat tern	http://collegecirculars.unipune.ac.in/sites/documents/Syllabus2021/T.%20Y.%20B.%20Sc.%20(Microbiology)_18102021.pdf

• Key Highlights & Best Practices:

• Class Guardian and Mentor-Mentee System:

A structured mentoring program to ensure personalized academic and emotional support to each student.

• Remedial and Bridge Courses:

Special sessions conducted for academically weaker students.

• Skill Enhancement Courses:

certification courses in Biofertiliser Production, Mushroom Production and Cultivation, Milk Adulteration, Food Preservation.

• Industry Collaboration:

Strategic MoUs with companies and training institutes to facilitate student internships, live projects, and placements.

• Guest Lectures and Industry Talks:

Regular sessions conducted by industry professionals to keep students updated with the practices.

• Teaching Pedagogy:

The Department of Microbiology follows a **student-centric and multidisciplinary teaching pedagogy** that promotes critical thinking, practical application, and scientific curiosity. The teaching approach blends **theoretical knowledge** with **practical exposure**, preparing students for academic, research, and industrial roles. Faculty adopt innovative strategies including:

- Interactive lectures and concept-based teaching

- Problem-solving sessions and group discussions
- Case studies and scenario-based learning
- Project-based learning and research assignments
- Inquiry-based learning to nurture curiosity and exploration

• **ICT Integration in Teaching:**

To enhance the quality of education and student engagement, the department extensively uses **Information and Communication Technology (ICT)** tools. This integration supports blended and remote learning while also promoting digital literacy.

Key ICT practices include:

- Use of **projectors and multimedia presentations** during lectures
- **Online platforms** such as Google Classroom, Zoom, and Microsoft Teams for classes and assignments
- Use of **educational videos, animations, and interactive tools** to explain complex microbiological processes
- Digital quizzes, and presentations

• **Laboratory & Practical Work:**

Practical training is a core component of the B.Sc. Microbiology program. The department maintains **well-equipped laboratories** that meet academic and safety standards. Practical sessions are designed to complement theoretical learning and develop essential technical skills.

Key features:

- Regular laboratory sessions on microbial staining, culturing, biochemical testing, and sterilization techniques
- Experiments in immunology, molecular biology (electrophoresis), and environmental microbiology
- Training in **handling laboratory equipment**, aseptic techniques, and documentation
- Encouragement for students to conduct **minor and major research projects**
- Emphasis on **lab safety, record keeping**, and adherence to scientific protocols

• **Assessment & Evaluation:**

A transparent and continuous assessment system is followed to track academic progress and skill development. The department uses **formative and summative evaluation methods:**

- **Internal Assessments:** Class tests, unit tests, assignments
- **Practical Examinations:** Evaluation based on lab work, viva voce, and experimental skills
- **Semester Examinations:** As per university norms
- **Project Evaluation:** Based on proposal, execution, report writing, and presentation
- **Participation and performance** in seminars, group discussions, and activities also contribute to internal evaluation

• **Co-Curricular and Extra-Curricular Activities:**

The Department of Microbiology encourages holistic development by organizing and promoting various **co-curricular and extra-curricular activities:**

Co-Curricular Activities

- **Student seminars, presentations**
- **Guest lectures** by experts from academia, industry, and research institutes
- **Industrial visits and field trips** to Blood Banks , food industries, research labs, etc.
- Participation in **inter-collegiate science competitions**, exhibitions, and quizzes

Extra-Curricular Activities

- Involvement in **college-level clubs and committees** (e.g., NSS, Cultural Club)
- Participation in **sports, cultural fests**
- Organization of **departmental events, microbiology day, awareness drives**, and health camps

These activities help students build confidence, leadership skills, teamwork, and a sense of social responsibility.