

DEPARTMENT OF MICROBIOLOGY

1. **Name of the Department** : **Microbiology**
2. **Year of Establishment** : **1988**
3. **Courses/ Programmes offered (U.G., P.G., M.Phil., Ph.D. etc.)** : **B.Sc., M.Sc., M.Phil. and Ph.D.**
4. **Interdisciplinary courses and departments involved**

Microbiology department offers interdisciplinary research work for Post graduate research projects and research and development projects of chemistry and other department.

5. Annual semester/ choice based credit system:

UG: Semester and credit system (60+40 and (80+20) CGPA Pattern

PG: Semester and credit system (60+40 CGPA Pattern)

6. Participation of the department in courses offered by other departments:

Applied and Environmental Microbiology, Medical Microbiology, Microbial Biochemistry etc. at T.Y.B.Sc. level and Environmental studies at F.Y.B.Sc. are the inter disciplinary subjects.

7. Courses in collaboration with other universities, industries, foreign institutions, etc.-
NA

8. Details of courses/programmes discontinued (if any) with reasons- NA

9. No. of teaching posts sanctioned and filled

Post	Sanctioned	Filled
Professor	-	-
Associate Professor	01	01
Assistant Professor	04	03
Others(CHB)	04	04

10. Faculty profile with name, qualification, designation, experience and research under guidance:

Name	Qualification	Designation	Specialization	Years of Experience	Ph.D. students guided in last 5 years
Dr. R. Z. Sayyed	M.Sc. Ph.D.	Asst. Prof & Head	Microbiology	12 (UG) 11 (PG)	Ongoing-06 Completed-02
Ms. V. M. Chaudhari	M.Sc.- SET.	Assistant Professor	Microbiology	16 (UG) 09 (PG)	-
Dr. A. H. Jobanputra	M.Sc. Ph.D.	Assistant Professor	Microbiology	19 (UG) 10 (PG)	Ongoing-04 Completed-02
Dr. M. M. Jogi	M.Sc. Ph.D.	Assistant Professor	Microbiology	17 (UG) 10 (PG)	-

11. Visiting Faculty

Name	Qualification	Designation	Specialization	Experience
Khan Asma Faruk Khan	M.Sc.	Visiting Faculty	Microbiology	3
Girase Archana Rajendra	M.Sc.	Visiting Faculty	Microbiology	2
Desale Yogita Jaywant	M.Sc.	Visiting Faculty	Microbiology	1
Saner Jagruti Bajrao	M.Sc.	Visiting Faculty	Microbiology	1

12. Percentage of classes taken by temporary faculty- program wise information:

UG : 35.89%

PG : 40.00%

13. Student-Teacher ratio (program wise)

UG : 28 : 1

PG : 05 : 1

14. No. of academic support staff (Technical) and administrative staff

Post	Sanctioned	Filled
Lab Assistant	01	01
Lab Attendant	02	02
Peon	00	00

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.

- No. of faculty members with Ph.D. = 03
- No. of faculty members with M. Phil. = 00
- No. of faculty members with PG/SET = 01

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received:

Sr. No.	Name of the project	Name of the Principal Investigator	Funding Agency	Amount of funds in Lakhs	Duration in years
1	Development of siderophore based biocontrol agents for controlling diseases in banana	Dr. R. Z. Sayyed	BARC Mumbai	9.50	2008-11
2	Molecular approaches for improving PHB production	Dr. R. Z. Sayyed	DST N. Delhi	20.38	2012-15
3	Development of single technology with multiple potential of plant growth promotion, phytopathogen suppression & bioremediation	Dr. R. Z. Sayyed	UGC N. Delhi	9.71	2012-15
4	Development of protocol for the production of bacterial pigment	Mrs. V. M. Chaudhari	UGC-WRO Pune	1.30	2009-11
5	Scale up for biotransformation of rifamycin B to S using bacterial isolate	Mrs. Dr. A. H. Jobanputra	UGC N. Delhi	7.51	2009-12

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received :

- Departments Project Funded by DST, UGC BARC : **05**
- Total Grants Received in the department so far : **4,84,000/-**

18. Research Centre /facility recognized by the University:

Department is recognised by affiliating University as research centre for M.Phil & Ph.D studies in Microbiology and Biotechnology. 08 students submitted their Ph. D. and 08 students are working for their Ph.D. work

19. Publications:

- International - - - - - : **24**
- National - - - - - : **10**
- Monographs - - - - - : **00**
- Editing Books - - - - - : **09**
- Books with ISBN No. - - - - - : **32**
- Citation/ index - - - - - : **3 to 514**
- Impact factor (Thomson Reuter) : **1.0 to 4.28**
- h- index - - - - - : **13**
- i-10 index - - - - - : **15**

20. Areas of consultancy and income generated:

Analysis of antimicrobial activities of samples to the researchers from other departments and colleges is provided.

Income generated from consultancy : **Rs. 3,000**

21. Faculty members in academic bodies of university-

- **Dr. R. Z. Sayyed**
 - Member (Invited), B.O.S., NMU, Jalgaon. (2011-12 to 2015-16)
 - Member, B.O.S., BAMU, Aurangabad.(2011-12 to 2015-16)
 - Vice President – Asian PGPR Society.
 - Life Member –
 - Asian PGPR Society
 - Association of Microbiologists of India
 - Biotechnology Research Society of India
 - Microbiology Society of India
 - Indian Phytopathological Society
 - Chairman, UG and PG Syllabus framing committee
 - Chairman, Ph.D. Viva committee, NMU, Jalgaon.
- **Prof. V. M. Chaudhari**
 - Member Syllabus framing committee, NMU, Jalgaon.
- **Dr. A. H. Jobanputra**
 - Member (Invited), .O.S., NMU, Jalgaon. (2011-12 to 2015-16)
 - Life Member –
 - Association of Microbiologists of India
 - Biotechnology Research Society of India
 - Women Scientist Association
 - Chairman, UG and PG Syllabus framing committee.
 - Chairman, Ph.D. Viva committee N.M.U. Jalgaon.
- **Dr. M. M. Jogi**
 - Member, Syllabus framing committee, N.M.U. Jalgaon.
 - Divisional Coordinator, NSS, NMU, Jalgaon.
 - Life Member-
 - Asian PGPR Society

- o Women Scientist Association

22. Student projects

- Percentage of students who have done in-house projects including inter departmental/programme: 100 % for M.Sc. students.
- Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies 55% 04 students undertook GC training at Shimadzu centre, Mumbai, 04 undertook training at SICART centre, Anand, 01 student undertook training at Shimadzu centre.

23. Awards/honours received by individual teachers/ students:

Faculty Name	Title of the Award	Year	Agency	Type of achievement
Dr. R. Z. Sayyed	Young Scientist Award Scheme	2012	SERB-DST, New Delhi	R & D Project
	Green Globe Award	2014	International Society for Biodiversity Conservation & Research	Research Work
	Best Teacher Award	2016	NMU, Jalgaon	Excellence in research
Ms V. M. Chaudhari	Ist Prize at Univ. Level Avishkar	2015	NMU, Jalgaon	Best Research Presentation
Rajput Vaishnawi Gopalsing	Gold medal (M.Sc.)	2016	NMU, Jalgaon	First rank in university

24. List of eminent academicians and scientist/visitors to the department.

Sr. No.	Name of the eminent personality visited the Institute	Event of visit	Duration
1	Prof. B. A. Chopade VC, BAMU, Aurangabad	Visit to Microbiology Deptt.	20 Dec 2014
2	Prof. A. B. Dongare Scientist CSIR Lab, Nagpur	Visit to Microbiology Deptt.	20 Dec 2014
3	Padmashree Dr. Sharad Kale, Scientist, BARC, Mumbai	Kisan Din-Farmers meet	09 Oct 2015
4	Prof. D. H. Tambekar	Visit to Microbiology Deptt.	03 Dec 2015
5	Prof. G. U. Meshram, Nagpur University	Farmers meet	02 Dec 2014
6	Prof. V. L. Maheshwari, NMU, Jalgaon	Inauguration of Science Forum	28 th Feb 2013
7	Dr. P. R. Puranik, NMU, Jalgaon	Inauguration of Science Forum	28 th Feb 2014
8	Prof. A. B. Chaudhari, NMU, Jalgaon	Research Methodology Workshop	28 th Feb 2012
9	Dr. B. L. Chaudhari, NMU, Jalgaon	Research Methodology Workshop	28 th Feb 2012

25. Seminars/ conferences/ workshops organized and the source of funding with details of outstanding participants, if any:

• **Dr. R. Z. Sayyed**

- Co-organizing Secretary, Advances in Biosciences and Health Education, (ABHE-2016), Feb 27 2016, Bareilly College, Bareilly. Funded by DST
- Organizing Committee member, 4th Asian PGPR Conference, May 03-06, Hanoi, Vietnam. Sponsored by Asian PGPR Society
- Organizing Committee member 3rd Asian PGPR Conference for sustainable agriculture, April 21-25, Manila, Philippines. Sponsored by Asian PGPR Society, UPLB, Philippines
- Coordinator of Farmers interaction: A parallel session of International Global Sustainable Biotech. Congress (GSBC 2014) of NMU, Jalgaon. Dec 02' 2014.

26. Student profile programme/course wise:

Year	Name of the Course/ programme	Applications received	Selected		Pass percentage
			Male	Female	
2011-12	F.Y.B.Sc.	109	63	46	88.88
	S.Y.B.Sc.	58	44	14	60.00
	T.Y.B.Sc.	42	36	07	48.00
	M.Sc. Part I	11	05	06	62.24
	M.Sc. Part II	16	05	11	73.24
2012-13	F.Y.B.Sc.	118	54	64	81.35
	S.Y.B.Sc.	75	61	14	50.66
	T.Y.B.Sc.	22	00	22	100.00
	M.Sc. Part I	11	02	09	74.22
	M.Sc. Part II	22	03	19	69.18
2013-14	F.Y.B.Sc.	103	29	73	68.14
	S.Y.B.Sc.	86	24	68	85.26
	T.Y.B.Sc.	38	07	31	95.45
	M.Sc. Part I	20	14	06	85.00
	M.Sc. Part II	22	05	17	95.00
2014-15	F.Y.B.Sc.	106	31	75	68.05
	S.Y.B.Sc.	88	25	63	42.50
	T.Y.B.Sc.	24	05	19	62.00
	M.Sc. Part I	21	02	19	63.48
	M.Sc. Part II	20	05	15	61.66
2015-16	F.Y.B.Sc.	87	39	45	86.73
	S.Y.B.Sc.	74	18	56	62.69
	T.Y.B.Sc.	21	03	18	57.31
	M.Sc. Part I	18	02	16	63.88
	M.Sc. Part II	21	02	19	50.92

27. Diversity of students

Year	Total no. of F.Y.B.Sc. students	% of students from home college	Others		
			% of students from Maharashtra	% of students from other states	% of students from other country
2011-12	122	92	08	02	00
2012-13	118	93	07	03	00
2013-14	106	91	09	01	00
2014-15	105	90	10	04	00
2015-16	84	91	09	06	00

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

Sr. No.	Year	Name of student	Exam qualified	Subject
1	2011	Mr. Bhatu Patil	MPSC	General
2	2012	Mr. Sandip S Patil	UGC CSIR NET	Life Science
3	2013	Mr. Sohel Shaikh	ICAR-NET	Microbiology

29. Student progression

Student progression	Against % Enrolled
UG to PG	25
PG to M.Phil.	Less than 01
PG to Ph.D.	25
Ph.D. to Post-Doctoral	Nil
Employed	
Campus selection	Nil
Other than campus recruitment	5
Entrepreneurship/Self-employment	1

30. Present details about infrastructural facilities:

- **Library:** Departmental Library contains more than 90 reference and text books and 11 research journals
- **Internet facility for staff and students:** Department is equipped with 10 Mbps internet connection, 04 (02 PC and 01 Laptop) units are available for staff and students.
- **Class rooms with ICT facility:** LCD Projector system is available for the ICT Based Lecture delivery.
- **Laboratories:** 02 UG, 02 PG and 01 separate research laboratory is available for students.

31. Number of students receiving financial assistance from college, university, government or other agencies

- One student (Ms Savita Vinod Patil) has received DST Inspire Fellowship from Government of India.

- 80 % students are getting financial assistance from SC, ST, OBC, NT forum. They also get substantial financial assistance through “Earn and Learn Scheme” from the University.
- Good number of Ph.D students received various fellowship for their Ph.D. studies. Four students received Research Project fellowship from UGC, DST and BARC; one research student received Senior Research Fellowship from CSIR and one research student received G H raisoni fellowship from, NMU, Jalgaon.

32. Details on student enrichment programmes (special lectures/ workshops /seminar) with external experts

- Remedial coaching given to weaker students.
- NET/SET Coaching classes arranged for OBC and Minority Students.
- Research Methodology Workshop organized for research students.
- Class room seminars on topics of scientific importance are regularly arranged.
- Industrial visit to SSTEPSSK Ltd, Purushottam Nagar.

33. Teaching methods adopted to improve student learning

- ICT teaching has been adopted for teaching UG and PG classes.
- Continuous assessment of theory and practical courses is practiced.
- Interactive Method by conducting seminars, presentations and group discussions.
- Use of PowerPoint presentation using LCD projector.
- Text book, Handouts, E-books, laboratory manuals prepared and given to the students. Question papers of previous examinations are made available in department.
- Educational and Industrial visit for the assimilation of subject on various relevant techniques for the benefit of students.
- Research project of scientific and social relevance are given among PG students

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

- The students and the faculty frequently participate in the social activities and the programs organized by the college for the welfare of weaker section of the society.
- To promote environmental awareness, our department participated in “One Student-One Tree” campaign.
- Faculty of our department actively participated in “Biodiversity Audit”.
- Students and faculty of our department participated in a rally on “Social Awareness and equality”.
- With NSS volunteers faculties have actively participated in various social activities viz. Environment Awareness, AIDS awareness and Blood Donation camps, save water drive, involvement in rallies against social evils.
- Blood group detection camp was organized by the Alumni of Dept.

35. SWOC analysis of the department and Future plans

Strength

- Excellent research achievements through good instrumentation facility.
- Innovative Service in the form of Blood Group checking.
- Equipments purchased through Project funds.
- 100 % staff involved in research.
- Students achieving good opportunities in professional career.
- B.Sc and M.Sc. students getting higher ranks and medals at university level.
- 100 % staff involved in curriculum designing at various levels.
- 100 % staff involved in co-curricular and extracurricular activities.
- Three faculty members with highest Academic degree (Ph.D.) and one has recently submitted her Ph.D. thesis.

Weakness

- Fellowships need to be generated for research scholars.
- Campus interviews for placements.
- Industrial training to students.
- Student to teacher ratio is high.
- Time constraint in semester pattern is the main setback for the course.

Opportunities

- Shahada being an agricultural area opportunities for students need to be raised for business training like Biofertilizer production, Mushroom cultivation, Waste management.

Challenges

- Tribal students from economically, educationally and socially backward group of the society are to be educated and trained academically and professionally which itself is a biggest challenge.
- To provide 100% campus placement
- To increase research facilities comparable to other national laboratories.

Future plans of the department:

- Setting of biofertilizers and biopesticides park.
- Organisation of Conferences for increasing research interest
- Organization of workshop for syllabus framing.
- Organization of state level poster competitions, seminar competitions for students.
- Submission of projects for generating finance for research scholars and equipments.
- Inclusion of carrier oriented programs for increasing placement opportunities.
- Setting up of placement facilities for students.
- Student oriented wallpaper activity to be launched.
- Adoption of e-learning methods.
- Tie-ups with NGOs and industries.