

**1. Name of the department:**

Biotechnology

**offered by other departments:**

Botany and Zoology

**2. Year of Establishment:**

2002

**7. Courses in collaboration with other universities, industries, foreign institutions, etc.:**

Nil

**3. Names of programmes/ courses offered:**

UG, PG, M.Sc. by Research, Ph.D.  
Certificate Courses: Plant Tissue Culture, Laboratory Animal Handling, Mushroom Cultivation  
PG Diploma in Clinical Studies, Data Management and Medical Writing

**8. Details of courses/programmes discontinued (if any) with reasons:**

Nil

**4. Names of Interdisciplinary courses and the departments/ units involved:**

Nil

**9. Number of teaching posts:**

Post	Sanctioned (05) Filled (05)	Details
Professors	-	
Associate Professors	-	
Assistant Professors	05	

**5. Annual/ semester/ choice based credit system (programme wise):**

Credit Based Semester System

**6. Participation of the department in the courses**

**10. Faculty profile with name, qualification, designation, specialization, (D.Sc./ D.Litt. /Ph.D./ M. Phil. etc.):**

Name	Qualification	Designation	Specialization	Experience (Years)	No. of Ph.D. students guided in last 4 years
Dr. Sucheta Golwalkar	M.Sc., Ph.D.	In-Charge, Assistant Professor	Microbiology	10	01 registered for M.Sc. by Research
Dr. Smruti Thombare	M.Sc., Ph.D.	Assistant Professor	Microbiology	8	-
Dr. Tania Moses	M.Sc., Ph.D., NET	Assistant Professor	Biochemistry	7	-
Rachana Acharya	M.Sc., Ph.D. (Thesis submitted)	Assistant Professor	Microbiology	5	-
Dipti Kale	M.Sc., M.Phil.	Assistant Professor	Microbiology	8	-

**11. List of senior visiting faculty/Guest:**

Name	Institute	Topic
Ms. Rajashree Raut	Statistics Dept., R.J. College	Biostatistics
Dr. Jyotsna Nijasure	Biology Dept, RJ College	Developmental Biology
Dr. Deepak Modi	NIRRH, Parel	PCR, Microarray
Dr. S. Shivkami	Dept. of Life Sciences, University of Mumbai	Membrane mimicry
Dr. Malathy Venkatesh	Stern Ingredients	Fermenters
Mr. Subodh Chavan,	BioZed	LC-MS
Ms. Rita Desai	Entrepreneur	Bioinformatics
Ms. Jessy Joseph	Department of Nanotechnology, University of Mumbai	Nanotechnology
Dr. Nishigandha Naik	Haffkine Research Institute	Confocal Microscopy
Dr. Ashok Verma	ACTREC, Kharghar	X-ray crystallography

**Faculty for the PG Diploma in Clinical Studies, Data Management and Medical Writing**

Name	Institute	Topic
Dr. Deven Parmar	Vice President, Wockhardt	Glossary of clinical research overview, phases of clinical development
Dr. Farheen Shaikh	Themis	Evaluation of Biomedical Ethics, ICH-GCP
Mr. Ankit Joshi	Sciformix, Pune	Clinical trials
Dr. Shivkant Upadhyaya	Easyway	Training in soft skills
Dr. Sanis Davis	Director, MSD SUNJV	Pharmokinetic, Bioavailability, Pharmacodynamics
Dr. Vishal Narang	Quintiles	Pharmacy: Physico-Chemical properties of drugs, different drug dosage forms, Formulation development and manufacture of drugs) Therapeutics: Principles of Management & Drug Therapy

Name	Institute	Topic
Dr. Khyati Anjaria	Haffkine Research Institute	CPCSEA, Animal handling
Ms. Neha Khandewala	I GATE	CDM
Dr. Shailendra Sachan	Glenmark	Medical Writing
Dr. Kamaldeep Grover	Reddy Laboratories	Quality and Inspection in clinical research

### 12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty:

Nil

### 13. Student-Teacher Ratio (programme wise):

35:1

### 14. Number of academic support staff (technical) and administrative staff sanctioned:

- 01 Lab Assistants
- 02 Lab Attendants

### 15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ M.Phil./ P.G.:

Ph.D.: 03  
M.Phil.: 01  
M.Sc.: 01

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

Nil

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

Dr. Sucheta Golwalkar

- Minor Research Project University of Mumbai (Rs. 40,000)

### 18. Research centre/ facility recognized by the University:

Yes. Recognized research center for registering students for Ph.D. degree.

### 19. Publications:

(Publication per faculty)

### Number of papers published in peer reviewed journals (national/ international) by faculty and students

Dr. Smruti Thombare

- Smruti Thombare and Usha Mukundan (2012). Control of *Propionibacterium acnes* using essential oil, Asian journal of experimental science, Vol. 26, No. 2, pp: 01-04 ISSN 0971-5444.

- Smruti Thombare and Usha Mukundan (2012). Control of *M. furfur* using Plant Essential Oil, Journal of Pure and Applied Microbiology, Vol. 6 No. 4, pp: 1955-1958 ISSN 0973-7510.

Dr. Tania Moses

- Tania Moses and Usha Mukundan (2013). Online monitoring plant biomass for large scale production of *Thymus vulgaris* a medicinal and culinary herb. Asian journal of experimental science, Vol. 27, No. 1, pp: 19-28. ISSN 0971-5444.

Dipti Kale

- Dipti Kale and P. Anthapan (2012). Solid waste management by use of Effective Microorganisms Technology Asian Journal of Experimental Sciences, vol. 26 No.1,pp: 5-10.ISSN 0971-5444
- Dipti Kale and P. Anthapan (2012). Sustainable treatment of wastewater using Effective microorganisms Journal of pure and applied microbiology, Vol 6, No 1, pp:333-338.

### Chapter in Books

Dr. Tania Moses

- Tania Moses and Usha Mukundan (2009). Edible Vaccines. In Biotechnology: Tissue Culture to Proteomics, 232-245, Ed. P C Trivedi, Pointer Publishers, Jaipur, India.

### 20. Areas of consultancy and income generated:

- Dr. Smruti Thombare for testing the efficacy of essential oils on *Malassezia furfur* and *Propionibacterium*: Rs 50,000 (Marico Ltd.)
- Animal testing studies: Rs 30,000 (Biodiagnostics)

### 21. Faculty as members in

Senate: Nil

Board of Studies: Nil

Syllabus Committee: 03

### 22. Student projects

a. Percentage of students who have done in-house projects including inter departmental/ programme:  
10%

b. Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/ industry/ other agencies:  
90% (PG students perform part of their projects at research institutes and industries such as BARC, ACTREC, NIRRH, Haffkine Institute, Hinduja Hospital Research Centre, KEM Hospital, Metropolis, Piramal Life Sciences, Fermenta, NCCS, Yashraj Biotech, Lilac Diagnostics, Akzo Nobel etc.)

### 23. Awards/ Recognitions received by faculty and students:

- Smruti Thombare was awarded her doctorate degree (Ph.D.) in Botany In August 2012.
- Tania Moses was awarded her doctorate degree (Ph.D.) in Botany In May 2012.
- Dr. Tania Moses, secured 11th rank in the NET examination.
- Ms. Mugdha Patki M.Sc Part II Biotechnology secured Gold Medal in the Inter-University State Level Research Festival Avishkar 2009 held at Amravati.
- Mr. Vaibhav Chikne was awarded Fellowship for training at Lund University, Sweden.
- Mr. Sagar Shah selected for the National level in Avishkar research competition 2011.
- Mr. Devanand Vishwakarma was awarded Gold Medal in Inter university 2012 State level Avishkar held at RSTM University, Kolhapur

### 24. List of eminent academicians and scientists/visitors to the department:

As mentioned in No. 11

### 25. Seminars/ conferences/ workshops organized & the source of funding:

- S.Y. B.Sc Revised Syllabus Paper II Workshop (Theory and Practical) was held on 19th June 2009.
- M.Sc. Revised Syllabus Paper V and VIII Workshop (Theory) was held on 3rd July 2009
- T.Y. B.Sc Revised Syllabus Workshop was held on 11th June 2010.
- T.Y. B.Sc Revised Syllabus Practical's Workshop was held on 29th Jan 2011.
- M.Sc. Credit system Syllabus Workshop was held in June 2012.
- T.Y. B.Sc. Revised syllabus for credit based semester system (Theory and Practical) June 2013
- Workshop in the "Art of Medical writing for PG Diploma students, M.Sc. Biotechnology and Bioscience in collaboration with British Medical Writing (UK) invited lectures delivered by Chief Guest, Dr. Trish Groves, Deputy Editor- British Medical Journal(UK), Editor-in-Chief, BMJ Open (UK) and Guest of Honor, Dr. Deven Parmar Vice President, Wockhardt.
- Workshop on GCP in the fast changing regulatory environment for PG Diploma students on 17/11/2013. Trainer Dr. Kiran Marthak Director Lamda therapeutic research, Dr. Sanis Davis, Director MSD-SUN JV, Amey Mane, DGM Wockhardt, Mandar Kelkar, TCS

### 26. Student profile programme/ course wise:

Year	Applications received	Selected	Enrolled		Pass percentage
			M	F	
<i>T.Y. B.Sc.</i>					
2012-13	41	41	14	27	100%
2011-12	36	36	10	26	100%
2010-11	34	34	11	23	94%
2009-10	32	32	05	27	96.8%
<i>M.Sc.</i>					
2012-13	480	20	04	16	100%
2011-12	475	19	07	13	100%
2010-11	480	20	02	18	100%
2009-10	440	17	06	11	100%

### 27. Diversity of Students:

Name of the Course	% of students from the same state	% of students from other states	% of students from abroad
B.Sc.	100	-	-
M.Sc.	100	-	-
Ph.D.	100	-	-

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

NET: 10  
GATE: 01  
JNU: 10  
TIFR/ NCBS: 05  
IIT JAM: 05  
ICMR: 03  
DBT: 03  
GRE and TOFEL: 10

### 29. Student progression:

Student progression	Against % enrolled
UG to PG	70%
PG to M.Phil.	Nil
PG to Ph.D.	30%
Ph.D. to Post-Doctoral	Data not available
Employed	
• Campus selection	10%
• Other than campus recruitment	90%
Entrepreneurship/ Self-employment	1%

### 30. Details of Infrastructural facilities:

- Library: 856 Books (+ books in central library)
- Internet facilities for Staff & Students: Available
- Class rooms with ICT facility: Available
- Laboratories: 5

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

Annexure IX (pg. 264)

**• Challenges:**

To retain student's in spite of them having an opportunity to join medicine.

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

- Industrial visits
- Genopsis - Intercollegiate student festival
- TechFest - Intracollegeiate student festival
- Seminars
- Internship

**• Future Plans:**

To strengthen consultancy services of the department.

**33. Teaching methods adopted to improve student learning:**

- Teachers use variety of teaching techniques depending on the topic to be taught. Course materials are provided to the students.
- Students are also acquainted with open courseware which is available on the Institutional website.
- ICT enabled teaching is practiced.
- Use of videos and animations from internet.
- Student mentoring for the final year and it is named as the ATGC Group.
- Screening of scientific movies.
- Special skill enhancement for practical skills by allowing students to do experiments individually.
- Project based teaching and blended teaching at UG and PG level.
- Student seminars to enhance communication and self-learning skills.

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

- Free Haemoglobin checkup for girls and women from slum areas in collaboration with SNEHA (NGO).
- Testing of quality of drinking water from the water coolers in the college to ensure safe drinking water for all.
- The department provided guidance to children from a local school on their science projects.

**35. SWOC analysis of the department and future plans:****• Strengths:**

Extremely talented and committed faculty.

**• Weakness:**

Teacher Attrition. Students are indecisive about the program that they have chosen.

**• Opportunities:**

Opportunity to teach highly motivated students at PG level.