Annual Departmental Report (2025–2026)

Department of Microbiology

Vasantdada Patil Arts, Commerce & Science College, Patoda

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1. Departmental Profile & Vision

The Department of Microbiology at Vasantdada Patil College, Patoda, remains committed to bridging the gap between theoretical science and practical application. The department has focused on diverse branches including industrial, food, and environmental microbiology to prepare students for careers in research and industry.

2. Academic & Curricular Activities

The department successfully integrated field-based learning and technical expertise through several key initiatives this year:

- **Educational Tour (February 14–16, 2026):** A three-day tour to **Panchgani and Mahabaleshwar** was organized for 15 B.Sc. students. Highlights included:
    - **Industrial Exposure:** Visit to **Mapro Garden** to study food preservation, sterilization of glass bottles, and the prevention of fungal growth such as *Aspergillus* and *Penicillium*.
    - **Environmental Studies:** Soil sampling for indigenous actinomycetes and water analysis of freshwater bodies in hilly terrains.
    - **Technical Skills:** Practical understanding of **HACCP (Hazard Analysis Critical Control Point)** and osmotic pressure in food quality control.
- **School Outreach Program (February 28, 2026):** The department hosted 50 students from **Bhameshwari School, Patoda** to spark interest in biological sciences.
    - Students engaged in live demonstrations of **Gram Staining**, microscopy, and the use of autoclaves and Laminar Air Flow (LAF) units.

3. Institutional Quality & Faculty Development

A significant focus was placed on aligning with the latest national accreditation standards:

- **National Webinar on Binary Accreditation System (September 13, 2025):** Organized to familiarize faculty and IQAC members with the **New NAAC framework**.
    - **Resource Person:** Dr. Devendra Deshmukh.
    - **Key Focus:** Transitioning from traditional grading to a binary "Accredited" vs. "Not Accredited" format and the introduction of institutional **Maturity Levels**.

- **Digital Transformation:** Emphasis on online data submission and outcome-based evaluation.

4. Summary of Key Events (2025-2026)

Date	Event / Activity	Target Audience
13/09/2025	Webinar on Binary Accreditation System (New NAAC)	Faculty & IQAC Members
14-16/02/2026	Educational Tour to Panchgani & Mahabaleshwar	B.Sc. Students
26/01/2026	Poster presentation on War of Bacteroides on BPA in our body	B.Sc. Students
28/02/2026	Laboratory Visit & Technical Demonstrations	Bhameshwari School Students

5. Outcomes and Future Goals

- **Student Success:** Enhanced understanding of microbes in daily life, from probiotics to pathogens, and increased awareness of career opportunities in pharmacy and the food industry.
- **Institutional Preparedness:** Strengthened the college's readiness for the upcoming NAAC accreditation cycle through proactive faculty training.
- **Community Impact:** Successful outreach to local schools, promoting scientific temperament among secondary students.

Dr. Abhay R. Kshirsagar
Head, Department of Microbiology Vasantdada Patil College, Patoda

Principal
Vasantdada Patil Arts,Comm.
& Sci.College,Patoda,Dist.

EDUCATIONAL TOUR REPORT: PANCHGANI & MAHABALESHWAR

Organized By: Department of Microbiology, VP College, Patoda

Tour Dates: February 14–16, 2026

Participants: 15 Students of B.Sc. and 1 Faculty Member

Destinations: PANCHGANI & MAHABALESHWAR

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1. Introduction

The Department of Microbiology organized a three-day educational tour to Panchgani and Mahabaleshwar. The objective was to provide students with practical exposure to **Industrial Microbiology** and **Food Preservation** in a real-world setting.

2. Industrial Visit: Mapro Garden & Food Processing (Panchgani)

The primary focus at Mapro was the large-scale production of jams, squashes, and fruit concentrates.

- **Microbiological Controls:** Students observed the sterilization of glass bottles and the use of preservatives to prevent fungal growth (like *Aspergillus* and *Penicillium*).
- **Quality Control (QC):** The technical staff explained the importance of maintaining specific pH levels and sugar concentrations (Brix value) to inhibit microbial spoilage through osmotic pressure.
- **Waste Management:** A look at how fruit pulp waste is treated to prevent environmental contamination.

3. Environmental Microbiology & Biodiversity

During the trek through the Venna Lake area and local forest trails, the group conducted:

- **Soil Sampling:** Collection of soil samples from high-altitude forest floors to study indigenous actinomycetes and nitrogen-fixing bacteria.
- **Water Analysis:** Discussion on the microbial flora of freshwater bodies in hilly terrains.

4. Observations and Outcomes

- **Practical Skills:** Students understood the application of **HACCP (Hazard Analysis Critical Control Point)** in the food industry.
- **Scientific Temperament:** Exposure to research-grade plant of Mapro helped students bridge the gap between textbooks and field research.
- **Team Building:** The tour fostered a sense of collaboration and discipline among the microbiology students.

5. Conclusion

The educational tour to Panchgani and Mahabaleshwar successfully met its academic objectives. It provided a comprehensive look at how microbiology dictates the success of the food industry and agricultural health in the region.

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Dr. Abhay Kshirsagar

Head, Department of Microbiology

VP College, Patoda

1. At Panchgani

2. Mapro Garden

3. Sunset Point

SCHOOL STUDENTS VISIT REPORT:

Date of Visit: February 28, 2026

Organized By: Department of Microbiology, Vasantdada Patil Arts, Commerce & Science College, Patoda

Visiting Institution: Bhameshwari School (Bhameshwar Vaidhyalay), Patoda

Participants: 50 Students of Class 9th and 02 Faculty Members

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1. Objective of the Visit

The primary goal was to bridge the gap between school-level science and advanced academic research. Specifically, the visit aimed to:

- Introduce school students to the diverse world of microorganisms (bacteria, fungi, viruses).
- Demonstrate the practical use of laboratory equipment such as microscopes and autoclaves.
- Highlight the importance of microbiology in daily life, including food safety, medicine, and agriculture.

2. Overview of Activities

A. Laboratory Orientation

Students were welcomed to the Department of Microbiology and given a safety briefing. They were introduced to the "Microbiology Lab Rules" and the importance of a sterile environment to prevent contamination.

B. Technical Demonstrations

The faculty and senior M.Sc. students at VP College conducted several live demonstrations:

- **Microscopy:** Students viewed permanent slides of Gram-stained bacteria under the compound microscope.
- **Sterilization Techniques:** A demonstration of the **Autoclave** and **Laminar Air Flow (LAF)** unit showed how microbiologists create a germ-free workspace.
- **Culture Media:** Students saw how "food" for bacteria (Agar plates) is prepared and how microbial colonies look when grown in a lab.

C. Interactive Session: "Microbes Around Us"

A short lecture was delivered by **Dr. Abhay Kshirsagar**) covering:

- **The Good:** Role of yeast in fermentation (bread/idli) and probiotics in curd.
- **The Bad:** Common pathogens causing diseases and the importance of hand hygiene.
- **The Future:** Career opportunities in Microbiology, including Pharmacy, Food Industry, and Research.

3. Key Learnings for Students

- Understanding that not all "germs" are harmful; many are essential for life.
- Hands-on familiarity with the **Gram Staining** process to differentiate between types of bacteria.
- Real-world application of science beyond their school textbooks.

4. Conclusion

The visit was highly successful in sparking curiosity among the students of Bhameshwari School. By interacting with the advanced facilities at VP College, students gained a clearer perspective on the biological sciences, potentially encouraging them to pursue higher education in Microbiology.

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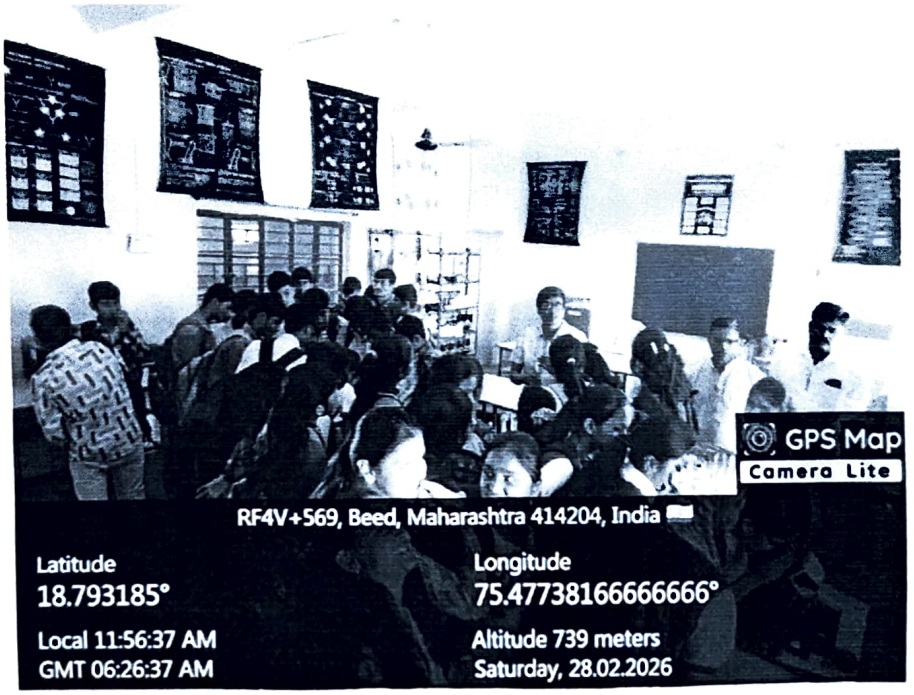
Dr. Abhay Kshirsagar
Head, Department of Microbiology
Vasantdada Patil College, Patoda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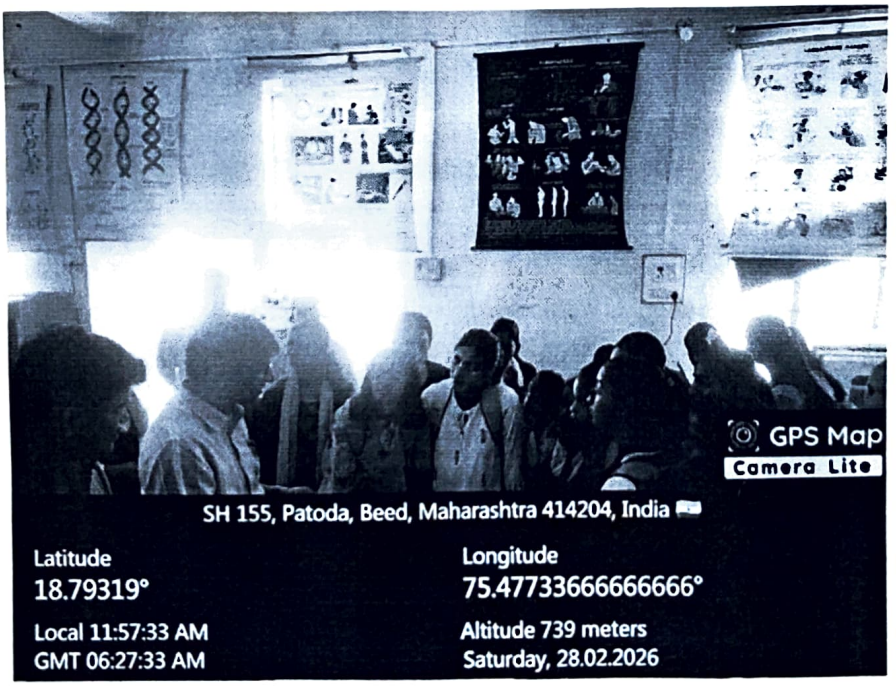
Saturday, 28.02.2026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Report on Webinar on Binary Accreditation System: New NAAC

1. Title of the Programme
Webinar on *Binary Accreditation System*

2. Resource Person
Dr. Devendra Deshmukh
3. Organized By
Department of Microbiology
Vasantdada Patil College, Patoda

4. Date & Mode
Conducted online (Webinar mode) on 13/09/2025

5. Participants
Faculty members, IQAC members, and students of the college

6. Introduction
The Department of Microbiology, Vasantdada Patil College, Patoda organized a webinar on the *Binary Accreditation System* with the aim of creating awareness about recent changes in the accreditation framework of higher education institutions. The session focused on understanding the evolving role of accreditation in maintaining and enhancing quality in education.

7. Objectives of the Webinar
- To understand the concept of Binary Accreditation
- To familiarize participants with new accreditation reforms
- To guide faculty and institutions in accreditation preparedness
- To enhance awareness about quality assurance practices

8. Details of the Webinar
The webinar was delivered by Dr. Devendra Deshmukh, who provided a comprehensive overview of the newly introduced Binary Accreditation System. He explained that the traditional grading pattern will be simplified into a binary format, where institutions will be categorized based on whether they meet the required standards.

Key Highlights:
- **Binary Accreditation Concept**
  Institutions will be classified as *Accredited* or *Not Accredited* based on predefined quality benchmarks.
- **Introduction of Maturity Levels**
  Accredited institutions will further be categorized into different maturity levels, indicating their progress in quality enhancement.
- **Focus on Outcome-Based Evaluation**
  Greater emphasis will be placed on learning outcomes, research, governance, and institutional performance.

- **Role of IQAC**
  Importance of Internal Quality Assurance Cell (IQAC) in documentation, monitoring, and continuous improvement was highlighted.
- **Digital Transformation in Accreditation**
  Increased use of online data submission, transparency, and reduced dependency on physical inspections.

9. Interaction Session

The session concluded with an interactive discussion where participants actively asked questions regarding:

- Preparation for accreditation
- Documentation and data management
- Implementation of quality measures

Dr. Deshmukh addressed all queries with practical insights and suggestions.

10. Outcome of the Webinar

- Enhanced understanding of the Binary Accreditation System
- Improved awareness regarding accreditation requirements
- Motivation among faculty for quality improvement initiatives
- Strengthening of institutional preparedness for accreditation

11. Conclusion

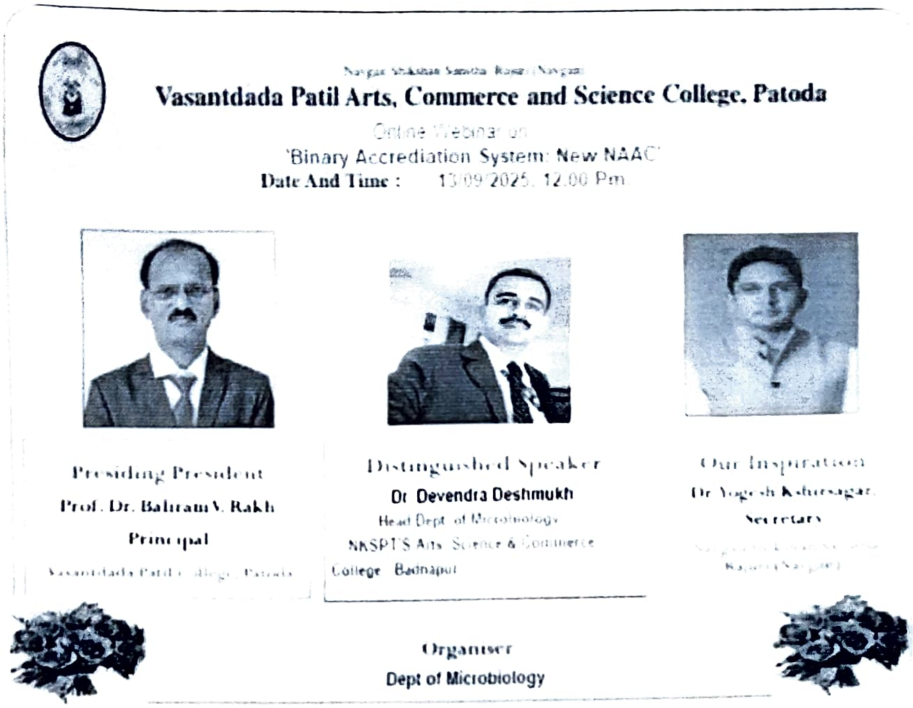
The webinar was highly informative and successfully achieved its objectives. It provided valuable guidance to faculty and students regarding the new accreditation system and emphasized the importance of continuous quality enhancement in higher education institutions.

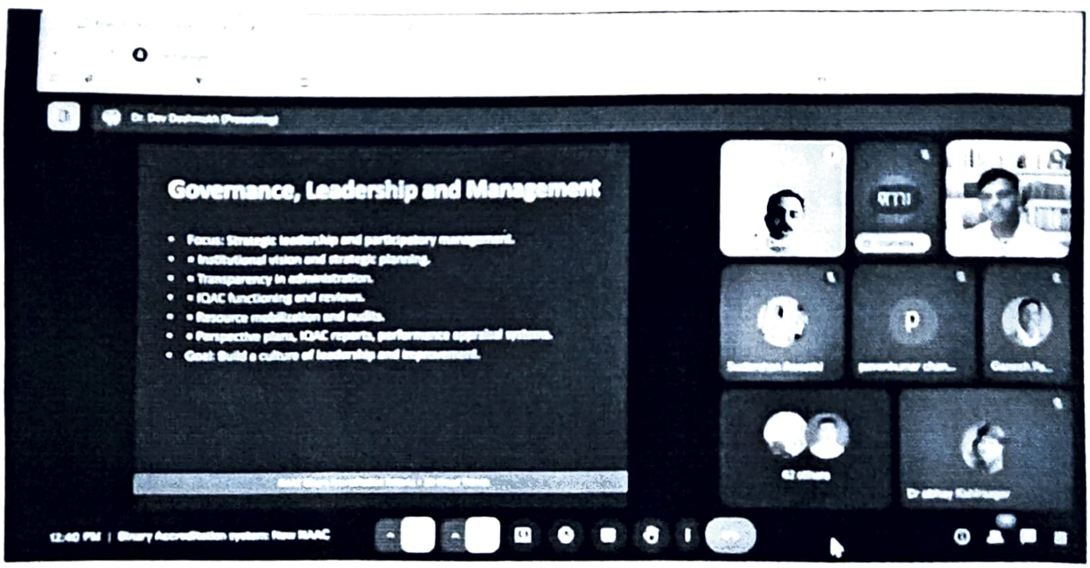
12. Vote of Thanks

The webinar concluded with a vote of thanks by Dr Abhay Kshirsagar, expressing sincere gratitude to Dr. Devendra Deshmukh for his enlightening session and to all participants for their active involvement.

PRINCIPAL

Head
Dept. of Microbiology
(Abhay R. Kshirsagar)


Vasantdada Patil Arts, Commerce and Science College, Patoda
Online Webinar on
'Binary Accrediation System: New NAAC'
Date And Time : 13/09/2025, 12.00 Pm
Presiding President
Prof. Dr. Baliram V. Rakh
Principal
Distinguished Speaker
Dr. Devendra Deshmukh
Head Dept. of Microbiology
NKSPT'S Arts, Science & Commerce
College, Badnapur
Our Inspiration
Secretary
Organiser
Dept of Microbiology


Governance, Leadership and Management
Focus: Strategic leadership and participatory management.
Institutional vision and strategic planning.
Transparency in administration.
IQAC functioning and reviews.
Resource mobilization and audits.
Perspective plans, IQAC reports, performance appraisal systems.
Goal: Build a culture of leadership and improvement.
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