Evaluative Report of the Department

DEPARTMENT OF BOTANY

1. Name of the Department & its year of establishment:
   Department of Botany, 1906

2. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):
   UG: BSc- Botany
   PG: MSc- Botany (specialization- Angiosperm taxonomy and Phytochemistry; Plant Physiology and Biochemistry),
   M.Phil: Botany (Angiosperm taxonomy and Phytochemistry; Plant Physiology and Biochemistry)
   Ph.D: Botany

3. Interdisciplinary courses and departments involved: N.A.

4. Annual/ semester/choice based credit system:
   Semester and choice based credit system.

5. Participation of the department in the courses offered by other departments.
   **Dr. Rajendra D. Shinde**
   • Dr. R.D. Shinde delivered a lecture on “Biodiversity of India” to the Students of Life Science, St. Xavier’s College. (2008-09).
   • He conducted a field trip for the students of the Life Science department to Khandala, and for the Jr. College students (2008-09).
   • He was visiting faculty for the ‘Diploma in Forensic Science course’, conducted by the Department of Zoology. (from 2008 onwards).
   • He also served as resource person for Interdisciplinary Honour’s Programme for Environmental Science by St. Xavier’s College (2009)

   **Dr. Mrs. Ujwala C. Bapat**
   • Dr. Mrs. U. C. Bapat engaged lectures for M. Sc. Biotechnology and Enterprise (1 yr. Course in collaboration with Bath University, UK in India).
   • She even conducted lectures on Biotechnology for M.Sc. Biotechnology regular 2 year course.

6. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td>NIL</td>
<td>NIL</td>
</tr>
<tr>
<td>Associate Professors</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Asst. Professors</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>
7. Faculty profile with name, qualification, designation, specialisation (D.Sc./D.Litt./ Ph.D./M.Phil., etc.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialization</th>
<th>No. of Years of Experience</th>
<th>No. of Ph.D. students guided in the last 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ujwala C. Bapat</td>
<td>Ph.D</td>
<td>Associate Professor</td>
<td>Plant Physiology</td>
<td>23</td>
<td>(5 students registered)</td>
</tr>
<tr>
<td>Kevin D'Cruz</td>
<td>M.Sc</td>
<td>Associate Professor</td>
<td>Plant Anatomy</td>
<td>22</td>
<td>NIL</td>
</tr>
<tr>
<td>Rajendra D. Shinde</td>
<td>Ph.D</td>
<td>Associate Professor</td>
<td>Floristics and Taxonomy</td>
<td>21</td>
<td>(01 completed), (04 registered)</td>
</tr>
<tr>
<td>Alok Gude</td>
<td>M.Sc</td>
<td>Asst. Professor</td>
<td>Cytogenetics</td>
<td>9</td>
<td>NIL</td>
</tr>
<tr>
<td>Manek M. Mistry</td>
<td>Ph.D</td>
<td>Asst. Professor</td>
<td>Floristics and Taxonomy</td>
<td>16</td>
<td>NIL</td>
</tr>
</tbody>
</table>

8. Percentage of classes taken by temporary faculty – programme-wise information

<table>
<thead>
<tr>
<th>Programme</th>
<th>B.Sc</th>
<th>M.Sc</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIL or</td>
<td>10%</td>
<td>10%</td>
</tr>
</tbody>
</table>

9. Programme-wise Student Teacher Ratio

- F.Y. B.Sc: 35:1
- S.Y. B.Sc: 10:1
- T.Y. B.Sc: 12:1
- M.Sc I: 03:1
- M.Sc II: 03:1

10. Number of academic support staff (technical) and administrative staff: sanctioned and filled

- Laboratory Assistant: 01 (Sanctioned: 01)
- Laboratory Attendant: 04 (Sanctioned: 04)

11. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.

(a) Dr. Mrs. Ujwala C. Bapat - U.G.C. Major Research Project Grant of Rs.8,67,500.00 for 3 years for a project entitled ‘Phytochemical analysis and antimicrobial activity studies on a few plants belonging to family Euphorbiaceae’ (2010 till date)

(b) Dr. Rajendra Shinde - Principal Investigator on Digitized Inventory of Medicinal Plant Resources of Maharashtra. Funded by Rajiv Gandhi Science
and Technology Commission, Govt. of Maharashtra Rs. 23,40,170.00 (from 2009 - 2012).

(c) Dr. Rajendra Shinde “Cartographic Studies on Vegetation of Ambarnath MIDC area using GPS technology” - Rs. 30,000.00 sponsored by Mumbai University Teachers Research Grant. (2008-2009).

(d) Mr. Alok Gude: Project received Rs. 10,000.00 for ‘Detection of heavy metals from the soil near railway tracks in Mumbai’ (2008-2009) funded by University of Mumbai.

(e) Dr. Rajendra Shinde received Rs. 55,000.00 for Project on ‘Isolation and Characterization of Genomic DNA from Noni – Morinda citrifolia (Rubiaceae)’2006-2008 funded by University of Mumbai.

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received:
   a) Dr. Mrs. Ujwala C. Bapat – Received U. G. C. Major Research Project Grant of Rs. 8,67,500.00 for 3 years for a project entitled ‘Phytochemical analysis and Antimicrobial activity studies on a few plants belonging to family Euphorbiaceae’ (2010 till date)
   b) Dr. Rajendra Shinde - 2009-2012, Principal Investigator on Major Research Project – Digitized Inventory of Medicinal Plant Resources of Maharashtra (Thane, Mumbai and Raigad District). Details of the project: Funded by Rajiv Gandhi Science and Technology Commission, Govt. of Maharashtra, Amount sanctioned Rs. 23,40,710.00. PowerPoint Presentations were delivered on half-yearly progress of DIMPR project in June 2011 & December 2011 at ARI, Pune. Project completed: Report and final Utilization Certificate submitted to the Coordinating Agency – Agharkar Research Institute, Pune. Preparation of the final report from 14 PI is on at ARI – Report will be published in the digitized form as well as Hard Copy in the book form.
   c) DST-FIST grant of Rs. 34.20 lakhs for Equipments and Infrastructure facility (2004-07) to Dept. of Biological Sciences (Life Science, Botany, Microbiology and Zoology)

13. Research facility / centre with
   • State recognition: recognized Ph.D lab with permanent recognition from University of Mumbai.
   • National recognition: NIL
   • International recognition: NIL

14. Publications:
number of papers published in peer reviewed journals (national / international):

Rajendra D. Shinde
(1) Additions to the Flora of Sanjay Gandhi National Park, Shinde Rajendra, Rajdeo Singh,


(3) Chasmophytic Flora of Bassein Fort (Thane District), Maharashtra – India; Shinde Rajendra, Sweedle Cerejo, Rajdeo Singh, Kalpit Mhatre; Xplore – St. Xavier’s Research Journal, 1: 54 – 58; 2010.

(Paper Presentation)
1. Dr. R. D. Shinde Presented poster on Floristic Diversity of Nandur Madhmeshwar Wetland Sanctuary, Nasik District, Abstract T1/P45 at National Conference on Biodiversity Assessment, Conservation and Utilization held from 9-11 Feb 2012: organized by M.E.S. Abasaheb Garware College, Pune.
Ujwala C. Bapat
Sachin Kuwar and U.C. Bapat (2009) : Ethnobotanical Studies on Kokani tribals of Nashik District of Maharashtra. Accepted for Publication on 13/01/09 Ref.No. IJKT/TK-962/2008 (Paper Presentation)


* Monographs: NIL
* Chapter(s) in Books:
Dr. R. D. Shinde contributed to the book – Some-Trees of Mumbai (English) / Mumbaichi Vriksharaji (Marathi) published by Department of Extra Mural Studies, University of Mumbai and ONGC – Rare Trees of Mumbai in (2007-2008)
* Editing Books: NIL
* Books with ISBN numbers with details of publishers: NIL
* Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database -International Social Sciences Directory, EBSCO host, etc.)
* Citation Index – range / average: NIL
* SNIP: NIL
* SJR: NIL
* Impact factor – range / average:
* h-index: NIL

15. Details of patents and income generated: NIL

16. Areas of consultancy and income generated:
Dr. Manek K. Mistry was consulting botanist for the ‘Flower Garden Project’ at Dadar Pumping Station of Mumbai Municipal Corporation.
17. Faculty recharging strategies:
(Orientation Course)
Alok Gude completed an orientation course sponsored organized by the University of Mumbai at University of Mumbai campus, Kalina; from 18th September to 17th October 2006.
(Refresher Course)
Alok Gude attended a refresher course sponsored by UGC and organized by the University of Mumbai at G.N. Khalsa college in the stream of Biotechnology, form 1st to 22nd October 2008.

(seminars / symposia / conferences / workshops attended)
The faculty attended many national and international staff seminars, workshops, conferences and symposia.

Dr. Rajendra D. Shinde

1. Attended two day workshop on ‘DNA BARCODING’ conducted by Loyola Center for R & D, St. Xavier’s College. Ahmadabad and Paul Hebert Centre for DNA Barcoding and Biodiversity Studies, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, 7-8 Dec 2012
2. Attended workshop on ‘Plant Nomenclature’ conducted by Prof. K. N. Gandhi, Harvard University and Botanical Survey of India, Kolkotta, 11-13 Jan 2013:

Dr. Mrs. U. C. Bapat

1. Member of Local organizing Committee for the State level Seminar on ‘Capitalization of Herbal Technology’ organized by Birla College, Kalyan, and attended the same.
2. Participated in a 3- day National Symposium sponsored by UGC and organized for Plant Tissue Culture Association (India) at St. Xavier’s College, Ahmedabad
3. Participated in UGC sponsored workshop on ‘Capacity Building of Women Managers in Higher Education’ organised by the SNDT university, Mumbai

Mr Alok Gude

1. Attended two day workshop on ‘DNA BARCODING’ conducted by Loyola Center for R & D, St. Xavier’s College. Ahmadabad and Paul Hebert Centre for DNA Barcoding and Biodiversity Studies, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, 7-8 Dec 2012.

(visits to universities: national / international)

Dr. Rajendra D. Shinde-


b) Dr. Specht’s Lab – University of California, Berkeley, USA – One Month Molecular Phylogeny Course. 2009-2010.
c) University of Bath, UK – On United Kingdom India Education and Research Initiatives Programme to Design the curriculum of Joint Venture Program – One Year M.Sc. in IBE. 2008-2009

d) Liverpool Hope University, UK – to attend a Youth Congress – BIG HOPE. He also visited Kew Botanical Gardens and Herbarium. 2007-2008.

**Dr. Mrs. U. C. Bapat**

Visited Liverpool Hope University for studying the system of education and Liverpool University to observe ongoing research projects and the facilities in the research laboratories. During this visit she got the opportunity to visit Natural History Museum and Kew Herbarium and Garden. 2009-2010.

Group leader for the Indian team participating in Biology Olympiad held from 8 to 14th July, 2011 at Taiwan. All the members of the team received silver medals. She was a resource person for the resource generation camp for Biology Olympiad held in September at HBCSE, Mumbai

**18. Student projects**

- percentage of students who have done in-house projects including inter-departmental: Ten percent students have done short research projects under the inhouse Honours Program on topics that are not part of their curriculum.

- percentage of students doing projects in collaboration with industries / institutes: 2 %.

**19. Awards / recognitions received at the national and international level by**

- **Faculty:**

  **International Fellowship Award**


- **Doctoral / post doctoral fellows:** NIL

- **Students:**

  (a) Mr. Valentine Borges of M.Sc-II won first prize for paper presentation - ‘Flavonoid loss during short-term storage (refrigeration) of Citrus fruits commonly consumed in South Mumbai’ at the National Seminar on ‘New Vistas in Plant Sciences’ organized by Department of Botany, Goa University, on 15th and 16th March 2012.

  (b) Mr. Valentine Borges of M.Sc-II won first prize for paper presentation ‘Flavonoid stability of fruits commonly consumed in South Mumbai’ at National conference on ‘Basic Sciences as Foundation of Applied Sciences and Technology’ organized by Sir P. P. Institute of Science, Bhavnagar, Gujarat on 19th and 20th February 2012.

**20. Seminars/Conferences/Workshops organized and the source of funding**
(national / international) with details of outstanding participants, if any:
For the Centennial celebrations, Blatter Herbarium held a National Conference on ‘Plants in Relation to Man & Biosphere’ November 16th to 17th, 2007, funded by UGC and TATA group.

21. Student profile course-wise:

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>Applications received</th>
<th>Selected</th>
<th>Pass percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>B.Sc. (Botany)</td>
<td>200</td>
<td>160</td>
<td>FY : 85</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SY : 90</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TY : 95</td>
</tr>
</tbody>
</table>

22. Diversity of students

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>% of students from the College</th>
<th>% of students from the State</th>
<th>% of students from other States</th>
<th>% of students from other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.Sc - Botany</td>
<td>20</td>
<td>60</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>M.Sc – Botany</td>
<td>40</td>
<td>40</td>
<td>20</td>
<td>NIL</td>
</tr>
<tr>
<td>M.Sc by Research</td>
<td>33</td>
<td>67</td>
<td>NIL</td>
<td>NIL</td>
</tr>
<tr>
<td>M.Phil</td>
<td>0.01</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Ph.D – Botany</td>
<td>10</td>
<td>90</td>
<td>NIL</td>
<td>NIL</td>
</tr>
</tbody>
</table>

23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations? : NIL

24. Student progression

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Percentage against enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG to PG</td>
<td>15</td>
</tr>
<tr>
<td>PG to M.Phil.</td>
<td>Nil</td>
</tr>
<tr>
<td>PG to Ph.D.</td>
<td>2</td>
</tr>
<tr>
<td>Ph.D. to Post-Doctoral</td>
<td>Nil</td>
</tr>
<tr>
<td>Employed</td>
<td></td>
</tr>
<tr>
<td>• Campus selection</td>
<td>1</td>
</tr>
<tr>
<td>• Other than campus recruitment</td>
<td>50</td>
</tr>
<tr>
<td>Entrepreneurs</td>
<td>2</td>
</tr>
</tbody>
</table>
25. Diversity of staff

<table>
<thead>
<tr>
<th>Percentage of faculty who are graduates</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>of the same parent university</td>
<td>60</td>
</tr>
<tr>
<td>from other universities within the State</td>
<td>20</td>
</tr>
<tr>
<td>from other universities from other States</td>
<td>20</td>
</tr>
</tbody>
</table>

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period: NIL

27. Present details about infrastructural facilities

a) Library: No departmental library, Blatter herbarium library available to students.
b) Internet facilities for staff and students: common internet facility available in college.
c) Total number of class rooms: 4
d) Class rooms with ICT facility: 4
e) Students’ laboratories: 3
f) Research laboratories: 1

28. Number of students of the department getting financial assistance from College: 2

29. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology: Nil

30. Does the department obtain feedback from

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it? - Yes; feedback is used for framing new syllabi.
b. students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same? – A third year student representative is present in the committee for framing new syllabi.
c. alumni and employers on the programmes and what is the response of the department to the same? – Dr. Marselin Almeida, ex alumni as employers and Dr. G. T. Paratkar and Ved Sailesh Nadkarni.

31. List the distinguished alumni of the department (maximum 10)
   (a) Allan Rodrigues. Vice President, Hansa Public Relations.

32. Give details of student enrichment programmes (special lectures / workshops/ seminar) with external experts. – Botany Honours Programme.

33. List the teaching methods adopted by the faculty for different programmes.

   (1) Classroom lectures using teaching aids such as audio-visual aid.
   (2) Practicals using fresh and preserved materials and teaching aids as above.
   (3) One day or longer duration field excursions are carried out for all classes.
   (4) Visits to industrial establishments and government organizations.
34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?
(a) By conducting periodic written tests for theory and practicals; student’s presentations, and reports of field excursions.
(b) Semester end theory papers for all classes are moderated by external examiners and Semester end third year and M.Sc practicals are conducted by external examiners.

35. Highlight the participation of students and faculty in extension activities.
(a) Students participate in seminars, workshops and conferences conducted in the college as well as in other institutions.
(b) Paper presentation by some students in seminars.
(c) Two to three students participate in Tree Censuses conducted by various organizations and also as resource persons for preparing EIA (Environmental Impact Assessment) reports.

Year 2006-2007
Dr. Mrs. U. C. Bapat
(1) Dr. (Mrs.) U. C. Bapat was a resource person for Teachers Training Programme on Environmental Studies organized by Enviro-vigil, Thane and conducted two session programmes for the teachers of Thane.

Dr. Rajendra Shinde
2) Dr. R. D. Shinde has delivered a lecture on “Flowering Plants of Mumbai” at Somaiya College and “Relevance of Indigenous Practices, Tribal Culture and its Linkages to Forest Resources and Their Conservation, Community Participation”, at the teacher’s training programme organized by Enviro-Vigil, Thane.
3) He also conducted workshop on “Plant Diversity” for the students of Standards 8 and 9 at Nehru Science Centre. (2006-2007)
4) He helped the students of Ryan International School for a Science project on “Bark Study of Tree Species” and the project was selected for National Level Exhibition. (2006-2007)
5) He was invited to be on the panel for the selection of the students at Dr. Homi Bhabha Bal Vaidyanik competition organized by the “Greater Bombay Science Teachers’ Association”. (2006-2007)

Year 2007-2008
Dr. Rajendra Shinde
1) Dr. R. D. Shinde was a resource person for the workshop conducted at Nehru Center – Nehru Planetarium, Worli, Mumbai on “Nature Quest” for School Children on 25.08.2007 and “Year of Environment Programme” organized by Vidnyan Parishad, Navi Mumbai at Vivekanand Madhyamik School, Sanpada. The lecture was titled “Plants and Trees Around us”.
2) He delivered a Guest Lecture on “Biodiversity” at S.I.E.S. College of Arts, Science & Commerce.
3) He and Mrs. Vaishnavi Godse had conducted the lectures for M.Sc. II students at R. A. Society’s Dr. Undre College of Arts, Science and Commerce, Borli-Panchayatan, Raigad.
Year 2008-09
Dr. Mrs. U. C. Bapat

1) Was visiting faculty for the M.Sc. Herbal Science Course at Birla college, Kalyan and Ruia College, Matunga.
2) Dr. (Mrs.) Bapat engaged lectures for M.Sc. Biotechnology students, of our college. She is on the panel of examiners and moderators in Herbal Science for M.Sc. II.
3) At present there are 2 research students registered for Ph. D. degree under her guidance and 2 students will be registering soon for Ph. D. as their research proposal is approved by the University.
4) Seven M. Sc II students completed their dissertation in Botany under her guidance.

Dr. Rajendra Shinde

1) Was visiting faculty for the M.Sc. Herbal Science Course at Birla College, Kalyan and Ruia College, Matunga.
2) Engaged lectures in Taxonomy for M.Sc. students of the College of Arts, Science and Commerce – Borli Panchtan, Raigad. He conducted lectures for the Certificate Course in Taxonomy organized by the Department of Extra Mural Studies, University of Mumbai.
3) He was a resource person for field trips to Sanjay Gandhi National Park, Borivali and BPT Garden organized by the Department of Extra Mural Studies, University of Mumbai, (every Sunday from July 2008 to October 2008) and sponsored by the Marathi Daily News Paper – Loksatta. One research student has registered for the M.Sc. (by research) degree and one for Ph.D. degree under his guidance. Two M.Sc. II students worked under his supervision for their project dissertations.

Year 2009-10
Dr. Mrs. U. C. Bapat

1) Dr. (Mrs) Bapat was a visiting faculty for M.Sc. (I and II) Herbal science course at Birla college, Kalyan and Ruia college, Matunga.
2) She is on the panel of examiners and moderators in Herbal Science at M.Sc. II.
3) She guided two students of Birla College, Kalyan for their M. Sc dissertation work in herbal science.
4) Five M. Sc II students in Botany completed their project dissertation under her supervision. One student registered for Ph. D. Degree course in Botany under her guidance.
5) Ms. Arati Paradkar successfully completed her research dissertation under the guidance of Dr. (Mrs) Bapat and was recently awarded M. Sc.( by research) degree in Botany by the University if Mumbai.
6) Mrs. Bapat was a member of the organizing committee working for the ‘National Seminar on Cultural and Biodiversity of vegetation of coastal Region of India, Sawantwadi, CHM College Ulhas Nagar. She attended the same seminars and two of her research students presented papers at the Sawantwadi conference held on September 23 to 25, 2010.
Dr. Rajendra Shinde
7) Dr. Shinde has been a visiting Faculty for M.Sc.II in Herbal Science at Ruia College, Matunga, Mumbai.
8) He was a visiting faculty for Diploma in Plant and Animal Taxonomy conducted by the Department of Extra Mural Studies, University of Mumbai.
9) He had conducted number of Nature trails for general public under the Nature conservation and awareness Programme, department of Extra Mural Studies, University of Mumbai.
10) He was a resource person for City Walk and Tree Appreciation Course – Organized by the University of Mumbai and Loksatta and for the Interdisciplinary Honor’s program for Environmental Science conducted by the St. Xavier’s College.
11) He delivered a speech on ‘Biodiversity’ at Group’s Knowledge Sharing Session - Tell Me Why with Chai - organized by Essar Group, Essar House, Mumbai.
12) He has helped Mr. Jaffary from Bamiyan University and Br. Joel Noronha, s.j. from De Nobili College, Pune in carrying out the ‘Biodiversity Study’ and has explained them the herbarium technology.
13) Dr. Shinde has taken up the project of labeling the trees in the premises of St. Pius College Aarey Road, Goregaon and preparing a vegetation map of the area.

Mr. Alok Gude
14) Invited as a speaker for scheme of Coaching for SC /ST / Minority for NET’ on the topic of Life Sciences on 19th December 2010.

Mr. Kevin D’cruz
15) Invited to Canada in October 2009 by Dr. Lalu Mansinha, Academic Director, The Ontario Maharashtra Student Exchange Program, to visit three universities in the Toronto area, York University, Ryerson University and University of Toronto to discuss measures to increase the two way flow of OMG Exchange students to and from St. Xavier's College and the 17 universities of the OMG Exchange Program.
16) Invited to the United Kingdom in may 2010 - to undertake a specific programme of staff development at Liverpool Hope University for senior academics from St Xavier's College, Mumbai.

Year 2010-11
Dr. Rajendra Shinde
1) Invited to deliver Post Graduate lectures by University of Mumbai in Mumbai and Dapoli
2) M.Sc. Herbal Science at Birla College, Kalyan and Ruia College, Matunga.
3) Certificate Course in ‘Plant and Animal Taxonomy’ – Conducted by the Extra Mural Studies, University of Mumbai

Dr. Mrs. Ujwala C. Bapat
4) She was a visiting faculty for M.Sc. (I and II) Herbal science course at Birla college, Kalyan and Ruia college, Matunga.
5) Invited to deliver Post Graduate lectures by University of Mumbai in Mumbai.
6) She is in the panel of examiners and moderators in Herbal Science at M.Sc. II.
7) Three students registered for Ph. D. Degree under her guidance.
8) Five M. Sc II students from our college completed their dissertation in Botany under her guidance.
9) She also guided two students of Birla College for their M. Sc dissertation work in herbal science.

**Year 2011-12**

**Dr. Mrs. Ujwala C. Bapat**

1) Member of Local organizing Committee for the State level Seminar on ‘Capitalization of Herbal Technology’ organized by Birla College, Kalyan, and attended the same.
2) Invited to take M.Sc, Herbal Science lectures at Birla College (Part I), Kalyan and Ruia College, Matunga (Part I and II).
3) A panelist of Examiners for Herbal Science M. Sc II Examination held in March-April, 2012.
4) Presented a mid-term report of her UGC Major Research Project. The progress was satisfactory and received remaining amount and the additional grant of Rs. 1,45,800.00 for the project fellow.
5) Coordinator for the ‘Garden Art’ course which is a cross-faculty course for Arts, BMM and BMS students.
6) Dr. (Mrs.) Bapat helped the Staff of Chemistry Department of S.I.E.S. College, Mumbai, in writing the project proposal and carrying out the research work. They received the project Grant and successfully completed the project work.
7) Resource person for the resource generation camp for Biology Olympiad held in September at HBCSE, Mumbai.
8) Visiting faculty for M.Sc. (I and II) Herbal science course at Birla college, Kalyan and Ruia college, Matunga.

**Mr. Kevin D’cruz**

9) Resource Person for "ICT for administration and Academics" at the Professional Development Programme for Academic Administrators and Principals organized by the UGC Academic Staff College.
10) Conducted an ICT in Higher Education Training workshop for Teachers of Dr. B.M.N. College of Home Science (Affiliated to S.N.D.T. Women's University)
11) Conducted Open-ended Honours Programme on the use of DELTA (DEscription Language for TAxonomy) - a flexible method for encoding taxonomic descriptions for computer processing and INTKEY for construction of natural-language Descriptive Databases, Interactive keys and cladistic and phenetic classifications.
12) Attended a special one-day event to discover how Apple is enhancing teaching and learning; met other education leaders, attended keynote speeches and experienced the Apple learning environment at a hands-on session. August 2011.
Dr. Rajendra Shinde
13) Invited as a Chief Guest and to deliver a Lecture at Jhunjhunwala College, Ghatkoper, Mumbai on 15th September 2012.
14) Invited as a Chief Guest and deliver a Key Note address for their Annual Botanical Intercollegiate Program – Saptaparni. Delivered a lecture on Pollination in Plants on 17th December 2012.
15) Visiting faculty for M.Sc. II Plant Taxonomy lectures at Dapoli College.
16) Visiting faculty for M.Sc. II Plant Taxonomy lectures at Dr. Undre College, Borli Panchtan, Dive.

36. Give details of “beyond syllabus scholarly activities” of the department.

Dr. Mrs. U. C. Bapat
a) She was invited to participate in the 2 days Resource Generation Camp for quality question setting for the students appearing for Biology Olympiad organized by HBCSE, Mumbai. (2009-2010)
b) Resource person for the resource generation camp for Biology Olympiad held in September at HBCSE, Mumbai.

Mr. Kevin D’cruz
a) Director for ‘Xavier’s Knowledge Centre’ for the past 7 years.
b) Local Coordinator for the "World Survey on Youth Cultures in the Catholic University", an International Project promoted by the Centre for Coordination of Research of the International Federation of Catholic Universities.

Dr. R. D. Shinde
a) External Referee for St. Xavier’s College, Ranchi
b) Referee for M. Sc. Thesis (Research) student at University of Pune. Two theses evaluated and viva-voce exam conducted. (JULY 2012)
c) External referee to assess the Ph.D. degree thesis from Jiwaji University, Gwalior

Dr. Manek K. Mistry
a) Resource person for N.S.S. at St. Andrews College, Mumbai (2011-2012)

37. State whether the programme / department is accredited / graded by other agencies. Give details: No.

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

Strengths:
(a) Faculty with expertise in different disciplines and from different Universities.
(b) Faculty with consistent record of research paper publication, conference presentations (national & international) and consultancy.
(c) The Blatter Herbarium is the most reputed non-governmental institution for Plant Taxonomy in Western India.
(d) The collections for the ‘Flora of Maharashtra’ written by Dr. Marselin R. Almeida are deposited in Blatter Herbarium and constitute a rich reference source for identification and critical study of flowering plants from Western India.

**Weakness:**
(a) Excessive paperwork due to revised system of assessment.
(b) Dependency on government funding.

**Opportunities:**
(a) The growing awareness on environmental issues and agriculture needs improved capacities for the staff to meet the demands of the students.
(b) Demand by environment protection agencies as botany is intrinsically related to environmental science.

**Challenges:**
(a) Framing a syllabus which will
   i. meet the demands of industry and environmental agencies for trained botanists
   ii. hold the interest of students which is veering from the traditional aspects of the subject.

39. **Future plans of the department.**
To strengthen our research and consultancy work.
1. **Name of the Department & its year of establishment:**
   Chemistry and 1902

2. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):**
   UG, PG (by Research), Ph.D

3. **Interdisciplinary courses and departments involved:**
   Chemistry in Context (with students in various departments of Arts / Humanities)

4. **Annual/ semester/choice based credit system:**
   Semester and Credit system

5. **Participation of the department in the courses offered by other departments:**
   Cross-faculty courses in Humanities, Communication Skills in Science, Giving Voice to Values

6. **Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)**

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate Professors</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Asst. Professors</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

7. **Faculty profile with name, qualification, designation, specialisation (D.Sc./D.Litt./ Ph.D./M.Phil., etc.)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialization</th>
<th>No. of Years of Experience</th>
<th>No. of Ph.D. Students guided in the last 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freddy Havaldar</td>
<td>PhD</td>
<td>Asso. Prof</td>
<td>Organic Chemistry</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Surabhi Potnis</td>
<td>M.Phil</td>
<td>Asso. Prof</td>
<td>Organic Chemistry</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Dionysia Coutinho</td>
<td>PhD</td>
<td>Asso. Prof</td>
<td>Organic Chemistry</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Gulshan Shaikh</td>
<td>M.Sc</td>
<td>Asso. Prof</td>
<td>Organic Chemistry</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Fr. Roy Pereira</td>
<td>PhD</td>
<td>Asst. Prof</td>
<td>Inorganic Chemistry</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Bhagwat Bonde</td>
<td>PhD</td>
<td>Asso. Prof</td>
<td>Organic Chemistry</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Marazban Kotwal</td>
<td>M.Sc</td>
<td>Asst. Prof</td>
<td>Physical Chemistry</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Ashma Aggarwal</td>
<td>PhD</td>
<td>Asst. Prof</td>
<td>Physical Chemistry</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Geeta Kotian</td>
<td>PhD</td>
<td>Asst. Prof</td>
<td>Organic Chemistry</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Saima Khan</td>
<td>M.Sc</td>
<td>Asst. Prof</td>
<td>Organic Chemistry</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Abhilasha Jain</td>
<td>PhD</td>
<td>Asst. Prof</td>
<td>Physical Chemistry</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Prahlad Rege</td>
<td>PhD</td>
<td>Asst. Prof</td>
<td>Analytical Chemistry</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
8. Percentage of classes taken by temporary faculty – programme-wise information: Nil

9. Programme-wise Student Teacher Ratio:

10. Number of academic support staff (technical) and administrative staff: sanctioned and filled

11. Number of faculty with ongoing projects from
   a) National
   b) International funding agencies
   c) Total grants received. Mention names of funding agencies and grants received project-wise.

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received
   STAR COLLEGE FUND: 6 Lakhs per annum
   DST-FIST: 3 Lakhs

13. Research facility / Centre with
   • State recognition
   • National recognition
   • International recognition

14. Publications:
   Number of papers published in peer reviewed journals (national / international) between 2006 and 2012: 41

   RESEARCH PUBLICATIONS
   Faculty Member: DR. FREDDY H. HAVALDAR

   1. SYNTHESES OF 2-TRIFLUOROMETHYL-PHENOTHIAZINOAZETIDIN-2 ONES AS ANTIBACTERIAL AND ANTIMICROBIAL AGENTS.

   2. SYNTHESES AND BIOLOGICAL ACTIVITY OF 2-(4’-DIETHYL SULFONAMIDE PHENYL)-4-SUBSTITUTEDAMINOMETHYL-1,3,4-OXADIAZOLIN-5-THIONES.

   3. ECOFRIENDLY PATHWAYS FOR DRUG DESIGN.
4. SYNTHESSES OF BIOLOGICAL ACTIVITY OF 2-(3-CARBOXY PHENYL)-5-(4-SUBSTITUTED PHENYL)-1-ACETYL-2-PYRAZOLINES.

5. SYNTHESSES OF BIOLOGICALLY ACTIVE 1-[2-(2-METHYL-5-NITRO IMIDAZOL-1-YL)ACETYL]-3-SUBSTITUTED PHENYL-4-CARBALDEHYDE-1H– PYRAZOLE.

6. SYNTHESSES OF 1,2,4 TRIAZOLE DERIVATIVES AND THEIR BIOLOGICAL ACTIVITY.

7. SYNTHESSES OF SOME NOVEL [4-(4-OXO-2-PHENYL-4H-QUINAZOLIN-3-YL)-PHENOXY]-ACETIC ACID [1-SUBSTITUTED AMINOMETHYL-2-OXO-1,2-DIHYDRO-INDOL-3-YLIDENE]-HYDRAZIDE DERIVATIVES AND THEIR POTENTIAL BIOLOGICAL ACTIVITY.
PUBLISHED IN HETROCYCLIC COMMUNICATIONS (LONDON), VOL. XIV, NOS.1-2, PP.107-114 (2008).

8. CONVENIENT SYNTHESSES AND BIOLOGICAL ACTIVITY OF 2-AZETIDINONES AND 4-THIAZOLIDINONES.
PUBLISHED IN INDIAN JOURNAL OF HETERO CYCLIC CHEMISTRY, VOL. XVIII, PP. 57-60 (2008).

9. SYNTHESSES OF NEW TRIAZOLO-THIAZIAZOLEs AND THEIR ANTIMICROBIAL ACTIVITY.
PUBLISHED IN INDIAN JOURNAL OF HETERO CYCLIC CHEMISTRY, VOL. XVIII, PP. 61-64 (2008).

10. SYNTHESSES OF BIOLOGICALLY ACTIVE 3-[4-(4-SUBSTITUTED AMINO-4-YL-METHYL-5-THIONE [1,3,4]OXADIAZOL-2-YL-METHOXY]-PHENYL]-2-PHENYL-3H-QUINAZOLIN-4-ONES.

11. MICROWAVE ASSISTED SYNTHESSES AND BIOLOGICAL ACTIVITY OF SOME PYRAZOLEs AND THIAZOLIDINONES DERIVED FROM 1H-INDOLE-2-CARBOHYDRAZIDES.

12. PATENT: NOVEL PROCESS FOR SYNTHESIS OF ENANTIOMERICALLY PURE (R) 5-[(1R)-1-(4-ALKYLPIPERAZIN-1-YL)ETHYL]-2-METHOXYBENZENE-SULFONAMIDE.
INDIAN PATENT PUBLISHED ON 11 DECEMBER 2009.

13. SYNTHESSES OF NEW HETEROCYCLES DERIVED FROM 2-PHENYL-3,1-BENZOXA ZIN-4-ONE AND THEIR ANTIBACTERIAL AND ANTIFUNGAL ACTIVITY.
14. SIMULTANEOUS ESTIMATION OF SUMATRIPTAN SUCCINATE AND ERGOTAMINE TARTRATE IN THE TABLET DOSAGE FORM.
PUBLISHED IN INTERNATIONAL JOURNAL OF CHEMICAL AND ANALYTICAL SCIENCE, VOL. I, No. 4, Pp. 76-78 (2010).

15. SYNTHESIS OF SOME SUBSTITUTED PYRAZOLONES.

16. SIMULTANEOUS ESTIMATION OF ATENOLOL HYDROCHLOROTHIAZIDE, LOSARTAN AND VALSARTAN IN THE PHARMACEUTICAL DOSAGE FORM.

17. SIMULTANEOUS ESTIMATION OF GLIMIPIRIDE, ROSIGLITAZONE AND PIOGLITAZONE HYDROCHLORIDE IN THE PHARMACEUTICAL DOSAGE FORM.

18. SIMULTANEOUS ESTIMATION OF METFORMIN HYDROCHLORIDE, ROSIGLITAZONE AND PIOGLITAZONE HYDROCHLORIDE IN THE TABLETS DOSAGE FORM.

19. SIMULTANEOUS DETERMINATION OF PARACETAMOL, ACETYL SALICYLIC ACID, MEFENAMIC ACID AND CETIRIZINE DIHYDROCHLORIDE IN THE PHARMACEUTICAL DOSAGE FORM.

20. SYNTHESES OF BIOLOGICALLY ACTIVE 1-(SUBSTITUTED AMINOMETHYL)-3-(2'-NAPHTHOXYACETYLHYDRAZONO) INDOLIN-2-ONES.
PUBLISHED IN ASIAN JOURNAL OF CHEMISTRY, VOL. XXII, No. 9, Pp. 6677-6680 (2010).

21. SYNTHESES OF SOME THIAZOLIDIN-4-ONES AS POTENTIAL ANTIMICROBIAL AGENTS.

22. NOVEL METHOD FOR THE SYNTHESES OF 2-SUBSTITUTED BENZIMIDAZOLES USING Ti (IV) ISOPROPoxide AND CUMENE HYDROPEROXIDE.
PUBLISHED IN SYNTHETIC COMMUNICATIONS (LONDON), VOL. XLI, No. 15, Pp. 2304-2308 (2011).

23. SYNTHESES OF NOVEL SPIRO-[INDOLINE-3,3'-PYRAZOL]-2-ONES.
24. SYNTHESIS OF NEW INDOLINE-2-ONES AND THEIR MICROBIAL ACTIVITY.
PUBLISHED IN “ASIAN JOURNAL OF RESEARCH IN CHEMISTRY”, Vol.IV,

25. SYNTHESES OF BIOLOGICALLY ACTIVE 1-[2-(1,3-DIMETHYL-
2,6-DIOXO-1,2,3,6-TETRAHYDRO-PURIN-7-YL)-ACETYL]-3-
(SUBSTITUTED PHENYL)-1H-PYRAZOLE-4-CARBALDEHYDE.
PUBLISHED IN “ASIAN JOURNAL OF RESEARCH IN CHEMISTRY”,
Vol.V,

Faculty Member: Dr. Dionysia I M Coutinho


Faculty Member: Dr. Abhilasha Jain


Faculty Member: Dr. Prahlad V. Rege


15. S. T. Trivedi*, P. A. Sathe, P. V. Rege - “SIMULTANEOUS QUANTITATION OF Ascorbic acid, Lead (II) and Iron (II) IN AN INDUSTRIAL EFFLUENT USING DIFFERENTIAL PULSE POLAROGRAPHY” is published in International Journal of Chem Tech Research Vol.4, no.2, pp 539-545.


Paper / Poster Presentations

Faculty Member: DR. FREDDY H. HAVALDAR

1. Presented a research paper entitled ‘Synthesis of biologically active 3-[4-(4-substituted amine-4-ylmethyl-5-thioxo-4,5-dihydro-[1,3,4]oxadiazol-2-lmethoxy)-phenyl]-2-phenyl-3H-quinazolin-4-ones’ at the 18th Research Scholars’ Meet organized by Indian Chemical Society at Mithibai College on 11 and 12 February 2006


Faculty Member: Dr. AshmaAggarwal

AggarwalAshma (2011), Excess molar enthalpies of ternary mixtures containing o-toluidine + tetrahydropyran with pyridine or benzene or toluene at 308.15 K., 6TH National Conference on Thermodynamics of Chemical and Biological Systems, 2-4 Nov., M.D. University Rohtak(Haryana) (poster presentation).

Faculty Member: Dr. Prahlad V. Rege


Faculty Member: Dr. Roy J. J. Pereira, S.J.

International Conference presentations and participations 2012

- **Investigating the Mind Series: The Science and Clinical Applications of Meditation.** Participated in this conference which was organized by Georgetown University Medical College and John Hopkins University at Washington from November 8th to 10th 2006.

- “Can the Mind be Explained Away?” Insights from Brain Chemistry. Paper presentation at Creighton University, Omaha, USA on 31st Oct. 2008.


- “Broken Bodies, Broken Minds – A Medical Critique.” Paper presentation at the University of Guelph, Canada on March 13th, 2010.

- “I’ll get by with a little help from my friends – Neuroscience offers support to Dual Aspect Monism” has been presented at the IRC/ISSR Oxford University Conference, UK in July 2010.


- Participated in the ‘by invitation’ only conference of 23 high level educators (Vice-Chancellors, Registrars, Deans, HODs) on *Study Abroad Capacity Building* organized by the United States India Education Foundation and the U.S. Consulate at the University of Hyderabad and Lemon Tree Hotel in Hyderabad from 10th to 12th October, 2012.

- One among the 8 specially selected participants invited for the *Education Roundtable* with Mr. Wayne Wouters, Clerk of the Privy Council and Secretary to the Cabinet of the Government of Canada organized by the Consulate General of Canada at the Canadian Consulate, Mumbai on 22nd October, 2012.

- Participated in “*The Argumentative Indian*” conference organized by the University of Melbourne and the Australia India Institute at the University of Melbourne from 31st October to 2nd November, 2012.

- Delivered the 7th Alexander Mar Thoma Metropolitan Memorial Lectures. The first day dwelt on finding God through Physics and the second day dwelt on finding God through Neurosciences. The overall theme of this two day lecture series covering the Science and Religion relationship was “Meeting God in the 21st Century.” This two day lecture series in Singapore was held on 17th and 18th November, 2012.
National Conference presentations

- “Does the Chemistry of the Brain produce religious experiences?” Invited speaker for the ASSR Annual Seminar on *Cosmology, Science and Religion*, on Feb 3-5, 2012 at Khandala, India.
- “From Higgs Boson to God Particle” Paper presentation on 5th October in the Plenary Session ‘Education and Research – A Road Towards Human Excellence’ in the two day SSTech 2012 National Conference on *Science and Spirituality in the Age of Technology* organized by the University of Mumbai and the Institute of Science and Religion at Mumbai University, Kalina Campus, Mumbai on 5th and 6th October, 2012.
- “Quality of Life and Quality Life” Panelist for this session on 6th October at the two day SSTech 2012 National Conference on *Science and Spirituality in the Age of Technology* organized by the University of Mumbai and the Institute of Science and Religion at Mumbai University, Kalina Campus, Mumbai on 5th and 6th October, 2012.

* Monographs
* Chapter(s) in Books

**Dr. Roy J. J. Pereira, S.J.**

One chapter written for the book, *Gems from India*(ISPCK/VIEWS, 2006).

* Editing Books
* Books with ISBN numbers with details of publishers
* Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
* Citation Index – range / average
* SNIP
* SJR
* Impact factor – range / average
* h-index

15. Details of patents and income generated:

   **Faculty Member: DR. FREDDY H. HAVALDAR**

   **INTERNATIONAL & NATIONAL PATENT:** NOVEL PROCESS FOR SYNTHESIS OF ENANTIOMERICALLY PURE(R) 5-[(1R)-1-(4-ALKYLPIPERAZIN-1-YL)ETHYL]-2-METHOXYBENZENE-SULFONAMIDE.

16. Areas of consultancy and income generated

17. Faculty recharging strategies

18. Student projects
- percentage of students who have done in-house projects including inter-departmental
- percentage of students doing projects in collaboration with industries / institutes

Conservation Project with ChattrapatiShivaji Museum
19. Awards / recognitions received at the national and international level by
- Faculty
- Doctoral / post-doctoral fellows
- Students

20. Seminars/ Conferences/Workshops organized and the source of funding
(national /international) with details of outstanding participants, if any.

Faculty Member: **DR. FREDDY H. HAVALDAR**

1. One day **National Conference** on ‘Quality Assessment in Higher Education:
A Post Accreditation Scenario’ on 11 November 2006 at K.P.B.HindujaCollege.
2. Three days **National Seminar** on ‘Development of Innovative Strategies in
Higher Academics’ from 3-5 February 2006 at St. Xavier’s College.
3. Two days **National Seminar** on ‘Fostering Quality in Higher Education’ on 25
and 26 August 2006 at H.R.College.
4. Two days **National Seminar** on ‘Drug Design and Methodology in Chemistry’
on 31 August and 1 September 2007 at K.C.College.

**Faculty Member: Dr. Dionysia L M Coutinho**

On Planning & Organizing Committee and participated in the following:
1. International Seminar, ‘India Sustainability Symposium’, 27 to 28 November
2007.
2. International Colloquium on ‘Inclusion and Exclusion: Exploring Issues and
3. International Colloquium on ‘Higher Education and Society’, 15 December
2008.
4. Participated in a workshop on ‘Heritage Management & Conservation’
organized by the University of Mumbai and Chhatrapati Shivaji Maharaj Vastu
Sangrahalaya, Mumbai, 17 & 18 April 2009.

21. Student profile course-wise:

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>Applications received</th>
<th>Selected Male</th>
<th>Female</th>
<th>Pass percentage Male</th>
<th>Female</th>
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</thead>
<tbody>
<tr>
<td>B.Sc. In Chemistry</td>
<td>530</td>
<td>420</td>
<td></td>
<td>FY : 75</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SY : 90</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TY : 96</td>
<td></td>
</tr>
</tbody>
</table>

22. Diversity of students

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>% of students from the College</th>
<th>% of students from the State</th>
<th>% of students from other States</th>
<th>% of students from other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departmental data not available</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

23. How many students have cleared Civil Services, Defense Services, NET,
SLET, GATE and any other competitive examinations?
24. Student progression

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Percentage against enrolled</th>
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</thead>
<tbody>
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<td>UG to PG</td>
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<tr>
<td>PG to M.Phil.</td>
<td></td>
</tr>
<tr>
<td>PG to Ph.D.</td>
<td>Departmental data not available</td>
</tr>
<tr>
<td>Ph.D. to Post-Doctoral</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td></td>
</tr>
<tr>
<td>• Campus selection</td>
<td></td>
</tr>
<tr>
<td>• Other than campus recruitment</td>
<td></td>
</tr>
<tr>
<td>Entrepreneurs</td>
<td></td>
</tr>
</tbody>
</table>

25. Diversity of staff

<table>
<thead>
<tr>
<th>Percentage of faculty who are graduates</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>of the same parent university</td>
<td>75%</td>
</tr>
<tr>
<td>from other universities within the State</td>
<td>5%</td>
</tr>
<tr>
<td>from other universities from other States</td>
<td>20%</td>
</tr>
</tbody>
</table>

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period:

27. Present details about infrastructural facilities
a) Library: Department has a small Library of its own for the students run by student members of Xavier’s Association of Chemistry (XAC)
b) Internet facilities for staff and students
c) Total number of class rooms
d) Class rooms with ICT facility
e) Students’ laboratories
f) Research laboratories:

28. Number of students of the department getting financial assistance from College.
Departmental data not available

29. Was any need assessment exercise undertaken before the development of new program(s)?
If so, give the methodology.

30. Does the department obtain feedback from
a) faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?
Yes. The department redesigns the syllabi often.
b) students on staff, curriculum as well as teaching-learning-evaluation and what
is the response of the department to the same?
Yes. TAQs are conducted every alternate year.

c) alumni and employers on the programmes and what is the response of the department to the same?

31. List the distinguished alumni of the department (maximum 10)
- Dr. Peshotan Mirza (Ex-Faculty & Head Priest of Parsi community)
- Mark Saldanha (Managing Director, GlenMark Pharmaceuticals)
- Aubrey Mendonca (Visiting faculty, Canada)
- Dr. Naval Katrak (ex-manager L&T)
- Dr. Cyrus Dalal (Managing Director, Castrol)
- Dr. Noel D'Souza (R & D manager, Hoescht)
- Dr. Sivaramakrishnan Iyer (Vice-President, HealthCare, Nicholas Piramal)
- Dr. Navinchandra K Khatri (General Manager, Elder Pharmaceutical)
- Dr. Ravichandra Palkar (Manager, Kores)
- Mr. Akshay Arora (MD, Ion Exchange)

32. Give details of student enrichment programmes (special lectures / workshops / seminar)
with external experts.
Lectures were conducted by several eminent speakers like
Dr. Shirsat from Goa University
Dr. A. Q. Contractor from IIT
Dr. Poojary on Drug Designing
Dr. Z. Turel D. Litt. Retired from Institute of Science and currently an adjunct
Professor at Mithibai College

34. List the teaching methods adopted by the faculty for different programmes.
Power-Point presentations, OHP, Models, Computer generated experiments

35. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?
By taking feedback periodically from the students and the faculty.

36. Highlight the participation of students and faculty in extension activities.
SIP

37. Give details of “beyond syllabus scholarly activities” of the department.
Industrial Visits conducted to Hindalco, Cadilla Pharmaceuticals CIPLA and several smaller Industries involved in synthesizing dyes, brighteners and surfactants.
Annual Seminar for our Students at Khandala
Visit to Sophisticated Analytical Instrumentation Facility in IIT Bombay
38. State whether the programme/department is accredited/graded by other agencies. Give details. : No

39. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department:

**Strengths**
- Brilliant teaching faculty
- Actively involved in research
- Strives for academic excellence
- Strives for holistic growth of students
- Brilliant student-faculty interaction

**Weaknesses**
- The proportion of faculty in the department who have expertise in Inorganic and Analytical Chemistry is less.

**Opportunities**
- Autonomy has unfolded a lot of opportunities for designing syllabi which is challenging and relevant & also thrown open a plethora of opportunities for collaborating with universities abroad.

**Challenges**
- Potential for starting job oriented / Industry oriented courses

40. Future plans of the department.
- Starting job oriented / Industry oriented courses

41. OTHER RELEVANT CONTRIBUTIONS

The Department has introduced a new course in Neurochemistry from June 2012 which is currently being offered as an Applied Component by the Department. It is being taught by our fresh Ph.D. Dr. Roy J. J. Pereira, S.J.

**Faculty Member: DR. FREDDY H. HAVALDAR**
1. Appointed as a member of the **Vigilance Squad** by the Vice-Chancellor, University of Mumbai on 6 October 2006.

2. Conferred ‘**The Research Award**’ for 2007-2008 by St. Xavier’s College.
3. Invited as an **Expert in Chemistry** on Selection Committee for Staff Placement at K.C. College on 4 September 2009.
4. Appointed the **Presiding Officer** by the Election Commission during General Election to Maharashtra Legislative Assembly on 12 October 2009.
5. Conferred ‘**A Special Research Award**’ for 2009-2010 by St. Xavier’s College.
6. Invited as a **Judge** for the research paper competition at M.Sc. (Part II) at Ruia College on 21 January 2011.
7. Invited as an **Expert in Chemistry** on Selection Committee for Staff Placement at Vivekanand College on 22 January 2011.
8. **Convenor** of Department Committee to draft the S.Y.B.Sc. (Autonomous) Syllabus in Organic Chemistry.

**Faculty Member: Gulshan Shaikh**
1. Resource person for Orientation of new staff faculty
2. Resource person for BSc Nautical Science Maritime Academy
3. Lecturer for MSc Part I and Part II - Organic Chemistry
   [University of Mumbai]
4. Participated in the following events:
   a. Human Rights in a Globalized World - Liverpool Hope University and St. Xavier’s College
   b. Ted-Ex Gateway Y.B.Chavan Center, Mumbai
   c. Innovative Teaching in Chemistry – TIFR, Mumbai
   d. Delivered talks on Science as a career option – CJM school, Mumbai

Faculty Member: Dr. Dionysia L M Coutinho
1. 2001 to 2012 - on the College panel for F.Y.BSc. admissions.
2. 2005 till date - College IQAC.
4. 2009 till date – Convenor of the College TAQ Committee.

Faculty Member: Surabhi Potnis
1. Member, TYBSc syllabus committee of Mumbai University 2009-2010
2. Convener, syllabus committee for framing of autonomous syllabi of FYBSc, SYBSc and TYBSc Chemistry in St. Xavier’s College
3. Resource-person in UGC sponsored Workshop for TYBSc revised syllabus organized by Board of Studies in Chemistry of Mumbai University conducted at Khalsa College in June 2010
4. Invited as Subject Expert on Selection committee for appointment of new faculty at Sophia College, Wilson College
5. Invited as Subject Expert on Selection committee for Staff Placement at Rizvi College, Sophia College and Wilson College
6. Member of panel for selection and training of students for International Junior Science Olympiad 2008 onwards
7. Resource person at Orientation cum Selection Camps for International Junior Science Olympiad 2008 onwards
8. Visiting faculty for BSc Nautical Science
9. Panel member for selection interviews for HomiBhabha Young Scientist Prize: 2009
10. Invited as resource person for Teacher training program conducted for Science teachers by BASE at AmulakhAmichand High School: July 2012

Departmental activities:
1. Dr. Freddy Havaldar, Dr. B.D. Bonde and Dr. Abhilasha Jain went for Industrial visit to Cadilla Pharmaceuticals, Ahmedabad in October, 2011 with the students.
3. Fr Roy Pereira SJ, Prof M Kotwal and Prof (Ms) Sonali Ghadi conducted a workshop cum seminar for Chemistry undergraduate students at Khandala
4. Dr. Abhilasha Jain completed PGDBA (Post Graduate Diploma in Business Administration) from Symbiosis, Pune with A+ grade.
5. Xavier’s Association of Chemistry [XAC] organizes an intercollegiate festival / competition since its inception in 2003 called Chem-X-Treme.

42. University Recognitions Received by the teachers in the last academic year (Committees and Academic bodies):

<table>
<thead>
<tr>
<th>Department</th>
<th>Number</th>
<th>Name/s of Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEMISTRY</td>
<td>-------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>No. of Faculty</td>
<td>12</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>As Resource persons for Refresher Course and Orientation Programme</td>
<td></td>
<td>Dr. F. Havaladar, Prof. S. Potnis, Dr. D. Coutinho, Dr. (Fr) R. Pereira, Prof. G. Shaikh, Dr. B. D. Bonde, Prof. M. Kotwal, Dr. A. Aggarwal, Dr. G. Kotian, Prof. S. Khan, Dr. A. Jain: Designing T.Y.B.Sc Theory and Practical (autonomous) Syllabi and Revision of F.Y.B.Sc. and S.Y.B.Sc. Theory and Practical syllabi of autonomous curriculum Dr. F. Havaladar, Fr. Roy Pereira SJ, Dr. B. D. Bonde for Applied component syllabi</td>
</tr>
</tbody>
</table>

Syllabus Committee

Undergraduate

Board of Studies

Faculty of Arts/Science

Academic Council

Examination:

a) Undergraduate Examiners

Dr. Freddy Havaladar: TYBSc. Theory and Practicals
Prof. (Ms) S. S. Potnis: TYBSc
Prof. G. Shaikh: TYBSc. Theory and Practicals [Organic]
Dr. B. D. Bonde: TYBSc Theory and Practical.
Prof. Marazban Kotwal: TYBSc Theory and Practical.
Dr. Ashma Aggarwal: TYBSc Theory [Analytical] and Practicals [Physical & Analytical]
Dr. Geeta Kotian: TYBSc. Theory (Inorganic) and Practicals [Organic]
Prof. Saima Khan: TYBSc. Theory (Inorganic) and Practicals [Organic]
Dr. Roy Pereira: TYBSc Practicals
### b) Post graduate Examiners

<table>
<thead>
<tr>
<th>Name</th>
<th>Roll</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Freddy Havaldar</td>
<td></td>
<td>PAPER-SETTER, MSc Theory and Practicals</td>
</tr>
<tr>
<td>Dr. (Ms) Dionysia Coutinho</td>
<td></td>
<td>MSc Theory and Practicals</td>
</tr>
<tr>
<td>Prof (Ms) S. S. Potnis</td>
<td></td>
<td>MSc (Part I) theory and practicals (2006-2008)</td>
</tr>
</tbody>
</table>

### Moderators

<table>
<thead>
<tr>
<th>Name</th>
<th>Roll</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof (Ms) S. S. Potnis</td>
<td></td>
<td>TYBSc Theory (Paper-setter: 2009 -2011)</td>
</tr>
</tbody>
</table>

### Laboratory inspection committees appointed by the University

<table>
<thead>
<tr>
<th>Name</th>
<th>Roll</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Freddy Havaldar</td>
<td></td>
<td>MSc Part I and II : Organic Chemistry</td>
</tr>
<tr>
<td>Prof (Ms) S. S. Potnis</td>
<td></td>
<td>MSc Part I: Analytical Chemistry</td>
</tr>
<tr>
<td>Prof. Gulshan Shaikh</td>
<td></td>
<td>MSc. Part I and Part II Organic Chemistry</td>
</tr>
<tr>
<td>Prof. Marazban Kotwal</td>
<td></td>
<td>MSc Part I: Physical Chemistry</td>
</tr>
<tr>
<td>Fr Roy Pereira SJ</td>
<td></td>
<td>Neuroscience at JDV Pune (Masters course)</td>
</tr>
</tbody>
</table>

### Post graduate teachers

<table>
<thead>
<tr>
<th>Name</th>
<th>Roll</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Freddy Havaldar</td>
<td></td>
<td>MSc Part I and II : Organic Chemistry</td>
</tr>
<tr>
<td>Prof (Ms) S. S. Potnis</td>
<td></td>
<td>MSc Part I: Analytical Chemistry</td>
</tr>
<tr>
<td>Prof. Gulshan Shaikh</td>
<td></td>
<td>MSc. Part I and Part II Organic Chemistry</td>
</tr>
<tr>
<td>Prof. Marazban Kotwal</td>
<td></td>
<td>MSc Part I: Physical Chemistry</td>
</tr>
<tr>
<td>Fr Roy Pereira SJ</td>
<td></td>
<td>Neuroscience at JDV Pune (Masters course)</td>
</tr>
</tbody>
</table>

### Ph.D. guides

<table>
<thead>
<tr>
<th>Name</th>
<th>Roll</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Freddy Havaldar</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Ph.D. Examiners

<table>
<thead>
<tr>
<th>Name</th>
<th>Roll</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Freddy Havaldar</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Coordinators/resource persons in workshops on syllabus / Practicals

<table>
<thead>
<tr>
<th>Name</th>
<th>Roll</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Freddy Havaldar</td>
<td></td>
<td>was a member of panel for appointment of examiners at the TYBSc applied component practicals &amp; M.Sc. Part II Organic Chemistry.</td>
</tr>
</tbody>
</table>

### 43. Academic Achievements of Students:

**i. Award/ prize won at Intercollegiate academic competitions:**

Ms. Veena Iyer secured 2nd rank in Chemistry Aptitude Test conducted by Indian Chemical Society

**ii. Academic achievements at University Exams:**

i) Ms Viola D'Mello secured 3rd rank in Chemistry in Mumbai University at TYBSc in 2011.

ii) Ms Veena Iyer secured 1st rank in Chemistry in Mumbai University at TYBSc in 2012.

### 44. List the faculty of the department who have undergone staff development Refresher courses:

Dr. Freddy Havaldar:
Participated in Refresher Course conducted by UGC Academic Staff College, University of Mumbai from 6 October 2008 to 25 October 2008, Emerging trends in chemistry.

**Marazban Kotwal**
Participated in Refresher Course conducted by UGC Academic Staff College, University of Mumbai from 1st October 2012 to 20th October 2012, Recent Developments in Material Science.

**Asha Aggarwal**
Participated in Refresher Course conducted by UGC Academic Staff College, University of Mumbai in Oct. 2009, Emerging trends in chemistry.

**Geeta Kotian**
i) Participated in Refresher Course conducted by UGC Academic Staff College, University of Mumbai from 6th October 2008 to 25th October 2008, Emerging trends in chemistry.

ii) Participated in Refresher Course conducted by UGC Academic Staff College, University of Mumbai from 1st October 2012 to 20th October 2012, Recent Developments in Material Science.

**Saima Khan**
i) Participated in Refresher Course conducted by UGC Academic Staff College, University of Mumbai from 1st October 2010, Emerging trends in chemistry.

ii) Participated in Refresher Course conducted by UGC Academic Staff College, University of Mumbai from 1st October 2012 to 20th October 2012, Recent Developments in Material Science.

**Surabhi Potnis**
Participated in Refresher Course conducted by UGC Academic Staff College, University of Mumbai in October 2006, Green Chemistry.

**Orientation courses:**

**Asha Aggarwal**
Participated in Orientation Course conducted by UGC Academic Staff College, University of Mumbai in 2007.

**Geeta Kotian**
Participated in Orientation Course conducted by UGC Academic Staff College, University of Mumbai in 2006

**Saima Khan**
Participated in Orientation Course conducted by UGC Academic Staff College, University of Mumbai in 2008

**45: Department of Chemistry: Honours Summary**
Lecture Series conducted to date:
1. Fundamentals of Chemistry for third year Biological Science students
2. Chemistry in the Pharmaceutical Industry
3. Toxicological Studies
4. Applications of Spectroscopy
5. Chemistry in Basic Forensic Science
6. Chemistry in Advanced Forensic Science
7. Chemistry in Marine Science
8. Pericyclic Reactions
9. Perfumery
10. Chemistry in Nutrition
11. Homeopathy
12. Organic Magnets
13. Marine Science

Project Work: This was theoretical as well as experimental:
1. An insight into production
2. Water Pollution studies
3. Drug Analysis
4. Chromatography – Techniques and Application
5. A new approach to Qualitative Analysis
6. Classical Physical Chemistry
7. Environmental Chemistry – Soil Analysis
8. Architecture in Chemistry
9. Analytical Techniques

Guided Work: A theoretical activity, assignment that was guided by the faculty.
Topics covered all branches of Chemistry. Some of the topics are:
1. Nanotechnology
2. Biodiesels
3. Geochemistry
4. Homeopathy
5. Chemistry in Cosmetics
6. Application of Thermodynamics / Physical Chemistry to the Life Sciences
7. Alchemy
8. Food Adulteration
9. Fermentation
10. X-Ray & Diffraction studies
11. Nuclear Chemistry

Book Review: Chemistry or Chemistry related books were read and critically analyzed. Some of the titles covered are:

**Organic Chemistry**
1) Environmental Chemistry
2) Spectroscopy
3) History of Chemistry.

**Biochemistry**
1) Medicinal Chemistry
2) Pharmaceutical Industry
3) Industrial Chemistry
4) Applications of Chemistry.

46. CURRENT RESEARCH:
a) On-going projects leading to PhD Degree under Dr. Freddy H Havaldar:
1. Syntheses and biological activity of some novel Nitrogen containing heterocycles – Azadkumar S. Sharma
2. Syntheses of some novel azaheterocycles and study of their pharmacological activity – Bhushan Dabholkar.


b) On-going research by Abhilasha Jain, Ashma Aggarwal and Marazban Kotwal
   Photo-fenton degradation of certain dyes catalyzed by organic additives:
   A technique for waste-water treatment
Department of Geology

1. Name of the Department & its year of establishment:
Department of Geology, Established in 1920.

2. Names of Programmes / Courses offered
UG:  B.Sc - Geology
PG:  M.Sc - Geology
Ph.D - Geology
Diploma – Gemmology

3. Interdisciplinary courses and departments involved
N.A

4. Annual/ semester/choice based credit system
Semester and Choice based credit system

5. Participation of the department in the courses offered by other departments
a. Ancient Indian Culture (A.I.C) - visiting faculty for M.A - AIC in our college.
b. Department of Extra Mural Studies, University of Mumbai - Visiting faculty for certificate course in Geology.
c. Academic Staff College, University of Mumbai, Resource Person for Orientation Courses and Refresher Courses (Since 1999).

6. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>Associate Professors</td>
<td>02</td>
<td>02</td>
</tr>
<tr>
<td>Asst. Professors</td>
<td>04    05( sanctioned in 2012)</td>
<td>04</td>
</tr>
</tbody>
</table>

7. Faculty profile with name, qualification, designation, specialisation (D.Sc./D.Litt./ Ph.D./M.Phil., etc.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialization</th>
<th>No. of Years of Experience</th>
<th>No. of Ph.D. students guided in the last 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syed Jaffer Najafi</td>
<td>M.Sc, Ph.D</td>
<td>Associate Professor</td>
<td>Igneous Petrology</td>
<td>29 (Retd. 2008)</td>
<td>01</td>
</tr>
<tr>
<td>Bakhtawar S. Sethna</td>
<td>M.Sc, Ph.D</td>
<td>Associate Professor</td>
<td>Igneous Petrology</td>
<td>28 (deceased-March 2012)</td>
<td>-</td>
</tr>
<tr>
<td>Hrishikesh Samant</td>
<td>M.Sc, M.Tech, Ph.D</td>
<td>Associate Professor</td>
<td>Geomorphology</td>
<td>16</td>
<td>02 registered</td>
</tr>
<tr>
<td>Pravin Henriques</td>
<td>M.Sc, Ph.D</td>
<td>Assistant Professor</td>
<td>Oceanography</td>
<td>17</td>
<td>-</td>
</tr>
<tr>
<td>Bobby Mathew</td>
<td>M.Sc</td>
<td>Assistant Professor</td>
<td>Hydrogeology</td>
<td>09 (on FIP May)</td>
<td>-</td>
</tr>
<tr>
<td>Name</td>
<td>Qualification</td>
<td>Designation</td>
<td>Specialization</td>
<td>No. of Years of Experience</td>
<td>No. of Ph.D. students guided in the last 4 years</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------</td>
<td>---------------------</td>
<td>----------------------</td>
<td>---------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Goutam Bandyopadhyay</td>
<td>M.Sc, Ph.D</td>
<td>Assistant Professor</td>
<td>Economic Geology</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Ashutosh Singh</td>
<td>M.Sc, Ph.D</td>
<td>Assistant Professor</td>
<td>Micropaleontology</td>
<td>01 (resigned 2010)</td>
<td></td>
</tr>
<tr>
<td>Hilal Faroq</td>
<td>M.Sc, Ph.D</td>
<td>Assistant Professor</td>
<td>Hydrochemistry</td>
<td>02 (resigned 2012)</td>
<td></td>
</tr>
<tr>
<td>Vikram Pratap Singh</td>
<td>M.Sc, Ph.D</td>
<td>Assistant Professor</td>
<td>Micropaleontology</td>
<td>06 months</td>
<td></td>
</tr>
<tr>
<td>Ashwin Pundalik</td>
<td>M.Sc</td>
<td>Assistant Professor</td>
<td>Sedimentology</td>
<td>2.5 years</td>
<td></td>
</tr>
<tr>
<td>Sadaf Fatima</td>
<td>M.Sc</td>
<td>Assistant Professor</td>
<td>Geochemistry</td>
<td>06 months</td>
<td></td>
</tr>
<tr>
<td>Farida Baxamusa</td>
<td>M.Sc.</td>
<td>Temporary - CHB</td>
<td>Geology</td>
<td>1 year</td>
<td></td>
</tr>
<tr>
<td>Steffi Fernandes</td>
<td>M.Sc.</td>
<td>Temporary- CHB</td>
<td>Geology</td>
<td>06 months</td>
<td></td>
</tr>
</tbody>
</table>

8. **Percentage of classes taken by temporary faculty – programme-wise information**
   - B.Sc: 20%
   - M.Sc: Nil

9. **Programme-wise Student Teacher Ratio**
   - B.Sc: 30:1
   - M.Sc: 06:1*
   *combined teaching

10. **Number of academic support staff (technical) and administrative staff: sanctioned and filled**
    - Laboratory Assistants: 01 (Sanctioned 01)
    - Laboratory Attendants: 02 (Sanctioned 02)

11. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.**
    - Nil

12. **Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received**
    - Nil

13. **Research facility / centre with**
    - state recognition - Recognised Ph.D Lab with permanent recognition by University of Mumbai.
14. Publications:

LIST OF PUBLICATIONS BY STAFF (2008 - 2012)

Ashwin Pundalik:

Ashutosh K. Singh (in Journal)

Bobby Mathew:

Hilal Farooq:

(In International Conferences)


Hrishikesh Samant (Publications in Journals)


(Articles in ISSN Magazines)


(Presented In International and National Conferences)

CONFERENCES AND WORKSHOPS (conducted)


Pravin Henrques


(In Conference proceedings)

1) Henrques P.J., 2012: Techniques for selecting jewellery pieces by understanding its intrinsic value: A Perspective Third National Seminar-cum-Workshop in “Gemmology” organized by the Dept. of Geology, Govt. Motilal Vigyan Mahavidyalaya, Bhopal (M.P) under the aegis of: South Asian Association Of Economic Geologist (SAAEG) and Indian Science Congress Association Bhopal Chapter. (Abstract)

2) Henrques P.J., 2012 :Utilization of minerals and fossils as potential raw and processed gem material. Third National Seminar-cum-Workshop in “Gemmology” organized by the Dept. of Geology, Govt. Motilal Vigyan Mahavidyalaya, Bhopal (M.P) under the aegis of: South Asian Association Of Economic Geologist (SAAEG) and Indian Science Congress Association Bhopal Chapter (Abstract)

Sadaf Fatima

Vikram Pratap Singh  
(Publications In Journals)  
(Chapter in Book)  

15. Details of patents and income generated  
Nil  

16. Areas of consultancy/training  and income generated  

1. Petrographic Analysis and Rock testing:  
   2006-07: Rs. 99,828/-  
   2007-08: Rs. 1,03,735/-  
   2008-09: Rs. 22,450/-  
   2009-10: Rs. 14,300/-  
   2010-11: Rs. 59,000/-  
   2011-12: Rs. 1,16,150/-  
   2012-till date: Rs. 46,250/-  

2. Gemmology and Gem Testing:  
   2006-07: Rs. 2,12,000/-  
   2007-08: Rs. 1,85,625/-  
   2008-09: Rs. 1,68,750/-  
   2009- 10: Rs. 61,250/-  
   2010- 11: -Nil-  
   2011-12: Rs. 66,180/-  
   2012 - till date: Rs. 1,15,500/-  

17. Faculty recharging strategies:  
Staff are regularly participating in various co-curricular and competence enhancing activities both in college as well as outside. The college has also funded staff visits to Universities in India as well as Abroad, to understand and appreciate different teaching and evaluation methods.  
a. Refresher Courses -  
   • 1st -21st February 2012: Refresher Course on Environmental Sciences., Conducted by Academic Staff College, Kerala University, Trivandrum., (Mr. Bobby Mathew)  
   • 9th - 28th August 2010: Refresher Course in Earth Science conducted by Academic Staff College, University of Kolkata (Dr. Pravin Henriques).  
   • 25th February - 17th March 2009: Refresher course in Geology conducted by Nagpur University. (Dr. G. Bandyopadhyay).  
   • 17th December 2007 to 5th January 2008: Refresher Course in
Environmental studies conducted by Academic Staff College, University of Mumbai (Dr. Pravin Henriques)

- 25th July - 14th August 2007: Refresher Course in Environmental Awareness., Conducted by Academic Staff College, University of Himachal Pradesh, Shimla. (Mr. Bobby Mathew)

b. Seminars/ Symposium and Conferences-
- 8th & 9th October 2010 : Faculty seminar on ‘Organisational Behaviour and Team Building’ at St. Xavier’s College, Human Resource Development Centre - Khandala. (All staff members).
- 12th – 14th October 2009: Bentley BeInspired: Infrastructure Best Practices Symposium, Charlotte, North Carolina, USA. (Dr. Hrishikesh Samant)
- 26th & 27th February 2009: Staff seminar on Visioning for 2015 at St. Xavier’s College, Mumbai. (All staff)
- 15th December 2008: International colloquium ‘Higher Education and Society’ at St. Xavier's College, Mumbai - (Dr. Pravin Henriques)
- 10th & 11th October 2008: Staff seminar on Systems in autonomy-credits and syllabi at St. Xavier’s College, Mumbai. (All staff members)
- 21st to 22nd Dec 2007: Workshop on conservation of water heritage “Jalasanskruti”.St. Xavier's College. (All staff)
- 3rd to 5th February 2006: National Seminar on Development of Innovative strategies in higher education “Disha” at St. Xavier’s College. Mumbai. (All staff)

c. Workshops-
- 14th-17th September 2010: UN Office of Outer Space Affairs and European Space Agency Workshop on ‘Space Technology Applications for Socio-Economic Benefits’, Istanbul, Turkey.(Attended ny Dr. Hrishikesh Samant)
- 4th September 2010: Workshop on Career Advancement Scheme. Organised by IQAC of Ramniranjan Jhunjunwala College, Ghatkopar. (Mr. Bobby Mathew)
- 27th to 28th Nov 2007: India Sustainability Symposium at St. Xavier’s College, Mumbai. (Dr. Pravin Henriques)

d. Training Courses:
- 4th June to 24th August 2012: 12 week course on Remote Sensing and GIS, NRSC, Hyderabad. (Bobby Mathew)

e. Visits to Universities-
- Dr. Hrishikesh Samant visited University of Bath, UK and University of East London (7th May to 16th May 2011) as member of the College delegation to understand evaluation and assessment methods.
f. Total Quality Management-
   - 26th-28th September 2012, National Seminar on Academic Leadership for Heads of Departments. Organised by Centre for Education Beyond Curriculum, A TQMS initiative, Christ University, Bangalore. (Dr. Hrishikesh Samant)

18. Student projects
Projects were done under the Honours Program. Approximately 30% students who graduated with geology carried out guided research projects in topics not part of their regular curriculum.

19. Awards / recognitions received at the national and international level by
   - Faculty:
     - Dr. Hilal Faroq
     - Awarded “Young Scientist Project” on problem of arsenic contamination in groundwater of West Bengal from Department of Science and Technology, Govt. of India (Budget 11.16 lakhs).
     - Awarded a fellowship of 1600 US$ by Ministry of Foreign Affairs of Denmark under International Development Cooperation (DANIDA) for attending an international conference.
     - Dr. Hrishikesh Samant
     - Nominated Member of the National Task Force on Geospatial Education, MHRD, New Delhi. (December 2010 onwards)
     - Executive council member- Open Source Geospatial- India (OSGeo-India) 2010-2012.
     - Judge: DigitalGlobe 2010 : 8 Band Research Challenge (December 2010)

   - Students:
     - Best Paper Presentation Award: Michelle Viswanathan, Two Day National Conference on Geo-Informatics, 8th &9th December 2006. Title "A Comparative Study of Vegetation Indices - Mumbai City".
20. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any. 
Nil.

21. Student profile course-wise:

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>Applications received</th>
<th>Selected</th>
<th>Pass percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Male</td>
<td>Male Female</td>
</tr>
<tr>
<td>M.Sc Geology</td>
<td>51</td>
<td>08</td>
<td>12</td>
</tr>
<tr>
<td>B.Sc. Geology</td>
<td>255</td>
<td>185</td>
<td>FY 80-85%</td>
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<tr>
<td></td>
<td></td>
<td>SY 90%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TY 100%</td>
<td></td>
</tr>
</tbody>
</table>

22. Diversity of students

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>% of students from the College</th>
<th>% of students from the State</th>
<th>% of students from other States</th>
<th>% of students from other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departmental data not available</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?

- 2007 - 2008: IIT JAM - 03
- 2008 - 2009: IIT JAM - 06
- 2009 - 2010: IIT JAM - 02
- 2010-2011: NET - 01, IIT JAM - 02
- 2011-2012: MPSC- Maharashtra Police 01, Civil Services - In Indian Revenue Service: 01, IIT JAM - 02
- 2012-2013: NET- 01, IIT JAM - 03

24. Student progression

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Percentage against enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG to PG</td>
<td>50%</td>
</tr>
<tr>
<td>PG to M.Phil.</td>
<td>-</td>
</tr>
<tr>
<td>PG to Ph.D.</td>
<td>-</td>
</tr>
<tr>
<td>Ph.D. to Post-Doctoral</td>
<td>-</td>
</tr>
<tr>
<td>Employed</td>
<td>75% campus</td>
</tr>
<tr>
<td>• Campus selection</td>
<td>25% other</td>
</tr>
<tr>
<td>• Other than campus recruitment</td>
<td></td>
</tr>
<tr>
<td>Entrepreneurs</td>
<td></td>
</tr>
</tbody>
</table>
25. **Diversity of staff**

<table>
<thead>
<tr>
<th>Percentage of faculty who are graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>of the same parent university</td>
</tr>
<tr>
<td>from other universities within the State</td>
</tr>
<tr>
<td>from other universities from other States</td>
</tr>
</tbody>
</table>

26. **Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.**

   Nil.

27. **Present details about infrastructural facilities**

   a) Library: Centralised facility with special section for PG work.
   
   b) Internet facilities for staff and students: Centralised facility at Knowledge centre.
   
   c) Total number of class rooms: 02 + centralised facility
   
   d) Class rooms with ICT facility: 02
   
   e) Students’ laboratories: 02
   
   f) Research laboratories: In Department and also Centralised

28. **Number of students of the department getting financial assistance from College.**

   approximately 15 students per year out of 175 students (BSc + MSc)

29. **Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.**

   Nil.

30. **Does the department obtain feedback from**

   d. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it? Yes, faculty is on syllabus committees, and Board of Studies. Syllabus is industry oriented.

   e. students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same? The Teaching Assessment Questionnaire scores are used for personal improvement and fine tuning teaching methods.

   f. alumni and employers on the programmes and what is the response of the department to the same?

   Alumni are members on the departmental Board of Studies. This has helped us formulate an industry oriented course content.

31. **List the distinguished alumni of the department (maximum 10)**

   1. Late. Prof. R.N. Sukheswala, Member of IUGS on Streckeisen Committee on nomenclature of Igneous Rocks.
   
   2. Dr. Niloufer Adil Kazmi, Secretary, UGC.
   
   3. Mr. S.V. Rao, Director - Exploration, ONGC.
   
   4. Prof. Raja Sengupta, McGill University, Canada and visiting faculty at IIT Delhi.
   
   5. Prof. Arundhuti Ghatak, IISER Bhopal.
6. Mr. Rajat Sood, Program Manager, Schlumberger, Huston, Texas.
7. Dr. Satish Umrikar, Hydrogeologist, Government of Maharashtra.
10. Prof. Adil Wadia, University of Akron, Wayne College, IL, USA.

32. **Student enrichment programmes (special lectures / workshops / seminar) with external experts.**
   12th September 2012: Special Lecture- Environment and You- Conservation practices., Dr. Maneck Chichgar, State of California, Environment Protection Agency, USA.
   18th December 2010: Invited Lecture- Chert Formation as a Result of Chemical Weathering of Volcanic Ash., Lecture by Prof. Adil Wadia, University of Akron, Wayne College, IL, USA.

33. **List the teaching methods adopted by the faculty for different programmes.**
   Faculty members role is more as a facilitator to the 'Learner'.
   Extensive use of ICT in teaching. Faculty members have easy access to all devices as well as applications for effective communication, eg. Laptops, iPad, LCD & LED Projection systems, Micro-Image Projection and Capture system.
   Geology being mainly field oriented, field visits to local areas of geological interest as wells as field visits for longer duration to practice and perfect field mapping skills of the learner are planned every year.

34. **How does the department ensure that programme objectives are constantly met and learning outcomes monitored?**

35. **Participation of students and faculty in extension activities.**
   Extension activities by faculty members is in form of delivering lectures at various colleges, schools and institutes for popularizing the subject has been done. School children visit the department as part of popularising the subject effort.

Invited Lectures Delivered:
   Dr. H.P. Samant:
4) The GEO-Spectrum Interface and its Applications to Civil Engineering p ISTE approved weeklong STTP, Rizvi College of Engineering, Resource Person - ‘Role of Geology in Civil Engineering’, 12th July 2011
10) ECOSPEAK 09’ – Environmental Festival of Guru Nanak Khalsa College, Mumbai, Keynote address ‘Monitoring the Coastal Regulation Zone Using Temporal Map and Satellite Data’ 30th January 2009

36. “beyond syllabus scholarly activities” of the department.

- The department published the first issue of an exclusive magazine by the students and staff 'TERRA' which was released on the 12th December 2012.
- Honours Program (till March 2012).
37. State whether the programme/ department is accredited/ graded by other agencies. Give details.
   No.

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department:

Strengths:
1. Faculty with expertise in different disciplines and from different Universities.
2. Faculty with industry experience.
3. Consultancy projects done by faculty.
4. Faculty with consistent record of research paper publication, conference presentations (National, International).
5. Well placed Alumni who support our student placement and Training.

Weakness:
1. Excessive workload due to lack of sufficient faculty members.
2. Limitations on space for setting up laboratories for Post Graduate studies.
3. Lack of specialized equipment to cater to Post Graduate training and instructions in laboratory.
4. Limitation on student intake due to limitation of space and number of teachers.
5. Dependency on government funding.

Opportunities:
1. The booming oil and natural resources sector needs manpower resulting in huge demand for the subject by students.
2. As the subject is application oriented, Jobs for our graduates in allied sectors from banking to mapping and insurance to media.
3. Public as well as Government sector is recruiting geologists in large numbers.
4. Demand by environment protection agencies as geology is intrinsically related to earth system science.

Threats:
1. High attrition rate among teaching staff due to good job opportunities in industry.
2. Being the only college offering Geology, affiliated to the University of Mumbai, we get marginalized in the decision making process.

39. Future plans of the department.
   Being the only post graduate department of geology in colleges affiliated to the University of Mumbai, the primary focus is to further strengthen our research and consultancy work.
   Projects that will have a profound impact on the future course of the department are listed below: The implementation of these is dependent on funding which we plan to apply for from DST and UGC.
   Below are the four projects that have been planned for the coming years.

1. To prepare a Spectral Database of Gemstones of India:
   The aim of this project is to prepare a spectral database of all Indian
gemstones using the non-destructive Raman spectroscopic analysis method. The spectral database will develop our ability to identify and authenticate a gemstone.

The present methods used in the department are mainly optical using polarising microscope. This method has its limitations, as today, a large number of gemstones undergo enhancements and are made to simulate other minerals. As being the premier department involved in teaching of Gemmology, this project will add to the knowledge base and help in capacity building.

2. Ground Water Table Characterization of select areas in Deccan Flood Basalts:
Study of rock structure and water table fluctuations in select areas of Deccan Volcanic Province which have been majorly dissected by dykes will be attempted. The results are of great significance to all the government funded watershed management projects as the flow characteristics of ground water are presently unknown and field treatments done on watersheds does not give optimum returns.
Water table investigation using electrical imaging will result in subsurface modelling of the geology and structure contributing to the development of a accurate ground water model which can be effectively used for sustainable extraction of groundwater.

3. To prepare a spectral database of the Secondary Minerals occuring (mainly Zeolites) in Deccan Flood Basalts:
The aim of the project is to obtain unique fingerprint of the mineral using its Thermal properties. The present status of identification is mainly based on optical and chemical characteristics which are not perfectly suited for the identification of Zeolites. Differential Thermal Analysis and Gravimetry is the best technique to identify and characterise the zeolites which are available in the Deccan Flood Basalts.

4. Creation of a 3D model for subsurface geology of Mumbai city.
Geological Mapping of Mumbai has been done by various researchers since the early 1960's. A large volume of subsurface data in form of borehole logs is available, though not as a single repository. The department through its 90 years of functioning, has extensive data and samples collected and documented. This project aims at preparing a subsurface geology 3D model which will have extensive usage for the infrastructure and underground rail projects which are envisaged in the near future.

Tentative Plans for New Courses:
Keeping the demand from industry in mind, courses with specialisation in Petroleum geology and/or Geoinformatics have been planned.
Evaluative Report of the Department of Life Science & Biochemistry

1. Name of the Department & its year of establishment
   DEPARTMENT OF LIFE SCIENCE & BIOCHEMISTRY
   Established in year: 1977

2. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)
   - BSc: with 6 units of Life Sciences at the TYBSc level
   - BSc: with 3 units of Life Sciences and 3 units of Biochemistry at the TYBSc level.
   - MSc: Papers - Applied Medical Sciences as a Specialization
     Research – Life Science; Biochemistry
   - PhD: Life Science
   - Diploma: Clinical Research

3. Interdisciplinary courses and departments involved:
   - Biochemistry- a core subject at the third year level is offered to all students of Life Sc., Microbiology, Zoology and Botany, who have taken Chemistry at the Second year level.
   - Cross Faculty Program on Nutrition and Reproductive Health (offered to the students of SYBA, SYBMS, SYBMM)
   - Applied Component course in “Environmental Science” is open to TYBSc students of Life Sc., Microbiology, Zoology, Botany and Chemistry.
   - Diploma in Clinical Research is open to graduates of any stream of biology

4. Annual/ semester/choice based credit system:
   The department follows a choice –based credit system with two semesters to the year for a three –year graduation program.
   - Intra departmental choices: TYBSc core subject - students may choose to complete all their credits in Life Science or 50% in Life Science and 50% in Biochemistry.
   - Inter departmental choices: TYBSc Applied Component, SYBSc – All Life Sc students require Chemistry upto the SYBSC level, Cross Faculty Special Course, Course in Scientific Communication Skills

5. Participation of the department in the courses offered by other departments
   Students
   - The students of SYBSc Life Science have to take a cross faculty course with the Arts departments.
   - In their TYBSc, the students can take their Applied Component Course with any of the Science departments as long as they satisfy the minimum criteria laid down by the department.

   Faculty
Several of the teaching staff acted as resource persons for varying periods during the years 2007-12 in the MSc Biotechnology course and the MSc Industrial Biotechnology and Enterprise course.

Resource Person for orientation Courses conducted by the Academic Staff College, University of Mumbai (Since 2011).

6. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Associate Professors</td>
<td>3</td>
<td>03</td>
</tr>
<tr>
<td>Asst. Professors</td>
<td>6 (one sanctioned in 2012)</td>
<td>05</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Sr. N</th>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialization</th>
<th>No. of years of experience</th>
<th>No. of PhD students guided</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Dr. (Ms.) Sheela U. Donde</td>
<td>M.Sc., Ph.D</td>
<td>Associate Professor 1985-2012</td>
<td>Life Sciences</td>
<td>27 (retd. 2012)</td>
<td>01</td>
</tr>
<tr>
<td>2.</td>
<td>Dr. Samuel Namdas</td>
<td>MSc., Ph.D</td>
<td>Associate Professor 1979-2009</td>
<td>Life Sciences Biochemistry</td>
<td>30 (retd. 2009)</td>
<td>00</td>
</tr>
<tr>
<td>3.</td>
<td>Dr. (Ms.) Nandita Mangalore</td>
<td>M.Sc., M.Phil., Ph.D</td>
<td>Associate Professor</td>
<td>Life Sciences Biochemistry</td>
<td>22</td>
<td>00</td>
</tr>
<tr>
<td>4.</td>
<td>Dr. (Ms.) Radiya Pacha Gupta</td>
<td>M.Sc., Ph.D</td>
<td>Associate Professor</td>
<td>Life Sciences</td>
<td>19</td>
<td>00</td>
</tr>
<tr>
<td>5.</td>
<td>Dr. (Ms.) Seema Das</td>
<td>M.Sc., M.Phil., Ph.D</td>
<td>Associate Professor</td>
<td>Life Sciences</td>
<td>17</td>
<td>00</td>
</tr>
<tr>
<td>6.</td>
<td>Mr. Prashant Ratnaparkhi</td>
<td>M.Sc.</td>
<td>Assistant Professor</td>
<td>Life Sciences Biochemistry</td>
<td>13</td>
<td>00</td>
</tr>
<tr>
<td>7.</td>
<td>Dr. (Ms.) Priya Sundarrajan</td>
<td>M.Sc., Ph.D</td>
<td>Assistant Professor</td>
<td>Life Sciences</td>
<td>12</td>
<td>00</td>
</tr>
<tr>
<td>8.</td>
<td>Ms Sangeeta R. Shetty</td>
<td>M.Sc.</td>
<td>Assistant Professor</td>
<td>Life Sciences</td>
<td>10</td>
<td>00</td>
</tr>
<tr>
<td>9.</td>
<td>Ms. Sheetal Fernandes</td>
<td>M.Sc.</td>
<td>Assistant Professor</td>
<td>Life Sciences Biochemistry</td>
<td>04</td>
<td>00</td>
</tr>
<tr>
<td>10.</td>
<td>Ms. Girija Balan</td>
<td>M.Sc.</td>
<td>Assistant Professor</td>
<td>Life Sciences Biochemistry</td>
<td>02</td>
<td>00</td>
</tr>
</tbody>
</table>
8. Percentage of classes taken by temporary faculty – programme-wise information

<table>
<thead>
<tr>
<th></th>
<th>FYBSc</th>
<th>SYBSc</th>
<th>TYBSc</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-13:</td>
<td>-</td>
<td>Radhika Tendulkar</td>
<td>Radhika Tendulkar</td>
</tr>
<tr>
<td>2011-12</td>
<td>-</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>2010-11</td>
<td>-</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>2009-10</td>
<td>-</td>
<td>Meenu Gupta</td>
<td>Meenu Gupta</td>
</tr>
<tr>
<td>2008-09</td>
<td>-</td>
<td>Sheetal Fernandes</td>
<td>Sheetal Fernandes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pooja Sagvekar</td>
<td>Pooja Sagvekar</td>
</tr>
<tr>
<td>2007-08</td>
<td>-</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>2006-07</td>
<td>-</td>
<td>Shabih Fatima</td>
<td>Shabih Fatima</td>
</tr>
</tbody>
</table>

9. Programme-wise Student Teacher Ratio

<table>
<thead>
<tr>
<th>Programme</th>
<th>Student : Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>FYBSc</td>
<td>18:1</td>
</tr>
<tr>
<td>SYBSc</td>
<td>15:1</td>
</tr>
<tr>
<td>TYBSc Life Sciences 3U</td>
<td>20:1</td>
</tr>
<tr>
<td>TYBSc Life Sciences 6U</td>
<td>20:1</td>
</tr>
<tr>
<td>TYBSc Biochemistry 3U</td>
<td>20:1</td>
</tr>
<tr>
<td>TYBSc Environmental Science</td>
<td>20:1</td>
</tr>
<tr>
<td>MSc I Life Science</td>
<td>10:1 (till 2012)</td>
</tr>
<tr>
<td></td>
<td>Combined teaching</td>
</tr>
</tbody>
</table>

10. Number of academic support staff (technical) and administrative staff: sanctioned and filled

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Lab Assistant</td>
<td>02</td>
<td>02</td>
</tr>
<tr>
<td>Technical Lab Attendant</td>
<td>07</td>
<td>07</td>
</tr>
<tr>
<td>Administrative staff</td>
<td>00</td>
<td>00</td>
</tr>
</tbody>
</table>

11. Number of faculty with ongoing projects from
   a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.

<table>
<thead>
<tr>
<th>Name of Investigator</th>
<th>Title of the project</th>
<th>Amount sanctioned</th>
<th>Duration</th>
<th>Funding agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Sangeeta Shetty</td>
<td>Isolation of novel cellulases from extremophiles and other sources</td>
<td>1,50,000/-</td>
<td>2012-14</td>
<td>UGC-Minor Research Grant</td>
</tr>
</tbody>
</table>
12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received

DST-FIST grant of Rs. 34.20 lakhs for Equipments and Infrastructure facility (2004-07) to Dept. of Biological Sciences (Life Science, Botany, Microbiology and Zoology)

<table>
<thead>
<tr>
<th>Name of Investigator</th>
<th>Title of the project</th>
<th>Amount sanctioned</th>
<th>Duration</th>
<th>Funding agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. (Mrs.) Sheela U. Donde</td>
<td>Cloning of Cellulase genes from cellulolytic microorganisms and their transfer and expression in <em>Deinococcus radiodurans</em></td>
<td>13,80,000/-</td>
<td>3 Years (2006-09)</td>
<td>DAE – BRNS Research grant</td>
</tr>
<tr>
<td>Dr. (Ms.) Radiya Pacha-Gupta</td>
<td>Study of Haemagglutination Using Plant Lectins</td>
<td>25,000/-</td>
<td>1 Year (2006-07)</td>
<td>Mumbai University</td>
</tr>
<tr>
<td>Dr. (Mrs.) Sheela U. Donde</td>
<td>Cloning of Cellulase genes in <em>Deinococcus radiodurans</em></td>
<td>4,60,350/-</td>
<td>3 Years (2009-12)</td>
<td>BRNS- DAE, Govt. Of India, Grant</td>
</tr>
<tr>
<td>Dr. (Ms.) Radiya Pacha-Gupta</td>
<td>Toxicological and Developmental studies on the guppy fish, <em>Poecilia reticulate</em></td>
<td>30,000/-</td>
<td>2009-10</td>
<td>Mumbai University</td>
</tr>
<tr>
<td>Dr. (Ms.) Seema Das</td>
<td>Toxicological and developmental studies on the Zebra Fish, <em>Danio rerio</em></td>
<td>28,000/-</td>
<td>2008-09</td>
<td>Mumbai University</td>
</tr>
<tr>
<td>Mr. Prashant Ratnaparkhi</td>
<td>Isolation of dye-stuff metabolizing micro-organisms</td>
<td>25,000/-</td>
<td>2008-09</td>
<td>Mumbai University</td>
</tr>
<tr>
<td>Ms. Sheetal Fernandes</td>
<td>A preliminary survey of the effect of temperature and radiation stress on <em>Chironomus</em> larvae</td>
<td>40,000/-</td>
<td>2011-12</td>
<td>Mumbai University</td>
</tr>
<tr>
<td>Ms. Sangeeta Shetty</td>
<td>Isolation of novel cellulases from extremophiles and other sources</td>
<td>1,50,000/-</td>
<td>2012-13</td>
<td>UGC-Minor Research Grant</td>
</tr>
</tbody>
</table>

13. Research facility / centre with

- state recognition
- national recognition
- international recognition

Department of Life Science & Biochemistry has Recognition for PhD in Life Sc- from University of Mumbai.
Department of Life Science & Biochemistry has Recognition for MSc (by research) in Life Sc & in Biochemistry - from University of Mumbai.
14. Publications:
* number of papers published in peer reviewed journals (national / international)
* Monographs
* Chapter(s) in Books
* Editing Books
* Books with ISBN numbers with details of publishers
* number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
* Citation Index – range / average
* SNIP
* SJR
* Impact factor – range / average
* h-index

- Namdas S., Shetty S. et al; Establishment of Fibroblast Primary Cell Culture from Chick Embryos; *Environmental Technology – Biological Perspectives Issues & Challenges*; 9-10 Feb 2006, p105
- Pacha Gupta R., Donde S. et al; Chick Embryo as a Model System for Teratogenicity Studies; *Environmental Technology – Biological Perspectives Issues & Challenges*; 9-10 Feb 2006, p103
- Donde S.; *Chick Embryo as a Model System for Teratogenicity Studies*; Compartments: Cross Talks and Networks; 2-4 Feb 2007;
- Dr. Donde S. *Development of a recombinant Deinococcus radiodurans strain expressing Bacillus pumilis endoglucanase enzyme*; International Symposium on Current Trends in Life Sciences; 9 Mar 2012, p55
- Dr. Nandita Mangalore on ‘Development of a Research Culture at the Undergraduate level: Challenges & Strategies’ at the APQN International conference held from the 2nd to the 4th of March, 2011.
- Dr. Nandita Mangalore on “Quality Assurance and Best Practices at St. Xavier’s College, Mumbai” at a UGC sponsored conference at Fr. Agnel College, Goa on July 8, 2011.
- Dr. Radiya Pacha Gupta, Dr. Seema Das; *Study of the Teratogenic and Toxic Effects of Cadmium and Lithium using Chick as a Model System*; International Symposium on Current Trends in Life Sciences; 9 Mar 2012, p18
- Dr. Priya Sundararajan and Prof Sangeeta Shetty; *Toxicity Evaluation Using Human Peripheral Leukocytes as a Model System*; International Symposium on Current Trends in Life Sciences; 9 Mar 2012, p20

15. Details of patents and income generated

Nil

16. Areas of consultancy and income generated

a. Dr. Sheela Donde had undertaken a research project with Lignoil Technologies Pvt. Ltd. for the conversion of cellulosic bagasse into biofuel. Total value of the project was approximately 15 lakhs. Jul 2008-Mar 2009.

b. Dr. Priya Sundarrajan is currently a part of a consultative project on “DNA fingerprinting of Mahseer Fish from Walvan lake” with TATA power, Fund amount Rs. 9 lakhs. Dec 2011-April 2013.

17. Faculty recharging strategies

a) Orientation Courses:

- Prof Sheetal Fernandes participated in a Teacher's Orientation Programme from 14th Sep, 2011 – 12th Oct, 2011 organized by the UGC Academic Staff College, Mumbai.
- Prof. Roseita D'Souza completed orientation course held at UGC Academic staff college, Kalina Campus between 4th Nov- 2nd Dec 2008.

b) Refresher Courses:

- Prof Sangeeta Shetty participated in a UGC sponsored Refresher Course in Life Sciences from Sep 26th to Oct 15th, 2011 held in Khalsa College, Mumbai.
- Dr. Priya Sundarrajan & Prof. Prashant Ratnaparkhi completed the UGC sponsored refresher course in Biological Sciences conducted at Mithibai College from 11th Oct – 30th Oct, 2011.
- Dr. Radiya Pacha Gupta and Dr. Priya Sundarrajan completed a refresher course in’ Biotechnology’ held at Khalsa College, Mumbai between 1st – 22nd Oct, 2008.

c) Faculty Exchange Programs with Foreign Universities:

- Dr. Priya Sunderrajan and Prof. Prashant Ratnaparkhi was deputed by St. Xavier’s College to the University of Bath, UK.
- Dr. Seema Das was deputed by St. Xavier’s College to the University of Bath, UK. The purpose of the week long visit was ‘Course Improvement’ and ‘Quality Assurance’ of the collaborative MSc Industrial Biotechnology Enterprise course between St. Xavier’s College and the University of Bath.
- Dr. Nandita Mangalore was deputed on behalf of the college to University of California, Berkeley, along with 17 students, for five weeks in May – June 2009, to audit various courses at Berkeley.
Dr. Radiya Pacha Gupta was deputed by the College to participate in the UKEIRI sponsored program for the MSc IBE course conducted jointly by the college and University of Bath, UK, from 27th Feb. to 5th March, 2010.

d) Seminars organized by St. Xavier’s College for Faculty:
- Dr. Sheela Donde, Dr. Nandita Mangalore, Dr. Radiya Pacha Gupta, Dr. Seema Das, Dr. Priya Sundarrajaj, Mr. Prashant Ratnaparkhi, Ms Sangeeta Shetty, Ms. Girija Balan, Ms. Sheetal Fernandes attended all Wednesday staff seminars held in College during 2009-12.
- Dr. Nandita Mangalore, Dr. Radiya Pacha Gupta, Dr. Priya Sundarrajaj, Prof. Prashant Ratnaparkhi, Ms. Girija Balan, Ms. Sheetal Fernandes attended the faculty seminar held in Khandala on 8th and 9th Oct, 2011.
- Dr. Nandita Mangalore, Dr. Radiya Pacha Gupta, Dr. Seema Das, Dr. Priya Sundarrajaj, Prof. Sangeeta Shetty, Ms. Girija Balan, Ms. Sheetal Fernandes attended the faculty seminar held in Khandala on 30th Sep-1st Oct, 2012.

e) Conferences / Seminars/ Workshops attended
- Dr. Nandita Mangalore, Dr. Radiya Pacha Gupta, Mr. Prashant Ratnaparkhi, Ms. Sangeeta Shetty, Dr. Priya Sundarrajaj, Dr. Seema Das, Ms. Girija Balan, Ms. Sheetal Fernandes participated in the “International Conference on Current Research in Biosciences” held on 21st, 22nd Dec. 2010 at St. Xavier’s College.
- Dr. Sheela Donde, Dr. Radiya Pacha Gupta, Dr. Seema Das, and Ms. Sangeeta Shetty attended “Planet Earth” workshop at Jai Hind College on 26th and 27th Nov 2010.
- Dr. Radiya Pacha Gupta participated in the Systems Biology workshop, titled 'Introduction to systems biology and model building using open source pathway modelers' conducted by Cyborg Sapiens Bionformatica on 23 Jan 2011.
- Dr. Priya Sundarrajaj and Prof. Prashant Ratnaparkhi attended a workshop on Clinical Proteomics- Technology and beyond held at ACTREC, Kharghar between 26th and 27th Nov 2010.
- Prof. Sheetal Fernandes participated in a two week school from 21st Feb to 6th March on ‘Systems and Cognitive Neurosciences’ conducted by DST-SERC at NBRC, Manesar.
- Ms. Girija Balan participated as a delegate in the National Conference on “Conservation of Biodiversity” organized by NCSC, held on 20-21 Nov 2010 at IISc, Bengaluru.
- Dr. Sheela Donde : invited to participate in 12th Asian Pacific Congress of Clinical Biochemistry October 3-7, 2010, Seoul, S. Korea on “Challenges in future Diagnostics”
- All the faculty members participated in the staff seminar on “Alternatives
in continuous internal assessment” held on 20th Nov 2009 at St. Xavier’s College

- Dr. P. Sundarrajan, Profs. Sangeeta Shetty, Sheetal Fernandes and Meenu Gupta participated in the International Seminar on “Human Rights in a Globalised World” held on 10th, 11th and 12th Dec, 2009 held at St. Xavier’s College, Mumbai in collaboration with Liverpool Hope University, UK. Dr. N. Mangalore, Dr. R. P. Gupta and Dr. Seema Das attended and helped in organizing the seminar.

- Dr. Sheela Donde, presented a poster entitled, “Cloning of cellulase genes from cellulolytic microorganisms and their transfer and expression in Deinococcus radiodurans”, presented at the 33rd All India Cell Biology Conference, 10th -13th Dec. 2009, at University of Hyderabad. The Conference was attended by her PhD student, Sachin Telang, who presented the poster.

- Dr. Radiya Pacha Gupta gave a presentation entitled “Study of Haemagglutination using plant lectins,” at the Faculty presentation in St. Xavier’s College, Mumbai, in Feb. 2010.

- Prof Sheetal Fernandes and Prof Sangeeta Shetty attended a conference on “Global Climate Change” organised by TERI at H.R. College on 22nd Jan 2010.

- Dr.R. P. Gupta, Dr. Seema Das, Dr. P. Sundarrajan and Prof. Sheetal Fernandes participated in the Science Academies’ Workshop “Planet G” organized by Jai Hind College on 24th and 25th Dec, 2009.

- Dr. P. Sundarrajan attended the DBT sponsored workshop on Bioinformatics held at ACTREC, Kharghar, Navi Mumbai on 21-22 Jan, 2010.

- Dr. R. P. Gupta attended the seminar “Frontiers in biology” organized by MSc – IBE, students of St. Xavier’s college, on 1st Feb, 2010 and participated in the “Gene necklace” workshop on 2nd Feb 2010.

- Dr. R.P. Gupta attended the one day workshop on “I – Talk” held at Jai Hind College on 17th Sep, 2009.

- Dr. S.U Donde, Dr. R.P. Gupta, Dr. S. Das, Prof. P.Ratnaparkhi, and Prof S. Shetty participated in the Staff Seminar organized by the college on “Student Evaluation” on the 9th and 10th of October 2007 . Dr. N. Mangalore was a part of organizing committee and Dr. S.B. Namdas and Dr. N. Mangalore were resource persons.

- Dr. N. Mangalore and Prof Prashant S. Ratnaparkhi were a part of the organizing committee for India Sustainability Symposium , 27th and 28th of November 2007.

- Dr. S. U. Donde, Dr. N. Mangalore, Dr. S. Das, Ms. Annie John and Ms. Shruti Sharma participated in Indian Academy of Science Program “Recent Trends in Neuroscience” organized by the Department of Lifescience, Sophia College on 4th Jan, 2008.

- Dr. S. U. Donde participated in the XXXI All India Cell Biology Conference and Symposium on “Stem Cells : Application and Perspectives” organized by the Indian Society of Cell Biology and CAS in Zoology, Banaras Hindu University between 14 – 16 Jan, 2008.
- Prof. Prashant Ratnaparkhi, Dr. Priya Sundarrajan and Prof. Roseita D'Souza participated in the syllabus orientation workshop in LifeSciences of the University of Mumbai conducted at Sophia College for Women, Mumbai on Saturday, 16th Sep, 2006.

- Dr. R. P. Gupta was invited to participate in the round table discussion on 'Whither Science Education in Colleges today?' organized by Observer Research Foundation on 11 July 2011.

- Dr. Radiya Pacha Gupta and Dr. Priya Sundarrajan attended the workshop on “Collaborative Undergraduate Research and Education (CURE)” on 29th, 30th and 1st July 2012 at the Homi Bhabha Centre for Science Education, TIFR.

- Dr. Radiya Pacha Gupta, Prof Prashant Ratnaparkhi, Dr. Priya Sundarrajan and Prof. Girija Balan attended the two day International Symposium on “MIF in Health and Disease” held at the Piramal Research Center, Mumbai.

- Dr. Radiya Pacha Gupta and Dr. Priya Sundarrajan attended the workshop on “DNA Barcoding” held on 6th and 7th Dec, 2012 at St. Xavier’s College, Ahmedabad.

- Dr. Radiya Pacha Gupta attended the conference organized by the Dept. of Biological Sciences, TIFR on the 50th year of the department.

f) Faculty as resource persons

- Dr. Sheela Donde served as resource person for DST-INSPIRE Internship programme (as Mentor):
  - at Subhash Chandra Bose College, Gwalior, Madhya Pradesh, on 25th Dec. 2011, gave a talk on “Neuroscience”
  - at Krishna College, Bijnor, Uttar Pradesh, on 28th Jan, 2012, gave a talk on “The Brain and Addiction”

- Dr. Nandita Mangalore has been a resource person
  - since 2011 for the orientation Courses conducted by the Academic Staff College, University of Mumbai
  - on teaching methods, for staff on probation, St. Xavier’s College, since June 2007
  - at the Professional Development Conference for Principals and administrators of colleges in Maharashtra, Feb 13-15, 2012, held in St. Xavier’s College on behalf of Academic Staff College, Mumbai.

- Dr. R.P.Gupta was the organizer for the “International Conference on Current Research in Biosciences” held on 21st, 22nd Dec. 2010 at St. Xavier’s College.

- Dr. R.P.Gupta was the resource person for the Wednesday afternoon Faculty seminar and gave a presentation on her research project titled “Study of Haemagglutination using plant lectins,” in Feb. 2010.

- Dr. Priya Sundarrajan was the organizer for a Teachers Training workshop on ‘Techniques in Animal Tissue Culture and Gas Chromatography’ by
the Department of Life Sciences and Biochemistry and CIF from the 16th – 18th June, 2011

- Prof. Sheetal Fernandes was resource person for the ATC & GC workshop held at the CIF, St. Xavier’s College. She demonstrated the Lyophilization technique.
- Prof. Girija Balan was resource person for the workshop titled “Developing a Four Year Integrated B.Sc. and B.Ed. Programme”, organized by Central University of Tamil Nadu, Thiruvarur at the Center for Contemporary Studies (CCS), IISc, Bangalore on 27-28 Jan 2012.
- Prof. Girija Balan conducted two-hour sessions on “How to make effective powerpoint presentations” for 40 students enrolled under the “Equal Opportunity Cell” of St. Xavier’s College.

18. Student projects

- percentage of students who have done in-house projects including inter-departmental
- percentage of students doing projects in collaboration with industries / institutes

MSc Projects:

In house projects:
2006-2009 - 40-50% of the students were a part of some project during their stint in the department. However, from 2009 onwards, 100% of students who do core courses in our department complete at least one research project.

1) MSc Students:
- At least 30% complete research projects every year.

2) TYBSc:
100% Students with a single major in Life Science have had to do projects as part of their curriculum for the last 4 Yrs
- In 2012-13, due to autonomy, a research project has been made compulsory for all final year Biochemistry students
  - (100% in-house)

3) SYBSc:
- 100% in-house project.
  Since 2009 the SYBSc students have been involved in at least one mini research group project (as part of a co-curricular program that is not a part of the syllabus, with a view to developing a research culture at the undergraduate level).
- 20% also involved in additional projects such as with the Homi Bhaba research centre, through INSPIRE etc.

4) INSPIRE:
15% of FYBSc.
Nine of our First year students received the DST-INSPIRE-SHE scholarship (Scholarship for Higher Education) in 2011. All of these students enrolled for small summer research projects in the department.

5) Honours Projects:
- 30% -40% of students register for the Honour’s program, a co-curricular activity conducted by the college that is not mandatory for the award of the Bachelor’s degree.
Annexure bears a list of the types of Honour’s programs held over the last 6 years

Hospital Training in Collaboration with the department:
- 100% MSc II students spend 3 months in various departments of a reputed hospital, learning different techniques in pathology, serum biochemistry, histology, blood banking, immunochemistry, hematology, etc. This is a part of their syllabus and reputed hospitals like Breach Candy, Jaslok, Hinduja, Tata Memorial Hospital, have been a part of this program for many years.

Summer training programs:
(About 40-50% of our undergraduate students get experience in one or more of the following ways:
- internships during summer vacations in an industry/hospital (about 30%),
- extension work etc.
- fellowships to do summer internships in reputed CSIR organizations like IISc, Bangalore; NCBS, Bangalore; TIFR, Mumbai; JNCAR, Bangalore, FMR, Mumbai; HBCSE, NMIMS, Haffkine Institute, UICT, NIRRH etc. (about 10%)
- summer courses and projects in foreign universities SYBSc students.
  (about 5-10%)
- Rutvij Kulkarni, Clinton Fernandes and Ashwin D’Souza, were elected for the CUBE (Collaborative undergraduate Biology Education) programme at the Homi Bhabha Institute, Mankhurd from 5th to 17th Nov, 2012.
- Neelima Vaddadi, Dhwani Valia, Sarah Chordekar, Sukanya Charuchandra and Shreyana Banerjee were selected for a summer course at Bath University, UK from 12th May to 4th of June, 2012. They will be having lecture series, practicals and project work in the fields on Molecular Biology, Developmental Biology, Cell Biology and Bioinformatics during that period at Bath University.
- Rinali Roy - did an internship at USV Biotech Company, Chembur from 23rd April to 15th May 2009.
- Ayesha Thanewale and Diksha Ahuja were selected for the NIUS programme at the Homi Bhabha Institute, Mankhurd from 21st – 27th April, 2009
- Nikita Susan Fiji – did a 10 day Biotechnology course at Haffikine Institute, Parel in may 2009.
- Dina Rasquinha and Alison D’Souza did a training at BSES MG Hospital in the Pathology lab from 2nd April – 2nd May.
- Rucha Tillu –in may 2009 did a summer course in Microbiology from C.B. Patel Research Centre, Vile Parle (W).
- Shruti Agarwal – worked as an intern in Beckman Coulter India Pvt Ltd, Andheri (E) from 6th May – 1st June , 2009. She also underwent a training at Haffikine Institute on Animal Biotechnology from 22nd March - 3rd April 2009.
- Tejasvini Chalikonda was the recipient of IAS fellowship(2009-10)- a two months the summer project at Indian Institute of Science . She did a project on Marine Biodiversity conservation with BNHS.
TYBSc Students:
- Merlyn D’souza was selected for the CUBE (Collaborative undergraduate Biology Education) programme at the Homi Bhabha Institute, Mankhurd from 5th to 17th Nov, 2012.
- Pallavi Gangavali, Akshat Shetty and Rebecca Ambrose did a Biotech Workshop at Nair hospital in May 2011.
- Our third year students Rohini Sekhar and Sonika Paul did internships in May 2011 at Jaslok Hospital in their Genetics and Biochemistry Departments respectively.
- Rohini Sekhar also did a one month internship in May 2011, at ‘Kokilaben Ambani Hospital’ in the ‘Genetics & Molecular Biology Department’
- Akanksha Agarwal worked in Dr.Shubha Tole's lab at TIFR during the summer of 2011. She also participated in Ozone fest Quiz organized by the Institute of Sciences, Mumbai.
- Akanksha Agrawal and Racheal Fernandes did a Biotech Workshop in Hyderabad during May 2011.
- Many of our students did internships at various places like Vanashakti (Enviroment NGO), OIKOS- Ecological solutions company, ANET (Andaman & Nicobar Environmental Team) etc.
- Karishma Saran underwent a one month training at Bharat serum and vaccines in summer 2009.
- Shivani Khandwla was selected for a 15 day “in plant training” in Madras, on Stem cells at Life Cell International PVT. Ltd
- Gayatri Mehta, Jessica D’ Lima and Shivani Khandwala and underwent a two week training with Mumbai Police.
- Hannah Kurien underwent a one month training at Avesthagen Pvt Ltd in summer 2009.
- Candice D’Costa was selected for a one month training program in May 2009 at Cipla Pharmaceuticals.
- Fleur Lobo, Purva Rajhans and Preetha Chitre attended a two week (May 2009) International Business Course that was part of the Indian Leadership Exchange Program at New York University Stern School of Business, New York

MSc Students:
- MSc students Aadishree J. and Unnati Pendurkar worked on a project at Dr. Shobhona Sharma's lab at TIFR in the months of June and July, 2011. Their project topic was 'To verify whether single nucleotide polymorphism in IL-10 gene influences the outcome of falciparum malarial infections in an endemic population in Orissa'.
- Ms. Juella Mendonca of MSc II did a summer training at Daiichi Sankyo India Pharma Pvt Ltd. Ms. Natasha Pereira did an internship in FMR in the summer of 2009.
- Msc part I student Sneha Shah has got the IAS – INSA –NASI summer fellowship – 2009 under Sandeep Saxena at NII, New
- MSc part II students were selected for summer training in various Laboratories as follows: Neha Phadke, Amrita Pai, Giovanni D’Cunha, Prachi Mahindarkar and Lydia Tauro at BARC; Sharon Sunny at RPG LifeSciences, Doel Sengupta at TIFR.

19. Awards / recognitions received at the national and international level by Faculty, Doctoral / post doctoral fellows, Students

FACULTY:

- Dr. Sheela Donde was
  - Awarded the National AIACHE award ‘Reverend Fr. Theo Mathias Award for Innovative College Educator’s for the year 2010-11 given by the All India Association for Christian and Higher Education (AIACHE) in recognition of her ‘devotion to academic excellence, educational innovations, and commitment to high standards of professional ethics’”.
  - Presented with the St. Xavier’s college ‘Research Award’ for the year 2010-11.
  - Placed on the Institutional Biosafety Committee of TIFR.
  - Appointed by the Vice Chancellor, University of Mumbai, in the panel of experts(2009) in the establishment of a ‘DAE Centre for Excellence in Basic Sciences’ at the University of Mumbai.
  - A member of the Board of Studies, Univ. of Mumbai, and was appointed as a member of TYBSc syllabus committee in 2007-08.
  - Appointed as a core committee member by the Univ. Of Mumbai for the UM–DAE Center for Excellence in Basic Sciences for the five year integrated MSc program in LifeSciences (2007-08)
  - Dr. Nandita Mangalore was a member of the Board of studies for Biochemistry 2007-2010, the FY,SY,TYBSc syllabus committee and served as a member of the RRC during those years.

STUDENTS:

- Nine of our First year students: Ashwin D'souza, Clinton Fernandes, Danette Gomes, Upasana Potleth, Siddant Pusdekar, Zeba Khatri, Aditi Karmarkar, Deepika Karmarkar and Nalini Pinto received the DST-INSPIRE-SHE scholarship (Scholarship for Higher Education) in the year 20011-12
- MSc student Nandini Kasarpalkar presented a poster at the International Seminar on 'Current Trend in Lifesciences' organized by the Department of LifeScience, University of Mumbai, Kalina on 9th March, 2012.
- MSc students Mr. Shawn Braganza and Ms. Sai Barve presented a poster titled 'Study of the Teratogenic and Toxic Effects of Cadmium and Lithium using Chick as a Model System' at the UGC sponsored International Seminar on 'Current Trends in Life Sciences' organized by the Department of Life Science, University of Mumbai, Kalina on 9th March 2012.
- Second year students: Joshua Miranda and Mugdha Devalkar were selected for a fully paid scholarship (April- June 2012) for a semester at Oxford University, UK where they studied Human Ecology, Genetics and Neurosciences as part of their course work.
Second year students: Neelima Vaddadi, Dhwani Valia, Sarah Chordekar, Sukanya Charuchandra and Shreya Banerjee were selected for a summer course at Bath University, UK from 12th May to 4th of June, 2012. They will be having lecture series, practicals and project work in the fields on Molecular Biology, Developmental Biology, Cell Biology and Bioinformatics during that period at Bath University.

Varun Sreenivasan
- Was selected as a Rajiv Gandhi Sciences Talent Research Fellow for the year 2007.
- Has received the Excellence scholarship for pursuing Masters in Life Sciences at the Ecole Polytechnique Federate Laussanne, The Swiss Federal Institute of Technology

Diksha Ahuja and Rinali Roy got admission into Oxford University for a Masters program in Immunology and Global Climate Change Management respectively in 2010.

Tanvi Shashikant from TYBSc (6 units) got admitted into a PhD program in Biology at Carnegie Melon University, USA

<table>
<thead>
<tr>
<th>YEAR</th>
<th>NAME OF STUDENT</th>
<th>UNIVERSITY AWARD IN</th>
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<td>2006-2007</td>
<td>Ms. Vanessa Machado</td>
<td>6U LIFESCIENCE</td>
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<td>2007-2008</td>
<td>Ms. Joyce Thompson</td>
<td>6U LIFESCIENCE</td>
<td>1st</td>
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<tr>
<td></td>
<td>Ms. Rajula Elango</td>
<td>6U LIFESCIENCE</td>
<td>2nd</td>
</tr>
<tr>
<td></td>
<td>Ms. Zenobia Pereira</td>
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<td>3rd</td>
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<td>2008-2009</td>
<td>Ms. Surashree Kulkarni</td>
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<td>1st</td>
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<td>Ms. Manisha Jalan</td>
<td>6U LIFESCIENCE</td>
<td>3rd</td>
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<td>Ms. Kinjal Desai</td>
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<td>2009-2010</td>
<td>Manali Khadilkar</td>
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<td>Shawn Braganza</td>
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<td></td>
<td>Giselle Fernandes</td>
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<td>2010-2011</td>
<td>Ms. Wendy D'souza</td>
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<td>1st</td>
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<td>Ms. Tanvi Shashikant</td>
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<td>2011-2012</td>
<td>Ms. Andrea Fernandes</td>
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<td>Ms. Surbhi Sudhir</td>
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<td></td>
<td>Mr. Shawn Braganza</td>
<td>MSc II</td>
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</tbody>
</table>
• TYBSc student Ragini won a Gold at State level Dancing in the Samba Latin Category in 2010. She also won Bronze in the Two Dance Latin Category and a Certificate of Merit at the 4th AIDSF National Dancesport Championship held on 27th June, 2010.

• Sandhya Menon and Unnati Pendurkar, students of MSc II, won the 1st and 2nd prize in a quiz competition held at SNDT Women’s University and P.V. Polytechnique, as part of ‘CLINITEK-2011’ a seminar on HIV-AIDS, 21st-22nd Jan 2011.

• MSc Part I student Aadishree Zambedkar and her group won first prize for their presentation on ‘The use of bio-fertilizers and bio-pesticides in agriculture’ in a competition held at ICT, Mumbai on the occasion of the celebrations of the global science day held on 28th Feb, 2011.

• The TYBSc students participated in a two day intercollegiate seminar “IRIS” organized by the Jai Hind College on 18th Sept, 2008. The following students won prizes in different categories:1. Taboo- Quiz competition - Hiral Sanghvi and Manitt Shah won the 1st and Siddheshwari Advani and Karan Hingorani – won the 2nd prize. Poster making competition: Sania Deshmukh and Sangeeta Banerji won the 1st and Surashree Kulkarni and Kinjal Desai won the 3rd prize.

20. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.
• Workshop on ‘Techniques in Animal Tissue Culture and Gas Chromatography’ from the 16th – 18th June, 2011 for the faculty of the college. Funded by the College.

• The department organized an International Conference on ‘Current Research in the Biosciences’, on 21st & 22nd of Dec, 2011. Participants included students and teachers of biology from the various departments of the college and colleges in Mumbai. Speakers were largely illustrious alumni of the college. Funded by sponsors from the industry.

• The Department organized the Indian National Science Academies’ Lecture Workshop on "Frontiers in Life Sciences" on 18th and 19th of Jan. 2010. A total of 203 faculty and students both in-house and from various colleges and institutions from Mumbai, participated in the lecture workshop.

• A workshop on “Biohazards” was conducted by the Department for the Lab assistants and attendants of all biology departments on 4th Nov, 2009.

• Department of Life Science and Biochemistry and Caius Research Laboratory, St. Xavier’s College, organized a Lady Tata Memorial Trust sponsored Two Day Workshop for college teachers in “Techniques in Molecular Biology” on 2nd and 3rd March, 2009. Twenty five faculty members from various colleges from Mumbai participated in the workshop.
• A Mumbai University sponsored Teachers Syllabus Orientation Workshop was held for “TYBSc LifeSciences paper III” on Friday, 24th Oct, 2008. The workshop was attended by teachers from different colleges teaching LifeScience. The external expert was Mr. Giovanni D’Cunha (alumnus) from Marian Institute of Management, Goa was invited to conduct a lecture cum hands on practical session on Bioinformatics. This was followed by a hands-on session on all the new practical experiments.

• The Department organized an Indian National Science Academies’ Lecture Workshop on "Current Trends and Challenges in Life Sciences" on 26th of November and 19th of Dec. 2008. A total of 186 faculty and students both in-house and from various colleges and institutions from Mumbai participated in the lecture workshop. Dr. S. U. Donde was the convener and all the staff members and MSc and TYBSc students helped in organizing the workshop.

• A workshop on “Research techniques in Biology” was conducted between 22-24 Nov, 2007 in the C.I.F. MSc part I students of Biotechnology, Life Science and Botany participated in the workshop. Dr. S. U. Donde organized the workshop.

21. Student profile course-wise:

<table>
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<th>Name of the Course (refer question no. 2)</th>
<th>Applications received</th>
<th>Selected</th>
<th>Pass percentage</th>
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<td>Male</td>
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<td>BSc: (FY,SY,TY)</td>
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<td>2008-'09</td>
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<td>MSc: Applied Medical Sciences as a Specialization</td>
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### 22. Diversity of students

<table>
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<tr>
<th>Name of the Course</th>
<th>% of students from the College</th>
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<th>% of students from other countries</th>
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<tr>
<td>2012-'13</td>
<td>50</td>
<td>88</td>
<td>13</td>
<td>-</td>
</tr>
<tr>
<td>2011-'12</td>
<td>45</td>
<td>90</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>2010-'11</td>
<td>46</td>
<td>90</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>2009-'10</td>
<td>44</td>
<td>90</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>2008-'09</td>
<td>51</td>
<td>80</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>2007-'08</td>
<td>45</td>
<td>80</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>MSc: Applied Medical Sciences as a Specialization</td>
<td>57 Average 40-50%</td>
<td>88 Average 80%</td>
<td>12 Average 20%</td>
<td>-</td>
</tr>
<tr>
<td>2012-'13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006-2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PhD Life Science</td>
<td>nil</td>
<td>1</td>
<td>nil</td>
<td></td>
</tr>
<tr>
<td>Diploma in “Clinical Research”</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012-'13</td>
<td>4</td>
<td>92</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>2011-'12</td>
<td>14</td>
<td>77</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>2010-'11</td>
<td>13</td>
<td>83</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>2009-'10</td>
<td>9</td>
<td>86</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>2008-'09</td>
<td>10</td>
<td>90</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2007-'08</td>
<td>28</td>
<td>72</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### 23. How many students have cleared Civil Services, Defense Services, NET, SET, GATE and any other competitive examinations?

2006-12 Approximately 20-25% of students who continued in India, successfully completed at least one of the afore-mentioned examinations.

- Shivani Khandwala was selected for a Master’s course in Immunology at Oxford.
- Karishma Saran, Fleur Lobo, Manali Khadilkar and Purva Rajhans were selected for Master’s programs in ‘Global Healthcare’, ‘Neurosciences’ and ‘Psychodynamic Development Neuroscience’ at University College London
- Jueeli Vaidya got into the Master’s program in “Cellular & Molecular Biotechnology” at Wageningen University, Netherlands
- Giselle Fernandes was selected for an Integrated PhD program at NCBS, Bangalore.
- Steffi Olickal joined TERI, Delhi for a Master’s program in Natural Resource Management.
• Praveen Prakhar got into the Biochemistry Master’s program at MSU, Baroda.
• Calvin Rodrigues joined the Master’s in Biotechnology program at the University of Mysore.
• Snigdha Mukerjee got selected the Master’s program in Zoology at the University of Pune
• Students Sai Barve, Shawn Braganza, Mark Coutinho, Sarita Desouza and Aadishree Jamkhedkar joined the Master’s course in ‘Applied Medical’ at St. Xavier’s College.
• Rashmi Coutinho and Nissim D’souza joined KEM Hospital, Mumbai for a Master’s course in Biochemistry.
• Ex - TYBSc Student Ms. Jaishree Tripathi secured 63rd rank , Mr. Rakesh Trivedi 160th rank , Ms. Siddheshwari Advani 196th, Ms. Saudamini Shevade – 370th and Ms Shreya Ayub – 397th rank in the All India Biotechnology Examination organized by JNU, New Delhi. (2008-09)
• MSc II student, Sneha Shah, has been offered PhD position at Oxford University, UK (2009-10)
• Ex - TYBSc Student Ms . Annwesa Dasgupta secured 66th rank and Mr. Figueirdo Dwight secured 260 ranks in the All India Biotechnology joint exam (2008-09)
• Placements of Ex-students
  Priyanka Apte – M S in Georgia State University
  Adrian Dias - MS Forensic Science – George Washington University
  Ethel Pereira - PhD in University of Tennessee
  Eureka Dias - MS in Bioscience – Keck Graduate University
  Shatabdi Dighe – working in Cytogenetics with Mr. Chaitanya Purandare in Poona.
  Neha Sood - working in Johnson & Johnson
  Dipen Desai - joined for PhD in FMR
  Aurelio- working with Nicolas Piramal

24. Student progression

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Percentage against enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG to PG</td>
<td>Approximately 80%</td>
</tr>
<tr>
<td>PG to M.Phil.</td>
<td>------</td>
</tr>
<tr>
<td>PG to Ph.D.</td>
<td>Approximately 40-50%</td>
</tr>
<tr>
<td>Ph.D. to Post-Doctoral</td>
<td>Approximately 40-50%</td>
</tr>
<tr>
<td>Employed</td>
<td></td>
</tr>
<tr>
<td>Campus selection</td>
<td>------</td>
</tr>
<tr>
<td>Other than campus recruitment</td>
<td>97- 98%</td>
</tr>
<tr>
<td>Entrepreneurs</td>
<td>2-3%</td>
</tr>
</tbody>
</table>
25. Diversity of staff

<table>
<thead>
<tr>
<th>Percentage of faculty who are graduates</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>of the same parent university</td>
<td>80%</td>
</tr>
<tr>
<td>from other universities within the State</td>
<td>---</td>
</tr>
<tr>
<td>from other universities from other States</td>
<td>20%</td>
</tr>
</tbody>
</table>

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.

None

27. Present details about infrastructural facilities

a) Library:
   - The department has its own library, with a stock of about 100 books, which is open to the students and faculty.
   - The college has two libraries for student use- the Lending library and the Reference library, which are well stocked with books and journals.

b) Internet facilities for staff and student- Common internet access in the Computer centre and in the reference library

c) Total number of class rooms                                               41

d) Class rooms with ICT facility                                             41

e) Students’ laboratories                                                    04 (Life Sc department)
f) Research laboratories                                                    01 (Life Sc department) + 01

(common research lab for staff)

The classrooms are shared by all departments of the college. One of the labs is shared with the departments of Botany and Zoology

28. Number of students of the department getting financial assistance from College.

<table>
<thead>
<tr>
<th>Year</th>
<th>Class</th>
<th>Student number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-13</td>
<td>FYBSc</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>SYBSc</td>
<td>01</td>
</tr>
<tr>
<td></td>
<td>TYBSc</td>
<td>03</td>
</tr>
<tr>
<td>2011-12</td>
<td>FYBSc</td>
<td>01</td>
</tr>
<tr>
<td></td>
<td>SYBSc</td>
<td>02</td>
</tr>
<tr>
<td></td>
<td>TYBSc</td>
<td>01</td>
</tr>
<tr>
<td>2010-11</td>
<td>FYBSc</td>
<td>02</td>
</tr>
<tr>
<td></td>
<td>SYBSc</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>TYBSc</td>
<td>01</td>
</tr>
<tr>
<td>2009-10</td>
<td>FYBSc</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>SYBSc</td>
<td>01</td>
</tr>
<tr>
<td></td>
<td>TYBSc</td>
<td>-</td>
</tr>
<tr>
<td>2008-09</td>
<td>FYBSc</td>
<td>01</td>
</tr>
<tr>
<td></td>
<td>SYBSc</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>TYBSc</td>
<td>-</td>
</tr>
</tbody>
</table>
29. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.

No.

30. Does the department obtain feedback from
   
   a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?

   **Curriculum**
   
   - Oral feedback is taken from faculty teaching the courses, every year, and the suggestions are assessed during department meetings. Appropriate changes are then made in the curriculum and this is then subject to approval by the BOS.
   - Two senior teachers are a part of the Board of Study and provide direct input at the board meetings

   **Teaching-Learning-Evaluation**
   
   - The HOD conducts a formal “sit-in”, i.e. an unannounced observation of the lecture conducted for unconfirmed teachers by the HOD. A detailed report is prepared and discussed with the concerned staff member, before the report is submitted to the Vice principal.
   - The results of the student performance at the end semester examination, of each course is analyzed and the report discussed with the teachers concerned by the Principal and the Vice Principal.

   β. Students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?

   **Curriculum**
   
   - Informal Feedback from students regarding the course content is taken every year and valuable suggestions are put up for discussions during department meetings.
   - Two students of the third year are invited to be a part of the syllabus committee of the Board of studies. This allows the board members to directly interact with and discuss issues with the stake holders in the process of education

   **Teaching-learning-Evaluation**
   
   - Feedback regarding staff teaching the courses is taken as a whole by the TAQ committee of the college, the results are analyzed and a hard copy of the report followed by a discussion of the analysis is provided to the faculty by the principal/vice principal.
   - The students of the department are divided into groups and each group is assigned a department mentor. At the mentor-mentee meetings, the faculty encourage students to give their opinion on various issues. The feedback and suggestions obtained are brought to the weekly department meeting and discussed by all members of the department. Pertinent suggestions/comments are referred to the BOS

   χ. Alumni and employers on the programmes and what is the response of the department to the same?
The department duly incorporates suggestions put forward by the industrial experts and the academic experts in the BOS regarding course content and evaluation methods.

In addition, due to the maintenance of good contact with the alumni, visiting alumni give scientific talks to students and in their interaction with staff, suggestions are made which are given due consideration by the department and the BOS.

31. **List the distinguished alumni of the department (maximum 10)**
   
a. Dr. Vidita Vaidya, TIFR Scientist  
b. Dr Shubha Tole, Bhatnagar awardee- TIFR Scientist  
c. Dr Sorab Dalal, ACTREC Scientist  
d. Dr Aditya Murty, Center for Neuroscience, IISc Bangalore  
e. Mr. Chaitainya Purandare, CEO, Cordlife Biotech  
f. Dr. Mohanish Deshmukh, from Neuroscience Center, Cell and Developmental Biology, UNC, Chapel Hill, USA,  
g. Dr. Niyati Parekh - faculty at NYU, USA  
h. Dr. Vishwas Sarangdhar, Consultant, Reliance LifeSciences, Tata group.  
i. Dr. Sandeep Saxena, Founder & CEO, ACTON BIOTECH  
j. Dr Swati Patankar, Professor, IIT, School of Biosciences.

32. **Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.**

1.) **Industrial visits:**

- The TY 6U students were taken on an industrial visit to United Breweries Ltd, Taloja, Raigad Ltd, on 13th Nov, 2009. Staff members Dr. Radiya Pacha Gupta and Dr. P. Sundarrajan accompanied the students.

- The SY and the TY students were taken for an educational tour to Koknan Krishi Vidyapeet, Dapoli, Ratnagiri Dist on 19th and 20th Dec, 2007. The students visited Plant tissue culture lab, Animal husbandry farm, Energy resource and conservation plant and could also see Dolphins and fishing techniques. Staff members Dr. S.U Donde, Dr. S. B. Namdas, Dr. N. Mangalore, Dr. R.P. Gupta, Dr. S. Das, Prof. P. Ratnaparkhi, and Prof. Annie John accompanied the students.

- The TY 6U students were taken to Sula Wines, Nashik for an educational field trip to see the process of Wine making on 11th Jan, 2008. Staff members Dr. S. B. Namdas, Dr. R.P. Gupta, Dr. P. Sundarrajan and Prof. Annie John accompanied the students.

2.) **Invited speakers:**

- Ex student Dr. Brian D’Souza gave a talk on Neurogenetics in Dec 2012  
- Dr. Johnathan Bacon, ex dean, University of Sussex, UK, spoke on Development of the Nervous system and synaptic plasticity on 27th Nov 2012
• World renowned scientist Dr. Eva Marder gave a talk on ‘Neural circuit variation in normal adults’ to our students and faculty on the 4th of Jan, 2012.

• Famous gynecologist, Dr. Anjali Malpani gave a talk on ‘Assisted reproductive Technologies’ to our SYBA students as part of the cross faculty course in ‘Nutrition and Reproductive Health’

• Ex student Dr. Dhanisha Zaveri from Queensland University, Australia gave a talk on ‘Neurogenesis’ to our third year students on the 17th of Jan, 2012.

• Ex student Dr. Kaumudi Joshi from University of Chicago, gave a talk on ‘Evolution by Gene Duplication’ on 17th Jan, 2012 to the third year Life sciences students.

• Ex-student Dr. Niyati Parekh, gave a talk to our students on Public Health and Epidemiology in November, 2011.

• Ex student Fiona Desouza, a patent attorney at Law firm ‘Kaitan & Co’ gave a talk on ‘Environmental Sciences laws and policies’ to the third year students as part of their course in environmental sciences.

• Varun Sreenivasan (an alumnus of the Department, batch 2008) who finished his Masters from the Laboratory of Sensory Processing, Brain Mind Institute, Swiss Federal Institute of Technology gave a talk on “Topical Cortical Control of Movement” on 29th Aug, 2010.

• Dr Aditya Murty, an ex-student and currently faculty at the Center for Neuroscience, IISc Bangalore gave a talk on Vision on 11th Jan, 2011.

• Dr Deepak Modi from NIRRH, Mumbai gave a talk on ‘Microarrays’ on 29th Jan, 2011.

• Dr. Mohanish Deshmukh (an alumnus of the Department) from Neuroscience Center, Cell and Developmental Biology, UNC, Chapel Hill, USA, gave a talk to the TY and MSc students on “Death defying tricks of Neurons and Cancer cells” on 11th Dec, 2009.

• Dr. Ashwin Kotnis (ex – faculty of the department), PhD from ACTREC, Kharghar, presently doing Postdoc at Oxford University, gave a talk to the MSc students on “Factors predisposing multiple primary neoplasia” on 16th Jan, 2010.

2008-09

• Dr. Rohan Arthur from Nature Conservation Foundation, Mysore, was invited to speak to the TY students on “Conservation in a crowded country” on 10th July 2007.

• Dr. Arko Ghosh from Brain Research Institute, Univ. of Zurich, Switzerland was invited to deliver a lecture on “An empirical understanding of the brain” : Sensation and movement and Regeneration, sprouting and plasticity of the CNS on 26th July 2007.

• Dr. Shashi Menon was invited to give a lecture on GLP on 1st Aug 2007. The FY, SY and MSc students attended the talk.

• Mr. Brian D’Souza a former student who is currently pursuing his PhD in Texas Univ. USA, was invited to give a talk on “Pseudocopulation in Lizards” on 9th Jan, 2008.
Dr. Shobhona Sharma from TIFR was invited to give a talk to the SYBSc students on 1st Sep 06. The title of the talk was “Recent advances in malarial research”.

Mr. Sandip Saxena was invited to talk to the TY students in June 2006.

3). Participation in Conferences/ Workshops/ Seminars:

- The Department along with the CIF, organized a Workshop on ‘Techniques in Animal Tissue Culture and Gas chromatography’ from the 16th – 18th June, 2011, attended by three of the MSc students – Shawn Braganza, Sai Barve and Nandini K.
- The department organized an International Conference on ‘Current Research in the Biosciences’, on 21st & 22nd of Dec, 2011 which was attended by all undergraduate and MSc students of the Department.
- The MSc & TYBSc students attended the Indian National Science Academies’ Lecture Workshop on "Frontiers in Life Sciences" on 18th and 19th of Jan. 2010, organized by the Department.
- MSc part – I students – Brinda Poojary, Janice Dalgado, Erena James, Arunabha Bose, Sandhya Menon and Maithili Bhatia and Part II students Amita Kamble, Mita Sakhalkar Ashlesha Vaidya, Sneha Shah went for the open house held on 4th Dec 2009, at ACTREC, Kharghar.

4) Visit to institutions:

The Department ensures that students are taken every year to research institutions like ATREC & TIFR; during their Open House days, so that the students get an insight into their research projects and their facilities. In the academic year 2012-13 we increased the opportunities for students by adding a visit to NMIMS, an institute in Mumbai that has a centre for post graduate and doctoral work.

33. List the teaching methods adopted by the faculty for different programmes.

A combination of approaches are adopted by the faculty of the department in teaching the various courses.

a. Power point presentations and multi media
b. Animations, movies, role plays
c. Debates
d. Poems
e. Models
f. Chalk and talk with detailed explanation
h. Experimental demonstrations
i. Field trips & Industrial visits
j. Interactive learning through questions and discussions
k. Experiential learning through research projects, surveys, internships etc. is strongly promoted
l. Learning through case studies.
34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?

There are regular department meetings when the goals set for the year are discussed and the progress made reviewed. Changes are made based on feedback and constant reality checks on the progress.

35. Highlight the participation of students and faculty in extension activities.

- Some Students of the SYBSc are currently engaged in a project “Jal Jyoti” which helps to provide light to slum dwellers at negligible cost.
- TYBSc student – Ms. Lisha Almeida – is the Campus Coordinator for the “Teach for India” initiative.
- Students of the Departmen are active volunteers for the outreach programs organized by the Social Service League & AICUF of St. Xavier’s College.
- Science Exhibitions have been held on numerous occasions and has seen an active participation by students of all the courses. This is an area we need to work on in the future.

36. Give details of “beyond syllabus scholarly activities” of the department.

- **Science Exhibition**---over the years several science exhibitions have been held by the department demonstrating experiments and sharing information in fields as diverse as Microbiology, Biotechnology, Physiology, Neurobiology, Developmental Biology, Biochemistry etc were demonstrated to school/college students. The endeavour was largely student-centric with regular monitoring by the faculty.

- **Department Publications**
  - **Journal** - An annual journal “Lignum Vitae” featuring articles by students on research projects conducted in the department, scholarly articles etc was instituted for the first time in Dec 2012. The entire effort and responsibility for producing the journal was given to the students.
  - **Magazine** - In 2009-'10 the magazine “INSIGHT” was released by the department.
  - **Newsletter**: For the first time the department brought out the newsletter “The Active Site” in Nov, 2008. This activity was initiated by the TY and SY students to keep their colleagues in other departments informed about departmental activities.

- **Honor’s Programme:**
  The Honour’s programme is a co-curricular activity conducted by the college that involves varied activities including research projects, lecture series, surveys, presentations, assignments, literature surveys, model making etc. The programme is only open to those with a consistently good academic record and extends over three years. Over the years we have observed about 30-40% of students enroll in the programme. Details of the program are provided in Annexure I.

- **INSPIRE- 2012**

  Nine of our First year students: Ashwin D'souza, Clinton Fernandes, Danette Gomes, Upasana Potleth, Siddant Pusdekar, Zeba Khatri, Aditi Karmarkar, Deepika Karmarkar and Nalini Pinto received the DST-INSPIRE-SHE scholarship (Scholarship for Higher Education). All of
these students enrolled for summer research projects under the guidance of professors Dr. Sheela Donde, Dr. Radiya Pacha Gupta, Dr. Seema Das, Dr. Priya Sudarrajand and Ms. Sangeeta Shetty

37. State whether the programme/department is accredited/graded by other agencies. Give details.

NO

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

Strengths:
a. Diversity, enthusiasm and commitment of the staff (Staff members have different specializations, also coming from different universities they bring in a wide variety of experiences and pedagogical skills and approaches)
b. Mixed age group of the staff
c. New staff for at least a short period of time almost every year allows new ideas and approaches to be expressed and prevents stagnation
d. Students with excellent academic calibre
e. Freedom and encouragement to voice one’s opinion – both students and faculty

Weaknesses:
a. Inadequate publications. Several research projects have been conducted, however, the work does not translate into writing and publishing a paper.
b. Space constraints that retard progress. For example, Inadequate lab space for experimental projects and co-curricular work makes it difficult to sustain any kind of academic activity that would lead to good publications.
c. Although we get students with excellent academic potential, in the recent past these numbers have decreased due to competition from professional courses and alternate establishments such as IISER etc.
d. High staff turnover causes instability and a certain discontinuity in the teaching-learning process
e. Inadequate experience in some key fields of biology

Opportunities:
1. With autonomy, we have the freedom to design syllabi that are best suited to our student profile, and can keep pace with the emerging needs of the industry and the rapidly evolving nature of the discipline.
2. Writing and presentation skills of the students is being developed by the scientific communication skills program
3. Encouragement and promotion of internships of students over the summer.
4. The ability to introduce a compulsory research project for all students.
5. To evaluate students in varied and innovative ways, thus testing different skills of students and providing a better opportunity to those who are not adept at the written test method, to shine.
Challenges:
1. To draw enthusiastic and capable students to the pure sciences, especially Life Science.
2. To align our objectives and goals for the department to the reality of the student interest and ability.
3. Increasing the department involvement in extension activities and enthusing the students to willingly participate.
4. Initiation and sustenance of research work at the undergraduate, post graduate and faculty level with the work done being published.
5. Stimulate younger staff to register for a PhD programme.

39. Future plans of the department.
   o Stabilizing the teaching program of the department by filling all the posts that are vacant.
   o Designing a challenging and relevant post graduate program and ensuring that the students selected are of a good academic caliber.
   o Promoting research activities in the department and increasing the number of staff registering for a PhD.
   o Publishing the research work done by staff and students.
   o Exploring alternate methods including increasing the use of moodle for assessment of students.
   o Conducting a workshop/ series of scientific talks by eminent scientists for students and staff of the college and other colleges on an annual basis
   o Promoting increased student participation in intercollegiate activities such as science festivals, quizzes etc.
   o Conducting a workshop for the non teaching staff on handling lab instruments.
   o Skill enhancement of the non teaching staff by sending them for workshops on instrument maintenance and lab safety.
ANNEXURE I – HONOUR’S PROJECTS
(2011-12)
FYBSc
i. Dr. Sheela Donde and Dr. R.P. Gupta conducted an Honor’s program on “Experimental Design” where students were taught concepts of research methodology and assessed for their ability to design an experiment in the lab.
SYBSc
i. Dr. Radiya Pacha Gupta and Dr. Seema Das conducted an Honour’s project on ‘Caenorhabditis elegans as a model system for toxicological studies’in 2011-12 in which 5 SYBSc students were enrolled.
ii. Dr. Priya Sundarajan and Ms. Sangeeta Shetty conducted an Honour’s project on ‘Toxicity evaluation using human peripheral leukocytes as a model system’in 2011-12 with 5 SYBSc students.

(2010-11)
TYBSc
i. Dr Radiya Pacha Gupta guided a course on literature analysis
SYBSc
i. Prof Prashanth Rantaparkhi conducted ‘Techniques in Biochemistry’
ii. Prof .Sheetal Fernandes on ‘Behavioral and biochemical studies in response to stress in Chironomous larvae’
iii. Prof. Priya Sundarajan conducted a program on ‘The great discoveries in biology’.
FYBSc
i. Prof. Sangeeta Shetty guided a reading course on Virology.
Inter-departmental
i. A lecture series on ‘Neurosciences’ was conducted by Dr. Sheela Donde. Neuroscientists from TIFR were invited to deliver some talks. Students from Life Sciences, Mathematics, Microbiology, and Zoology participated in this program.
ii. Dr. Seema Das organized an inter-disciplinary Honour’s program on Environmental Science.

(2009- 2010)
1. FYBSc
i. Dr. Sheela Donde - Reading Course in NEUROSCIENCES
ii. Dr.P Sundarajan , and Prof. Sheetal Fernandes - Teaching aids in Biology
iii. Dr.P Sundarajan , : Literature survey
iv. Prof Sangeeta Shetty : Reading Course in Virology
2. SYBSc. :
   i. Dr S.U. Donde , Dr. Pacha Gupta : Toxicological studies of heavy metals on growing plant root tips.
   ii. Dr. S. Das : Developmental and toxicological studies in zebra fish.
   iii. Dr . Seema Das: Inter disciplinary- Environmental Science Course.
   iv. Dr. N. Mangalore and Prof .Sheetal Fernandes : Behavioral and biochemical studies in response to stress in Chironomous larva.
v. Dr. P. Sundarrajan - Problems in bioinformatics.
3. TYBSc:
   i. Dr. R. Pacha Gupta and Prof. P. Ratnaparkhi: Literature survey

**2008-09**

1. FYBSc:
   i. Dr. Sheela Donde - Reading Course in NEUROSCIENCES
   ii. Dr. Seema Das, Dr. P. Sundarrajan, and Prof. R. D’souza: Teaching aids in Biology
   iii. Dr. P. Sundarrajan, Ms. S. Shetty, Dr. S. Das, Prof. R. D’souza: Literature survey

2. For SYBSc:
   i. Dr. Dond, Dr. R. Pacha Gupta, Dr. S. Das: Use of shell-less chick embryo as a model system for heavy metal toxicity
   ii. Dr. Dond, Dr. R. Pacha Gupta, Dr. S. Das: Study of Oxidative Stress due to heavy metals in Guppy fish
   iii. Mr. Ratnaparkhi: Immobilization of Neutral Amyloglycosidases on suitable substrata.
   iv. Dr. Seema Das: Inter disciplinary- Environmental Science Course.

3. For TYBSc:
   i. Dr. R.P. Gupta and Ms. Aditi Hazra: Lecture Series in Clinical research.
   ii. Dr. R. Pacha Gupta: Literature survey

**2007-08**

FYBSc
   i. Dr. N. Mangalore: Lecture series: “Science and Beyond”
   ii. Dr. P. Sundarrajan: Literature Survey

SYBSc
   i. Dr. S. U. Donde, Dr. R. P. Gupta and Dr. S. Das: Research Project ‘Developmental and Toxicological studies using Guppy fish and Zebra fish as model systems.
   ii. Prof. P. Ratnaparkhi: Research Project: Purification of neutral amyloglycosidases using column chromatography and identification of Dye-stuff metabolizing bacteria

TYBSc
   i. Dr. Radiya Pacha Gupta and Dr. Seema Das: Literature survey
Department of Mathematics

1. **Name of the Department & its year of establishment**: Mathematics

2. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**
   
   UG

3. **Interdisciplinary courses and departments involved**: “Mathematics Made Simple” – a course for S. Y. B. A. Students. Mathematics is also a part of B.Sc.(I.T).

4. **Annual/ semester/choice based credit system**: Semester system.

5. **Participation of the department in the courses offered by other departments**: Mathematics courses for B.Sc.(I.T)

6. **Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)**

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Associate Professors</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Asst. Professors</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

7. **Faculty profile with name, qualification, designation, specialisation**

   (D.Sc./D.Litt./Ph.D./M.Phil., etc.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialisation</th>
<th>No. of Years of Experience</th>
<th>No. of Ph.D. students guide in the last 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Mangala. Gurjar</td>
<td>M.Sc., Ph.D</td>
<td>Associate professor</td>
<td>Pure Maths</td>
<td>34</td>
<td>0</td>
</tr>
<tr>
<td>Miss Meenal Kolkar</td>
<td>M.Sc., M.Phil.</td>
<td>Assistant professor</td>
<td>Pure Maths</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Mr. Ashok Bingi</td>
<td>M.Sc.</td>
<td>Assistant professor</td>
<td>Pure Maths</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Miss. Divya Revankar</td>
<td>M. Sc.</td>
<td>Assistant professor</td>
<td>Pure Maths</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

8. **Percentage of classes taken by temporary faculty – programme-wise information**: 0%

9. **Programme-wise Student Teacher Ratio**

10. **Number of academic support staff (technical) and administrative staff: sanctioned and filled**

11. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.**
12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received

13. Research facility / centre with
   - state recognition
   - national recognition
   - international recognition

14. Publications:
   * number of papers published in peer reviewed journals (national / international): 5
   * Monographs
   * Chapter(s) in Books: Ten chapters in books published by Mumbai University.
   * Editing Books
   * Books with ISBN numbers with details of publishers
   * number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
   * Citation Index – range / average
   * SNIP
   * SJR
   * Impact factor – range / average
   * h-index

15. Details of patents and income generated

16. Areas of consultancy and income generated

17. Faculty recharging strategies: Participation in Orientation and refresher courses, Summer schools, conferences, conducting national level competitions, seminars etc.

18. Student projects: 5
   - percentage of students who have done in-house projects including inter-departmental 100%
   - percentage of students doing projects in collaboration with industries / institutes :0%

19. Awards / recognitions received at the national and international level by
   - Faculty
   - Doctoral / post doctoral fellows
   - Students

20. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.
21. Student profile course-wise:

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Applications received</th>
<th>Selected</th>
<th>Pass percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>B.Sc – (Maths)</td>
<td>270</td>
<td>242</td>
<td>FY: 75</td>
</tr>
</tbody>
</table>

22. Diversity of students

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>% of students from the College</th>
<th>% of students from the State</th>
<th>% of students from other States</th>
<th>% of students from other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Departmental data not available</td>
</tr>
</tbody>
</table>

23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?

24. Student progression

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Percentage against enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG to PG</td>
<td>75%</td>
</tr>
<tr>
<td>PG to M.Phil.</td>
<td></td>
</tr>
<tr>
<td>PG to Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Ph.D. to Post-Doctoral</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>25%</td>
</tr>
<tr>
<td>- Campus selection</td>
<td></td>
</tr>
<tr>
<td>- Other than campus recruitment</td>
<td></td>
</tr>
<tr>
<td>Entrepreneurs</td>
<td></td>
</tr>
</tbody>
</table>

25. Diversity of staff

<table>
<thead>
<tr>
<th>Percentage of faculty who are graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>of the same parent university</td>
</tr>
<tr>
<td>from other universities within the State</td>
</tr>
<tr>
<td>from other universities from other States</td>
</tr>
</tbody>
</table>

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.

27. Present details about infrastructural facilities

a) Library
b) Internet facilities for staff and students
c) Total number of class rooms
d) Class rooms with ICT facility
e) Students’ laboratories
f) Research laboratories

28. Number of students of the department getting financial assistance from College.

29. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.

30. Does the department obtain feedback from
   a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?
   b. students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?
   c. alumni and employers on the programmes and what is the response of the department to the same?

31. List the distinguished alumni of the department (maximum 10)
   1. Prof. Madhav Nori, Professor of Mathematics at University of Chicago, US
   2. Prof. Dipendra Prasad, Dean, Professor of Mathematics at TIFR.
   3. Prof. Fakruddin Najmuddin, Professor of Mathematics, TIFR.
   4. Prof. Raja Sridharan, Professor of Mathematics, TIFR.
   5. Prof. Ravi Raghunathan, Professor of Mathematics, IIT, Mumbai.
   6. Prof. Gautam Iyer, Professor of Mathematics, CMU, US.
   7. Prof. Kirtikumar Joshi, Professor of Mathematics, Arizona, US.
   8. Prof Anish Ghosh, Reader of Mathematics, TIFR.
   9. Prof. Abhay Pethe, Head, Economics Department, Mumbai University.
   10. Mr. Nigel Andrade, Partner, Macentosh

32. Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.
   11. Honours programme which included lectures by Prof. Mangala V.M., Prof. Poornima Raina, Prof. Urmila Pillie, Prof. Padukone and projects and seminars at Khandala.
   12. Problem solving workshops by Prof. Anuradha Garge of CBS, Mumbai and M. Gurjar.
   14. A special lecture by Prof. Mahan Maharaj, Belur univ. of Kolkata on “Shapes and Surfaces”.
   15. Huzurbazar memorial lecture by Prof. Raghunathan, F.R.S. is planned to be held in Dec.2012.
   16. The students give seminars in the college and also in competitions held in other colleges. In several seminar competitions and quiz competitions our students have won first prizes.

33. List the teaching methods adopted by the faculty for different programmes.
   We have only UG programme. Along with usual teaching we sometimes give study material and problems before the lecture and encourage the students to solve problems or give presentations.
34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?
TAQ is conducted regularly. Also informal feedback is taken from the students. After every examination assessment is discussed with the students.

35. Highlight the participation of students and faculty in extension activities.
1. Participation by students enthusiastically in many summer or winter schools conducted at national level.
2. Participation by faculty in national level seminars and conferences.
3. Faculty work as visiting lecturer in other institutions.
4. Faculty work as examiners for IGNOU, MPSC and other exams.

36. Give details of “beyond syllabus scholarly activities” of the department.
17. Coordinating and working as an examiner for national level Mathematical competitive examination funded by NBHM.
18. Attending and presenting papers in national level conferences.
20. Writing some chapters in text books at UG and PG level by Mumbai University.
22. Conducting one week summer school for all students of Mumbai.
23. Giving lectures in a refresher course.
24. Giving invited talks in different colleges.
25. To work as a judge at different intercollegiate competitions.
26. Conducting “Scientific communication skills” course.

37. State whether the programme/ department is accredited/ graded by other agencies. Give details.

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

Strengths
1. Highly qualified faculty.
2. Good quality of 20% students because of high reputation.
3. Freedom to modify syllabus.
4. Location in south Mumbai. Students can attend TIFR lectures. Can go to TIFR regularly.
5. All the posts are filled up. Entire teaching job is done by full time teachers.

Weaknesses
1. B.Sc. course is taken up by many (50%) students not out of interest but lack of choice.
2. Lack of space in the department.
3. Mathematics as a subject has less employability.
4. Mathematics is (perceived) difficult compared with other subjects.
5. Location. Many students and teachers spend lot of time and energy in travelling.

39. Future plans of the department. 1 To have a separate BA programme in Mathematics.
Department of Microbiology

1. **Name of the Department & its year of establishment**
   Department of Microbiology       Established in 1932

2. **Names of Programmes/Courses offered (UG, PG, M.Phil., PhD., Integrated Masters; Integrated PhD., etc.)**
   B.Sc in Microbiology, M.Sc in Microbiology

3. **Interdisciplinary courses and departments involved**
   - In 2007-08, an Interdisciplinary Environment Studies Honours Programme was introduced. The theme for the year was Environment and Society with emphasis on Water. The course was introduced and coordinated at the college level by Dr. Ms. Vivien Amonkar; Ms. Sangeetha Chavan was the department coordinator. The Programme involved the department of Economics, Sociology, Botany, Life Science, Microbiology and Zoology.
   - 2008-09: The theme for the Interdisciplinary Environment Studies Honours Programme was ‘Environment Degradation and Mitigation’. The course was coordinated at the college level by Dr. Ms. Vivien Amonkar; Ms. Sangeetha Chavan was the department coordinator. The Programme involved the department of Economics, Sociology, Botany, Life Sciences, Microbiology and Zoology.
   - 2011-12: The department introduced a cross faculty SY course as part of the autonomy system of the college – Infectious Diseases: Staying ahead Ms. Miriam Stewart, Ms. Sangeetha Chavan and Ms. Karuna Gokarn taught the course to students of SYBA, SYBMM and SYBMS.
   Biostatistics and Instrumentation involving principles of physics are included in courses offered.

4. **Annual/ semester/choice based credit system**
   - 2006-2010: Annual system, non credit based
   - From June 2010: Semester system, credit based Autonomous system for UG courses
   - From June 2012: Semester system, credit based Autonomous system for PG courses

5. **Participation of the department in the courses offered by other departments**
   - Faculty of the department are involved in the Postgraduate Department of Biotechnology of the college – a self financing course. Dr. Ms. Vivien Amonkar heads the department and Ms. Miriam Stewart, Ms. Sangeetha Chavan and Ms. Karuna Gokarn have taken lectures in several courses over the last few years.
   - Faculty of the department have conducted lectures for the Post Graduate Diploma course - Industrial Biotechnology and Enterprise offered by the college which leads to a Masters Degree from the University of Bath, U.K. Dr. Ms. Vivien Amonkar headed the Faculty team that framed the syllabus for the above course.
Students of the department are involved in courses of other departments as part of the autonomy systems of the college:

Every SY Student joins a course offered by a department of the Faculty of Arts and every TY student joins an Applied Component course offered by the department of Life Science or Chemistry.

6. **Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)**

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Associate Professors</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Asst. Professors</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

7. **Faculty profile with name, qualification, designation, specialization (D.Sc./D.Litt./PhD/M.Phil., etc.)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialization</th>
<th>No. of Years of Experience</th>
<th>No. of PhD. students guided in the last 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr.(Ms.) Vivien Amonkar</td>
<td>M.Sc., PhD</td>
<td>Head of Dept., Associate Professor</td>
<td>General Microbiology, Biochemistry, Microbial, Medical Microbiology,</td>
<td>33</td>
<td>-</td>
</tr>
<tr>
<td>Ms. Miriam Stewart</td>
<td>M.Sc.</td>
<td>Associate Professor</td>
<td>Virology, General Microbiology, Immunology</td>
<td>28</td>
<td>-</td>
</tr>
<tr>
<td>Ms. Sangeeta Chavan</td>
<td>M.Sc., M.Phil.</td>
<td>Associate Professor</td>
<td>General Microbiology, Genetics, Immunology, Environmental Microbiology</td>
<td>21</td>
<td>-</td>
</tr>
<tr>
<td>Ms. Karuna Gokarn</td>
<td>M.Sc.</td>
<td>Associate Professor</td>
<td>Genetics, Industrial Microbiology, Food Microbiology, Virology</td>
<td>17</td>
<td>-</td>
</tr>
</tbody>
</table>

8. **Percentage of classes taken by temporary faculty – programme-wise information**

9. **Programme-wise Student Teacher Ratio**

- FYBSc 20:1
- SYBSc 17:1
- TYBSc 15:1
- Sc 1:1 upto 2012; 10:1 from 2012
10. Number of academic support staff (technical) and administrative staff: sanctioned and filled
   Laboratory Assistant – 1 post sanctioned and filled
   Laboratory Attendant – 2 posts sanctioned and filled

11. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.

<table>
<thead>
<tr>
<th>Name of Teacher</th>
<th>Title</th>
<th>Cost</th>
<th>Duration</th>
<th>Date of Sanction</th>
<th>Funding Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Karuna Gokarn</td>
<td>Microbial Studies of Vermicompost and Worm tea</td>
<td>10,000/-</td>
<td>6 Months</td>
<td>2006</td>
<td>Mumbai University</td>
</tr>
<tr>
<td>Ms. Sangeeta Chavan</td>
<td>Production and Activity Studies of Biosurfactants using waste substrates</td>
<td>25,000/-</td>
<td>6 Months</td>
<td>2007</td>
<td>Mumbai University</td>
</tr>
<tr>
<td>Dr.(Ms.) Vivien Amonkar &amp; Ms. Karuna Gokarn</td>
<td>Microbiological Testing of Drinking Water in the slums followed by educational interventions in collaboration with Haath Mein Sehat</td>
<td>3,50,000/-</td>
<td>3 Years</td>
<td>2007</td>
<td>Haath Mein Sehat University of California, Berkeley (UCB)</td>
</tr>
<tr>
<td>Ms. Karuna Gokarn</td>
<td>Biosorption of industrial dyes using dead fungal biomass</td>
<td>30,000/-</td>
<td>6 Months</td>
<td>2008</td>
<td>Mumbai University</td>
</tr>
<tr>
<td>Dr.(Ms.) Vivien Amonkar</td>
<td>Assessment of drinking water quality in slums – source and storage waters</td>
<td>22,500/-</td>
<td>6 Months</td>
<td>2009</td>
<td>Mumbai University</td>
</tr>
<tr>
<td>Ms. Sangeeta Chavan</td>
<td>Isolation of <em>Lactobacillus</em> species from lactic acid fermented products and evaluation of its probiotic potential</td>
<td>22,500/-</td>
<td>6 Months</td>
<td>2009</td>
<td>Mumbai University</td>
</tr>
<tr>
<td>Dr.(Ms.) Vivien Amonkar</td>
<td>Studying soil community DNA (Metagenomics) for endo GH’s and cellulose Binding</td>
<td>25,000/-</td>
<td>1 Year</td>
<td>2011</td>
<td>DBT-ICT-Centre for Energy Bioscience</td>
</tr>
<tr>
<td>Dr.(Ms.) Vivien Amonkar &amp; Ms. Varnica Khetrapal</td>
<td>Microbial Synthesis and characterisation of silver nanoparticles</td>
<td>1,05,000/-</td>
<td>2 Years</td>
<td>2011</td>
<td>UGC Minor Research</td>
</tr>
<tr>
<td>Dr.(Ms.) Vivien Amonkar</td>
<td>Dextran Fermentation</td>
<td>5,00,000/-</td>
<td>Ongoing</td>
<td>2011</td>
<td>Industrial Project</td>
</tr>
</tbody>
</table>
12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received
DST-FIST grant of Rs. 34.20 lakhs for Equipments and Infrastructure facility (2004-07) to Dept. of Biological Sciences (Life Science, Botany, Microbiology and Zoology)

13. Research facility / centre with NA
- State recognition
- National recognition
- International recognition

14. Publications:

<table>
<thead>
<tr>
<th>Name of Teacher</th>
<th>Publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Ms. Vivien Amonkar</td>
<td>Solid state fermentation for degradation of fruit and vegetable waste and production of significant enzymes in XPLORE, Xavier’s Research Journal, Vol. 2, Issue 1, December 2011</td>
</tr>
</tbody>
</table>

* number of papers published in peer reviewed journals (national / international)
* Monographs
* Chapter(s) in Books
* Editing Books
* Books with ISBN numbers with details of publishers
* Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
* Citation Index – range / average
* SNIP
* SJR
* Impact factor – range / average
* h-index

15. Details of patents and income generated

16. Areas of consultancy and income generated

<table>
<thead>
<tr>
<th>Name of Teacher</th>
<th>Title</th>
<th>Cost</th>
<th>Duration</th>
<th>Date of sanction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr.(Ms.) Vivien Amonkar &amp; Ms. Karuna Gokarn</td>
<td>Microbiological Testing of Drinking Water in the slums followed by educational interventions in collaboration with University of California, Berkeley (UCB)</td>
<td>3,50,000/-</td>
<td>3 Years</td>
<td>2007</td>
</tr>
<tr>
<td>Dr.(Ms.) Vivien Amonkar</td>
<td>Dextran Fermentation – Industrial Project with Swati Spentose Pvt. Ltd.</td>
<td>5,00,000/-</td>
<td>Ongoing</td>
<td>2011</td>
</tr>
</tbody>
</table>

17. Faculty recharging strategies

See Annexure 1. Continuous Professional Development

18. Student projects

- percentage of students who have done in-house projects including inter-departmental
- percentage of students doing projects in collaboration with industries / institutes

2006 – 2011: 60 – 70% of undergraduate students have done in house projects.
40% of undergraduate students have done projects with industries/ institutes.
2011 – 2012: 100% of undergraduate students have completed in house projects as part of the autonomous system.
30% of undergraduate students have done projects with industries/institutes.
One postgraduate student conducted the project in collaboration with the DBT-ICT-Centre for Energy Biosciences.
2006 – 2012: 100% of postgraduate students have completed in house projects

Details:
A] Undergraduate students complete summer programmes in various research institutions, Pathology Labs and Microbiology/Biotechnology companies for a duration of 3 - 6 weeks
B] In addition, several in house research projects are carried out in the department as part of the Honour’s Programme, a co-curricular programme of excellence. The duration of these projects: 1 week to 6 weeks
C] Post graduate students completed a 3-4 month in-house project as part of their curriculum

In 2011-12: One postgraduate student conducted the project ‘Characterization of cellulase produced by micro-organisms growing on specific cellulose substrates’, in collaboration with the DBT-ICT-Centre for Energy Biosciences

A. Undergraduate students – summer programmes

<table>
<thead>
<tr>
<th>NO.</th>
<th>INSTITUTION</th>
<th>YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Micro. Lab, Clariant Chemicals</td>
<td>2009</td>
</tr>
<tr>
<td>2.</td>
<td>Vaccine dept., Bharat Serum</td>
<td>2009</td>
</tr>
<tr>
<td>3.</td>
<td>Several Path Labs eg Bombay Hospital, PH Medical centre</td>
<td>2009</td>
</tr>
<tr>
<td>4.</td>
<td>Bharat Serum</td>
<td>2010</td>
</tr>
<tr>
<td>5.</td>
<td>Intas Pharma</td>
<td>2010</td>
</tr>
<tr>
<td>6.</td>
<td>Several Path Labs eg Bombay Hospital, PH Medical centre, Tata Memorial, Sea wood Hospital</td>
<td>2010</td>
</tr>
<tr>
<td>8.</td>
<td>Several Path Labs eg Bombay Hospital, PH Medical centre, Tata Memorial</td>
<td>2011</td>
</tr>
</tbody>
</table>

B. Undergraduate students – in house projects (2009-10)
- Project on Biosurfactants
- Service learning project in collaboration with students of the University of California, Berkeley which involved testing the potability of water in specific slums in Mumbai followed by educational interventions
- Microbial Biotechnology Project- involving Solid Waste Management and the study of Antimicrobial properties of Herbs and Spices
- Summer teaching and learning project on Global Health Crisis – TB and HIV in collaboration with Western Connecticut State University

19. Awards / recognitions received at the national and international level by
- Faculty
  Dr. Ms. Vivien Amonkar: Awarded The American Society for Microbiology (ASM) and the UNESCO ‘Leadership Grant for International Educators’ May 2009 which allowed for participation in the ASM 16th Annual Conference for Undergraduate Educators (ASMCUE) and a pre-meeting workshop May 28-31, 2009 at Colorado State University in Ft. Collins, Colorado, USA
- Doctoral / post doctoral fellows
- Student Rima Bist (M.Sc Part II student) was selected for a six month DBT-ICT-Centre for Energy Biosciences project ‘Studying soil community DNA (Metagenomics) for endo GH’s and cellulose Binding’ 2011-12

20. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.
An international conference on “Advances in Pharmaceutical Microbiology” organized by Dept. of Microbiology in collaboration with Mumbai University as part of Sesquicentennial Celebrations of the Mumbai University was held on 6th & 7th Jan 2007. Outstation participants from St. Xavier’s College, Goa
21. Student profile course-wise:

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>Applications received</th>
<th>Selected</th>
<th>Pass percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>UG(FY, SY,TY)2006-2007</td>
<td>210</td>
<td>18/ 92</td>
<td>100</td>
</tr>
<tr>
<td>UG(FY, SY,TY)2007-2008</td>
<td>200</td>
<td>19 /91</td>
<td>100</td>
</tr>
<tr>
<td>UG(FY, SY,TY)2008-2009</td>
<td>216</td>
<td>19 /86</td>
<td>100</td>
</tr>
<tr>
<td>UG(FY, SY,TY)2009-2010</td>
<td>190</td>
<td>19 /90</td>
<td>100</td>
</tr>
<tr>
<td>UG(FY, SY,TY)2010-2011</td>
<td>190</td>
<td>20 /90</td>
<td>100</td>
</tr>
<tr>
<td>UG(FY, SY,TY)2011-2012</td>
<td>206</td>
<td>17/ 89</td>
<td>100</td>
</tr>
<tr>
<td>MSc(Part I and II)2006-2007</td>
<td>20</td>
<td>2 /2</td>
<td>100</td>
</tr>
<tr>
<td>MSc (Part I and II)2007-2008</td>
<td>19</td>
<td>1/ 3</td>
<td>100</td>
</tr>
<tr>
<td>PG(Part I and II)2008-2009</td>
<td>19</td>
<td>1 /3</td>
<td>100</td>
</tr>
<tr>
<td>PG(Part I and II)2009-2010</td>
<td>21</td>
<td>1 /3</td>
<td>100</td>
</tr>
<tr>
<td>PG(Part I and II)2010-2011</td>
<td>20</td>
<td>2 /2</td>
<td>100</td>
</tr>
<tr>
<td>PG(Part I and II)2011-2012</td>
<td>20</td>
<td>1 / 3</td>
<td>100</td>
</tr>
</tbody>
</table>

22. Diversity of students

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>% of students from the College</th>
<th>% of students from the State</th>
<th>% of students from other States</th>
<th>% of students from other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG(FY, SY,TY)2006-2007</td>
<td>45</td>
<td>90</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>UG(FY, SY,TY)2007-2008</td>
<td>40</td>
<td>86</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>UG(FY, SY,TY)2008-2009</td>
<td>42</td>
<td>92</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>UG(FY, SY,TY)2009-2010</td>
<td>43</td>
<td>94</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>UG(FY, SY,TY)2010-2011</td>
<td>45</td>
<td>88</td>
<td>12</td>
<td>-</td>
</tr>
<tr>
<td>UG(FY, SY,TY)2011-2012</td>
<td>40</td>
<td>92</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>PG(Part I and II)2006-2007</td>
<td>50</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PG(Part I and II)2007-2008</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PG(Part I and II)2008-2009</td>
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<td>PG(Part I and II)2009-2010</td>
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<td>PG(Part I and II)2010-2011</td>
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</tr>
<tr>
<td>PG(Part I and II)2011-2012</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?

30% of our students have cleared competitive exams

Examples:
Andrew Salazar - Cleared CSIR-UGC NET
Keith Frank - Cleared the NET June 2011 Exam.
Anannya Bhattacharya-Cleared ICMR JRF 2010, GATE 2010 (94th percentile)
Sindhu Vangeti - GATE 2011: 96th percentile
Deepesh Nagarajan 2012: Perumal award 2011: Integrated PhD (BioSc) award
Adnan Faizullahbhouy: Academic merit scholarship funded by the University of Sheffield and Bardhan Research Trust - 2010

24. Student progression

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Percentage against enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UG to PG</strong></td>
<td></td>
</tr>
<tr>
<td>2006-2007</td>
<td>68</td>
</tr>
<tr>
<td>2007-2008</td>
<td>69</td>
</tr>
<tr>
<td>2008-2009</td>
<td>80</td>
</tr>
<tr>
<td>2009-2010</td>
<td>93</td>
</tr>
<tr>
<td>2010-2011</td>
<td>82</td>
</tr>
<tr>
<td>2011-2012</td>
<td>90</td>
</tr>
<tr>
<td><strong>PG to M.Phil.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>PG to PhD.</strong></td>
<td></td>
</tr>
<tr>
<td>2006-2007</td>
<td>50</td>
</tr>
<tr>
<td>2007-2008</td>
<td>-</td>
</tr>
<tr>
<td>2008-2009</td>
<td>50</td>
</tr>
<tr>
<td>2009-2010</td>
<td>-</td>
</tr>
<tr>
<td>2010-2011</td>
<td>50</td>
</tr>
<tr>
<td>2011-2012</td>
<td>-</td>
</tr>
<tr>
<td><strong>PhD. to Post-Doctoral</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Employed (details given below)</strong></td>
<td></td>
</tr>
<tr>
<td>Campus selection</td>
<td>-</td>
</tr>
<tr>
<td><strong>Other than campus recruitment</strong></td>
<td></td>
</tr>
<tr>
<td><strong>UG to PG</strong></td>
<td></td>
</tr>
<tr>
<td>2006-2007</td>
<td>32</td>
</tr>
<tr>
<td>2007-2008</td>
<td>31</td>
</tr>
<tr>
<td>2008-2009</td>
<td>20</td>
</tr>
<tr>
<td>2009-2010</td>
<td>7</td>
</tr>
<tr>
<td>2010-2011</td>
<td>18</td>
</tr>
<tr>
<td>2011-2012</td>
<td>10</td>
</tr>
<tr>
<td><strong>PG to M.Phil.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>PG to PhD.</strong></td>
<td></td>
</tr>
<tr>
<td>2006-2007</td>
<td>50</td>
</tr>
<tr>
<td>2007-2008</td>
<td>100</td>
</tr>
<tr>
<td>2008-2009</td>
<td>50</td>
</tr>
<tr>
<td>2009-2010</td>
<td>100</td>
</tr>
<tr>
<td>2010-2011</td>
<td>50</td>
</tr>
<tr>
<td>2011-2012</td>
<td>100</td>
</tr>
<tr>
<td><strong>PhD. to Post-Doctoral</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Entrepreneurs</strong></td>
<td>-</td>
</tr>
</tbody>
</table>
25. Diversity of staff

<table>
<thead>
<tr>
<th>Percentage of faculty who are graduates</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>of the same parent university</td>
<td></td>
</tr>
<tr>
<td>From other universities within the State</td>
<td>-</td>
</tr>
<tr>
<td>From other universities from other States</td>
<td>-</td>
</tr>
</tbody>
</table>

26. Number of faculty who were awarded PhD., D.Sc. and D.Litt. during the assessment period.

- 

27. Present details about infrastructural facilities
   a) Library: Main college library and department library with 200 books
   b) Internet facilities for staff and students - In the Knowledge Center, Library, MMR, SCAVI and Department
   c) Total number of class rooms - 41 (Shared by all the departments)
   d) Class rooms with ICT facility – All 41
   e) Students’ laboratories – 1 Undergraduate and 1 postgraduate
   f) Research laboratories – 1 (additional facilities available – Centralized Instrumentation Facility and Caius Research Lab for PhD research)

28. Number of students of the department getting financial assistance from College. 2-5%
   The department has established 5 scholarships from alumni donations.

29. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.
   No

30. Does the department obtain feedback from Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?
   Yes through weekly faculty meetings. Remedial measures are adopted on the basis of the feedback

   Students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?
   • Yes through Formal TAQ administered to all students
   • Annual feedback at the Khandala seminar of the department.
   • The department adopts remedial measures on the basis of the feedback

   Alumni and employers on the programmes and what is the response of the department to the same?
   Yes from alumni through informal discussions. The department adopts remedial measures on the basis of the feedback

31. List the distinguished alumni of the department (maximum 10)
   a. Late Dr. Janardhan.V. Bhat: Class of 1939  Ex Head of Department, was an eminent internationally renowned Microbiologist whose research interests were many eg environmental microbiology who joined Indian Institute of Science, Bangalore.
b. **Late Dr. Fabian Fernandes**: Class of 1941, Ex Head of the Department with Medical Microbiology as his key interest area. He left the department in 1959 to join the Ciba Geigy Research Centre.

c. **Major General Eustace D’Souza**: Class of 1941

d. **Late Dr. Ms. Yvonne Freitas**: Class of 1949, Head of Dept, First Lady Vice Principal of the college and Dean of science faculty, University of Bombay

e. **Dr. Bhanu Pavri**: Retired as Director of National Institute of Virology, Pune

f. **Dr. Lancy Pereira**: Ex Principal of St. Xavier’s College, Ex Head of Dept.

g. **Dr. Girish Vyas**: Professor of laboratory medicine and director of the UCSF School of Medicine Transfusion Research Program

h. **Mr Gerson D'Cunha**: Served as head of Lintas. He then moved on to work with the UNICEF in Latin America and New York. He is the Chief Executive of Bombay First, a trustee of NAGAR and convenor of AGNI.

i. **Late Dr. Edgar DaSilva**: joined the UNESCO and rose to be Head of its Life Sciences section

j. **Dr. Ms. Zimra Israel**: Served as Director, Science Policy, Vaccines and Biologics, Pfizer New York

32. **Give details of student enrichment programmes (special lectures/workshops/seminar) with external experts.**

A. **An international conference** on “Advances in Pharmaceutical Microbiology” organized by Dept. of Microbiology in collaboration with Mumbai University as part of Sesquicentennial Celebrations of the Mumbai University was held on 6th & 7th Jan 2007.

B. **Guest Lectures – often with collaborations**

2006 - 07

- The Department of Microbiology and The American Centre, Mumbai presented a talk on ‘Biotechnology – The Promise. Benefits and Risks’ by **Dr. Lester Crawford**

2007-08

- A lecture ‘LEVERAGING TECHNOLOGIES IN LABORATORY DIAGNOSIS’ by **Dr. Pascoal Carvalho** was also organized by the department in collaboration with the Prof. J.V. Bhat Memorial Committee in November 2007.

2008-09

- The Departments of Microbiology and Biotechnology and The American Centre, Mumbai presented a talk on ‘GMOs: Facts and Fantasies’ by **Prof. Bruce M. Chassy** on 11th August, 2008.

2009-10

- **Rupa Iyer, Ph. D.**, Director, Center for Life Sciences Technology and Biotechnology, University of Houston presented her work on pesticide degraders.
Dr. Faith Pereira, an alumna of the department counseled the students through her talk.

2010 - 11
- **Ruth A. Gyure, PhD**, Western Connecticut State University spoke on Environmental Microbiology.
- **Foster Gonsalves, PhD**, New York University on Drug Design.
- **Niyati Parekh, PhD.**, New York University on Obesity, insulin resistance, hypoglycemia and cancer.
- **Sriram Balakrishnan**, Sanofi Pasteur India Pvt Ltd on Pharmaceutical Marketing.
- **Sindhu Vangeti**, a postgraduate student at NIV on Viral Cultivation

2011-12
- **Dr. Bhal Dave** gave an inspiring lecture to students on aspects related to Agricultural Microbiology
- **Dr. Ms. Shailaja Rabindran** gave an elaborate talk to the students on the use of plant tissue culture in vaccine development, on 12th December 2011.
- **Tarang Sharma** explained aspects of public health and career opportunities in the field – 20th December, 2011
- **Viveka Roy Chowdhury** Editor of Pharma Express gave a talk on Popular Science Writing

C. **One day seminar**
Jointly organized by the Departments of Biotechnology and Microbiology on the 6th of Jan 2011 on **Infectious diseases –staying ahead**.
Speakers for the seminar: **Dr. B.R Das**, Executive Director- Research and Innovation Super Religare Laboratories Limited, **Dr. Sanish Davis**, DGM Clinical Research Drug Discovery, Glenmark Research Centre, **Dr. Aamir Shaikh**, Founder Assansa, Health Care consultant, **Dr. Zimra Israel**, Director, Science Policy, Vaccines and Biologics, Pfizer New York, **Mr. Vishal Jajodia**, Executive Director, Swati Spentose and **Ms. Teja Thorat**, a public health student, Boston, discussed her course.

D. **Workshops**
**Dr. Foster Gonsalves**, New York University conducted a workshop on PCR
**Hussein Dohadwala** (Wockhardt) conducted a workshop on Bioinformatics, 2006 -07

E. **Poster Presentations** by SYBSc students.
Students presented the projects they had completed as part of their practicals in the form of posters which were judged by professionals from the Science Writing industry.
33. List the teaching methods adopted by the faculty for different programmes. Besides the classical chalk and talk methods other methodologies used by the department are:
   a. Multimedia- PowerPoint presentations, films, animations, specialized software (Bioinformatics).
   b. Problem based learning (for practicals and other courses).
   c. Peer Learning.
   d. Group discussions, Group presentations.
   e. Project based learning (to develop inquiry based learning).
   f. Role play.
   g. Service learning.
   h. Experiential learning.
   i. Problem solving.
   j. Skills practices.
   k. Use of open courseware.
   l. Use of Moodle.

34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?
The Head of Dept and the faculty of the department meet every week for formal meetings in which the objectives of the department, the programmes to be implemented, the achievement of learning outcomes and the remedial measures to be adopted (if relevant) are discussed. Student feedbacks on various programmes are obtained on a regular basis both orally and in writing. An annual feedback is obtained at the annual Khandala seminar followed by discussions and follow up action.

35. Highlight the participation of students and faculty in extension activities. Highlight the participation of students and faculty in extension activities.
   • For three consecutive years, the Department conducted a service learning programme for the students of Microbiology in collaboration with the University of California, Berkeley at low-income group communities. Microbiological testing of water samples of households was carried out every month followed by community workshops to teach hygienic practices to ensure safe drinking water. Coordinated by Dr. Ms. Vivien Amonkar and Ms. Karuna Gokarn.
   • SYBSc students also conduct a Microbiological analysis of the college drinking water to check its potability on a monthly basis. Coordinated by Ms. Karuna Gokarn.
   • In 2007-08, an Interdisciplinary Environment Studies Honours Programme was introduced. The course was introduced and coordinated at the college level by Dr. Ms. Vivien Amonkar and Ms. Sangeetha Chavan was the department coordinator. The theme for the year was Environment and Society with emphasis on Water. In 2008-09 the theme was ‘Environment Degradation and Mitigation’. The course involved, lectures, visits and an annual exhibition. Students of the department were also involved.
   • Students of the department are involved in the Social Involvement Programme of the college.
36. Give details of “beyond syllabus scholarly activities” of the department.

A. An international conference on “Advances in Pharmaceutical Microbiology” organized by Dept. of Microbiology in collaboration with Mumbai University as part of Sesquicentennial Celebrations of the Mumbai University was held on 6th Jan 2007.

B. Honours Programme Activities of the Department

<table>
<thead>
<tr>
<th>YEAR</th>
<th>ACTIVITIES</th>
</tr>
</thead>
</table>
| 2007-2008  | **Workshops**  
- Elisa And Western Blot  
- Bioassays Of Penicillin And Vitamin B12  
- Basic Bioinformatics  
**Biotechnology Project**  
- Solid Waste Mushroom Cultivation, Antimicrobial Activities of herbs and spices |
| 2008-2009  | **Workshops**  
- Polymerase Chain Reaction Technique  
- Bioassays Of Penicillin And Vitamin B12  
- Basic Bioinformatics  
**Projects**  
- Absorption of dyes by dead Fungal Dried mass  
- A Survey of and Assessment of methods of Hygiene and Food preparation practices employed in the Canteen of St. Xavier’s College according to FDA regulations  
- Biotechnology Module |
| 2009-2010  | **Workshops**  
- Elisa And Western Blot  
- Bioassays Of Penicillin And Vitamin B12  
- Basic Bioinformatics  
**Biotechnology Project**  
- Solid Waste Mushroom Cultivation, Antimicrobial Activities of herbs and spices  
**Summer Teaching And Learning Project** - ‘Global Health Crisis’: Environmental Factors And Emerging Drug – Resistant Infections Emphasis On: Tuberculosis And HIV/AIDS’ In Collaboration With Dr. Ruth A. Gyure, Western Connecticut State University (WCSU) In Danbury, Ct, USA.  
**Haat Mein Sehat** |

SUMMER INTERNSHIPS: Four students spent their summer vacation training at Pathological Laboratories in various Hospitals, one student trained at Clariant Chemicals (India.)
<table>
<thead>
<tr>
<th>Year</th>
<th>Workshops</th>
<th>Biotechnology Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 - 2011</td>
<td>Workshops - Polymerase Chain Reaction Technique - Bioassays Of Penicillin And Vitamin B12</td>
<td>SUMMER INTERNSHIPS: Fifteen students spent their summer vacation training at Pathological Laboratories in various Hospitals, one student trained at Intas Pharma, one at Bharat Serum and one at IIT Mumbai.</td>
</tr>
<tr>
<td>2011 - 2012</td>
<td>Workshops - Animal Tissue Culture - Biostatistics</td>
<td>SUMMER INTERNSHIPS: Fifteen students spent their summer vacation training at Pathological Laboratories in various Hospitals, one student trained at the Dept of Biotechnology, Univ. of Agricultural Scs., Dharwad, one student was chosen for a Summer Research Fellowship Programme at the International Centre for Genetic Engineering and Biotechnology, New Delhi, and one student attended a workshop on Techniques in Biotechnology, organized by the Clinical Pharmacology dept of Nair Hospital.</td>
</tr>
<tr>
<td>2012-2013</td>
<td>Workshops - Elisa And Western Blot - Bioassays Of Penicillin And Vitamin B12 - Basic Bioinformatics - Polymerase Chain Reaction Techniques using 16SrDNA - Plasmid isolation</td>
<td>Biotechnology Project</td>
</tr>
</tbody>
</table>

C. Other academic activities
a. **An annual Department Exhibition** in which Second Year Student groups exhibit microbial Biotechnology aspects in the Medical, Food, Industrial, Agriculture and Environment fields.

b. **MICRO DAY**: An annual Academic celebration
c. **Khandala Seminar**: An annual seminar at the Human Resource centre of the college. Each year has a different theme. eg. Public health in 2012 where students made presentations on the following topics: H1N1, Safer and Healthier Foods, Public Health in India, Eradication of Malaria, Polio, Influenza, Tuberculosis- Drug resistance.

d. **Guest Lectures –often with collaborations**

2006 - 07
- The Department of Microbiology and The American Centre, Mumbai presented a talk on ‘Biotechnology – The Promise. Benefits and Risks’ by Dr. Lester Crawford

2007-08
- A lecture ‘LEVERAGING TECHNOLOGIES IN LABORATORY DIAGNOSIS’ by Dr. Pascoalo Carvalho was also organized by the
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**f. Workshops**

- **Dr. Foster Gonsalves**, New York University conducted a workshop on PCR (2006-07)
- **Hussein Dohadwala** (Wockhardt) conducted a workshop on Bioinformatics (2006-07)
• HACCP principles conducted for canteen staff of the college. **Ms Asha Sridhar**, Head- Food Safety, TUV India Pvt. Ltd. was the resource person. (December 2011)
• Awareness of Infectious diseases for the non-teaching staff of the college – with the help of SY and TY students. (December, 2011)

g. **Poster Presentations** by SYBSc students.
   Students presented the projects they had completed as part of their practicals in the form of posters which were judged by professionals from the Science Writing industry.

h. **Michronicle** : The annual magazine of the department

i. **UMAX**: The Undergraduate Microbiology Association of Xavier’s

37. State whether the programme/ department is accredited/ graded by other agencies. Give details. –

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

**Strengths**
1. **Faculty and support staff of the department.**
   Faculty who are involved in: (Refer to Annexure 1 for faculty activities)
   a. Quality teaching reflected in the high (good, Very good) TAQ scores
   b. Continuous professional development : See Annexure 1
   c. Sincere, Dedicated work reflected by the large number of Curricular and Cocurricular activities of the department that require demanding and challenging faculty support. Refer to Q.36
   d. Modern goal based teaching- learning methodologies Refer to Q.33
   e. Research projects that emphasize teaching students research skills (Refer to Q.36 and Annexure 1) the success of which is reflected in the number of students who join research programmes in renowned Universities in India and abroad.
   Egs.
   India: Indian Institute of Science Bangalore, National Institute of Virology, Pune
   UK: Oxford University, University of Sheffield
   USA: Cornell University, University of Michigan
   Others: University of Queensland, Australia; University of Singapore; Okazaki, Japan
   f. Mentoring of students on career, academic and personal issues.

**Support Staff:**
Very hard working, sincere, committed staff who always put the interest of the department students before theirs.

2. **Curricular and Cocurricular Programmes of the department**
   **Curricular:** From 2006 – 2010 the department followed the syllabi of Mumbai University using modern teaching learning pedagogies. (Refer to Q.33)
   From 2010, as St. Xavier’s College became autonomous, the department designs its own syllabi and assessments with the help of a Board of Studies that includes
industry experts and faculty of other Microbiology departments. Modern teaching learning pedagogies are used.

3. Co-curricular Programmes of the Dept.: (Refer to Q. 36)

3. Infrastructure
Good lab facilities and basic instrumentation for conducting both undergraduate and postgraduate practicals and research projects. The department was renovated in 2009 mainly through the donation of our alumna Dr. Fiona and her husband Luis Miranda

4. Students, both present and past
Majority of the students are intelligent, sincere and motivated, who are keen to learn the principles of Microbiology, laboratory techniques and soft skills as a Bioscience related career is a significant goal in their lives. They are extremely cooperative and help in the organization of several department co-curricular activities.

DEPARTMENT ALUMNI have contributed to several of our activities.

Department Renovation: Dr. Fiona and Luis Miranda

Instruments: Dr. C. Chopra and the Prema Arya Funds, Dr. Sharad Parikh

Scholarships: Late Dr. Bhal Dave, Dr. C. Chopra, Family members of late Dr. Edgar DaSilva

75 years Celebrations: Dr. Girish Vyas (USA), Dr. Zimra Israel (USA), Dr. Shailaja Rabindran (USA), Dr. Taposhi Dasgupta (former faculty member, Canada) who made presentations at the International conference without any compensation. They personally bore all travel and stay expenses. Dr. Nagesh Mhatre, Dr. Fiona and Luis Miranda for Financial support

Industrial projects - Francis Baretto and Dr. Sailaja Chandrapati who introduced us to our industry partners.

Lectures, Workshops: Dr. Foster Gonsalves, Viveka Roychowdhury, Rucha Kurtkoti,
Dr. Sailaja Chandrapati, Dr. Mehul Vora, Dr. Zimra Israel, Shubhanjali Gadgil, Sriram Balakrishna, Teja Thorat, Dr. Tarang Sharma, Dr. Ritwick Sawarkar, Dr. Faith Pereira

5. Good working atmosphere in the department
Teaching and nonteaching faculty and students of the department share a very warm relationship which includes a lot of cooperation and understanding. The students have often appreciated the concern and mentoring they have received.

Weaknesses
1. Lack of Faculty Publications: The faculty has been involved in research projects that train students in research skills but have not resulted in a large number of research publications.
2. A decrease in the academic quality of students entering the department: as students are attracted more to professional courses as compared to pure science ones.

Opportunities
1. Academic Autonomy - As the faculty now design their own syllabi and assessments
2. Post graduate courses – as we have just introduced an autonomous M.Sc course in Microbiology with an intake of 20 students per year from June 2012.
3. Research due to the increased emphasis
4. Collaboration with institutes and industries that have a Microbiology focus
5. Interdisciplinary work

**Challenges**
1. To provide Quality UG &PG teaching with publication based research
2. To provide Quality education that prepares students for a global work environment
   with the existing faculty workload, finance and space

**39. Future plans of the department**
- Immediate plan: To Celebrate the department’s eighty years of undergraduate teaching with an alumni dinner and an intercollegiate student seminar on ‘Advances in Microbiology: Food and Health Care Industries’ in January 2013 and an alumni dinner on Friday, 28th December, 2012.
- To teach globally relevant Microbiology courses within the autonomy system of the college by continuously reviewing and changing syllabi and teaching methodologies.
- Increasing the interdisciplinary nature of the courses.
- Increasing publication based research.
- Increasing collaborations with industry and other institutes.
- To build a proteomics and genomics lab for teaching and research.

---------------------------------------------------------------

**ANNEXURE – 1**

**DEPARTMENT FACULTY ACTIVITIES**

**A. Dr. Ms. Vivien Amonkar**

**2006-2007**

**Academic activities:**
- Conducted B. Sc and M.Sc lectures and practicals in Microbiology

**Department Cocurricular Activities:**
- Honour’s programme- Annual department exhibition
- Co-ordinator - An international conference on “Advances in Pharmaceutical Microbiology” organized by Dept. of Microbiology in collaboration with Mumbai University as part of Sesquicentennial Celebrations of the Mumbai University was held on 6th Jan 2007.

**At the College level:**
- Associate Prof. - Head of the Dept. of Microbiology
- Vice Principal - Science
- Member of the Purchase Committee of the college
Member of the Council for International Programmes

At the University of Mumbai level
- Member of the Board of Studies – Microbiology, University of Mumbai
- Member of the Faculty of Science, University of Mumbai
- Member of the Syllabus Committee for Microbiology
- Chairperson of the Examination Committee for M.Sc Microbiology I
- Invited Member of several panels for selection and confirmation of teaching faculty of Departments of Microbiology of several colleges in Mumbai.
- Judge of several intercollegiate competitions involving Microbiological aspects organized by various colleges affiliated to the University of Mumbai
- Judge at the refresher course in Biosciences in Oct-Nov 2006 at Birla college

International level
- Deputed by the college to audit two courses at the University of Berkeley, USA

Research
- M.Sc Projects guided (Papers students)
  - ‘Solid state fermentation for degradation of fruit and vegetable waste and production of enzymes’ Poster Presented at the AMI Conference – Bhopal, 2006
  - ‘A study of microbial conversion of sucrose to levan’ Poster Presented at the AMI Conference – Bhopal, 2006

Continuous Professional Development
- Audited two courses at the University of Berkeley, USA
- Participated in the Western Zonal Meeting: The Internationalisation of Higher Education – Opportunities and Challenges October 2006
- Attended a seminar on underprivileged students held in August 2006 at St. Xavier’s College
- Participated in two days seminar on dyslexia and interpersonal relationships held at St. Xavier’s September 2006.
- An international conference on “Advances in Pharmaceutical Microbiology” organized by Dept. of Microbiology in collaboration with Mumbai University as part of Sesquicentennial Celebrations of the Mumbai University was held on 6th Jan 2007

2007-08

Academic activities:
- Conducted B. Sc lectures and practicals in Microbiology
- Conducted M.Sc practicals in Microbiology
- Conducted lectures for PG Biotechnology
Department Cocurricular Activities:
- Honour’s programme- Annual department exhibition
  - Conducted ‘The World of Microbes’ to non Microbiology students of the college
- Faculty Adviser of ‘Haath Mein Sehat’ a student community service programme in collaboration with the University of California- Berkeley, which involved microbiological testing of drinking water in certain slums (poor quality housing colonies) of Mumbai 2007-2011
- Coordinator (in collaboration with the Board of Studies) a workshop on the Revised Pattern of the M.Sc University Practical Examinations in Microbiology, for the M.Sc Faculty in the subject. – October 2007

At the College level:
- Associate Prof. - Head of the Dept. of Microbiology
- Coordinator of the M.Sc. Biotechnology Course
- Coordinated the introduction of the Post Graduate Department of Biotechnology
- Organized an interdepartmental Bioskit competition.
- Coordinator of an interdisciplinary course on Environment studies
- Vice Principal – Academic Improvement of the college
  In this capacity:
  - Co-ordinator of the Honour’s Programme of the college
  - Convenor of IQAC
  - Member of the Council for International Programmes
  - Member of the Finance Committee of the college
- Made a presentation on Assessment Techniques at the Xavier’s Faculty Seminar on Student Evaluation held on 9th & 10th October
- Was on the organizing committee of:
  - Xavier’s Faculty Seminar on Student Evaluation held on 9th & 10th October
  - National Conference on ‘Plants in Relation to Man and Biosphere’ organized by the Department of Botany from Nov. 16 to 17, 2008

At the University of Mumbai level
- Member of the Board of Studies – Microbiology, University of Mumbai
- Member of the Faculty of Science, University of Mumbai
- Member of the Syllabus Committee for Microbiology
- Chairperson of the Examination Committee for M.Sc Microbiology I
- Member of the Examination Committee for M.Sc Biotechnology
- Invited Member of panels for selection and confirmation of teaching faculty of Departments of Microbiology of several colleges in Mumbai.
- Judged: The intercollegiate paper presentation competition and poster competition organized by Wilson College
The intercollegiate Biotechnology Project/ Model Competition organized by Khalsa College

Other Universities
• Nominated as subject expert for UG Syllabus Review Committee of Sikkim University in the subjects of Microbiology and Environmental Studies March 2008

Continuous Professional Development
• National Seminar on ‘Commercialization Of Biotechnology In India-Opportunities and Challenges’ Modern College, Vashi 29th – 30th September, 2007
• Workshop on ‘Validation, Calibration and Traceability’ at VES College in December, 2007
• International Colloquium on “Inclusion and Exclusion: Exploring Issues and Practices, 27.02.2008; organized by Liverpool Hope University- UK, St. Xavier’s College, Mumbai at St. Xavier’s College, Mumbai.
• Xavier’s Faculty Seminar on Student Evaluation held on 9th & 10th October
• Attended a workshop (in collaboration with the Board of Studies) on the Revised Pattern of the M.Sc University Practical Examinations in Microbiology, for the M.Sc Faculty in the subject. – October 2007

2008-09
Academic activities:
• Conducted B. Sc lectures and practicals in Microbiology
• Conducted M.Sc practicals in Microbiology
• Conducted lectures for PG Biotechnology

Department Co-curricular Activities:
• Honour’s programme- Annual department exhibition
• Faculty Adviser of ‘Haath Mein Sehat’ a student community service programme in collaboration with the University of California- Berkeley, which involved microbiological testing of drinking water in certain slums (poor quality housing colonies) of Mumbai 2007-2011
• Coordinated a workshop (in collaboration with the Board of Studies) on Designing the University syllabus grid in Microbiology, for the Faculty in the subject. – October 2008

At the College level:
• Associate Prof. - Head of the Dept. of Microbiology
• Coordinator of the M.Sc. Biotechnology Course
• Coordinator of an inter-disciplinary course on Environment studies
• Vice Principal – Academic Improvement of the college In this capacity:
  ➢ Co-ordinator of the Introduction of Autonomy in the college
  ➢ Co-ordinator of the Honour’s Programme of the college
- Convenor of IQAC
- Member of the Council for International Programmes
- Member of the Purchase Committee of the college
- Organized Faculty Seminars
  - Orientation Programme for new Teaching faculty - June 2008
  - VISIONING FOR 2015 – 26th and 27th February, 2009
  - ‘Systems in Autonomy – Credits and Syllabi’: October 2008 (also made a presentation)
- Member of the faculty team that visited Eminent Autonomous Colleges in Chennai (Loyola & Stella Maris) to study the systems implemented under the autonomy status – August 2008
  - Helped organize the Alumni Dinner on 3rd January 2009 to mark the beginning of the 140 years celebration of the college
- Member of The Institutional Biosafety Committee – Caius Research Laboratory

At the University of Mumbai level
- Member of the Board of Studies – Microbiology, University of Mumbai
- Member of the Faculty of Science, University of Mumbai
- Member of the Syllabus Committee for Microbiology
- Chairperson of the Examination Committee for M.Sc Microbiology I
- Invited Member of panels for selection and confirmation of teaching faculty of Departments of Microbiology of several colleges in Mumbai.
- Judge of several intercollegiate competitions involving Microbiological aspects organized by various colleges affiliated to the University of Mumbai

International level
- Awarded The American Society for Microbiology (ASM) and the UNESCO ‘Leadership Grant for International Educators’ May 2009 which allowed for participation in the ASM 16th Annual Conference for Undergraduate Educators (ASMCUE) and a pre-meeting workshop May 28-31, 2009 at Colorado State University in Ft. Collins, Colorado, USA
- Headed the Faculty team that framed the syllabus for a Post Graduate Diploma in Industrial Biotechnology and Enterprise at St. Xavier’s College, leading to a Masters Degree from the University of Bath, U.K. 2009

Research Related

Oral Presentations:
- ‘Teaching, Learning, Evaluation Component of NAAC’
  At the lecture-cum-workshop for faculty of Dr. Bhanuben Mahendra Nanavati College of Home Science affiliated to S.N.D.T. University, November, 2008.

Poster Presentations
- “Service Learning – Intervention Strategies in Malaria and Water Borne Disease Awareness Programs in Low Income Communities”
  At the ASM Conference for Undergraduate Educators (ASMCUE), 2009 at Colorado State University Colorado, USA: Dr. Ms. Vivien Amonkar & Ms.Karuna Gokarn
Continuous Professional Development

Attended

- Food Safety Workshop: June 2008, Bhavan’s Research Centre
- Faculty Seminars in college
  - VISIONING FOR 2015 – 26th and 27th February, 2009
  - ‘Systems in Autonomy – Credits and Syllabi’: October 2008 (also made a presentation)
  - Attended a workshop (in collaboration with the Board of Studies) on Designing the University syllabus grid in Microbiology, for the Faculty in the subject. – October 2008
  - International Colloquium on Higher Education and Society at St. Xavier’s College 15th Dec. 2008

2009-10

Academic activities:

- Conducted B. Sc lectures and practicals in Microbiology
- Conducted M.Sc practicals in Microbiology
- Conducted lectures for PG Biotechnology
- Conducted lectures for the Post Graduate Diploma course - Industrial Biotechnology and Enterprise offered by the college which leads to a Masters Degree from the University of Bath, U.K.

Department Co-curricular Activities:

- Honour’s programme- Annual department exhibition
- Faculty Adviser of ‘Haath Mein Sehat’ a student community service programme in collaboration with the University of California- Berkeley, which involved microbiological testing of drinking water in certain slums (poor quality housing colonies) of Mumbai 2007-2011
- Helped in the organization of department activities

At the College level:

- Associate Prof. - Head of the Dept. of Microbiology
- Coordinator/ Head of the M.Sc. Biotechnology Course
- Vice Principal – Academic Improvement of the college upto June 2011

In this capacity:

- Co-ordinator of the Introduction of Autonomy in the college
- Co-ordinator of the Honour’s Programme of the college
- Convenor of IQAC
- Member of the Council for International Programmes
- Member of the Purchase Committee of the college
- Co-ordinated several staff workshops/seminars
- Orientation Programme for new Teaching faculty – 16th & 17th June 2009
- Workshop on ‘Lecturing and Assessments for Large Group Teaching’: Dr. (Ms.) Momna Hejmadi, University of Bath, U.K June, 2009
- Alternatives in Continuous Internal Assessments – November 2009
- Semester System, Credits and Syllabi under the autonomy system December 2009
- Assessment of Practicals – December 2009
- Service Learning – January 2010
- Faculty Research Presentations – February 2010
- Faculty Seminar May 2010
• Made presentations at the
  Orientation Programme for new Teaching faculty
  Alternatives in Continuous Internal Assessments – November 2009
  Semester System, Credits and Syllabi under the autonomy system – December 2009
  Assessment of Practicals – December 2009
  Service Learning – January 2010
  Faculty Seminar May 2010
• Helped organise the Alumni Dinner on 3rd January 2010 to mark the end of the 140 years celebration of the college
• 2010 -Interacted with the Eureka Forbes Institute of Environment which guided students who carried out the environment audit of the college.
• Co-ordinated Environment day celebrations of the college on 14th January, 2010. This included an exhibition in which students displayed their environment related initiatives and a talk by Sir Robert Swan, titled Walk the Talk (organised in collaboration with Sanctuary Asia)
• Member of The Institutional Biosafety Committee – Caius Research Laboratory

At the University of Mumbai level
• Member of the Board of Studies – Microbiology, University of Mumbai
• Member of the Faculty of Science, University of Mumbai
• Member of the Syllabus Committee for Microbiology
• Chairperson of the Examination Committee for M.Sc Microbiology I
• Member of the Committee as Subject Expert in Microbiology for recommending University Minor Research Grants for Science Faculty
• Appointed member of the Local Inquiry Committee:
  > Karmaveer Bhaurao Patil College, Vashi Navi Mumbai - July 2009
  - Continuation of recognition to enroll students for M.Sc (by research) degree
  > CHM College - Continuation of recognition to enroll students for M.Sc (by research) and PhD degree
• Vice Chancellor nominee for selection of teacher for Teacher Fellowship Scheme - XI Plan RKT College – May 2009
• Subject Expert (Microbiology) on Interview Panel for selecting candidates for the award of the Teacher Fellowship Scheme - XI Plan Period – 30th June, 2009, Sophia College.
• Lecturer in Senior Grade – 24th September, 2009, Wilson college
• Subject Expert (Biotechnology) on Interview Panel for selecting candidates for the Lecturer’s post – 4th September, 2009, K.C. College.
• Gave the Inaugural Address at the National Seminar on Expanding Panorama of Microbiology – Changu Kana Thakur College, New Panvel 26th February 2010
• Judge at the poster presentation at the Research Scholar’s Meet 2009- 10 Institute of Science 11th Feb 2010
• Judge at the debate competition at the annual Biotechnology festival at Jai Hind College- 12th September
Other Universities
- Invited Member of the QAC of Dr. Bhanuben Mahendra Nanavati College of Home Science affiliated to S.N.D.T. University
- Appointed as Examiner for a Ph. D. thesis, Pune University, October 2009
- Subject Expert (Microbiology) on Interview Panel for selecting candidates for Assistant professor - 20th March, 2010, Technical Education Sanchalaya, Government of Maharashtra

International level
- Participated in the International Conference – ‘Shaping the future’ Networking Jesuit Higher Education for a Globalizing World 21 – 25th April, 2010 at Universidad Iberoamericana, Mexico
- Conducted a summer Teaching and Learning Project - ‘Global Health Crisis: Environmental Factors and Emerging Drug – Resistant Infections, Emphasis on : Tuberculosis and HIV/ AIDS’ in collaboration with Dr. Ruth A. Gyure, Western Connecticut State University (WCSU) in Danbury, CT, USA.

Research Related
Oral Presentations:
- ‘Continuous Assessment – A Quality Strategy?’ At the conference on Examination Reforms in Higher Education for Universities and Colleges held in Christ University, Bangalore- December 2010

Poster Presentations

Projects
- Minor Research Project from the University of Mumbai – “Assessment of drinking water quality in slums- source and storage waters” : 2009-10

Continuous Professional Development
Conferences, Seminars, Workshops Attended
- International Conference -ASM 16th Annual Conference for Undergraduate Educators and a pre-meeting workshop May 28- 31, 2009 at Colorado State University, Colorado USA
- International Conference – ‘Shaping the future’ Networking Jesuit Higher Education for a Globalizing World 21 – 25th April, 2010 at Universidad Iberoamericana, Mexico
- National Level Conference on ‘ Academic Staff Development : Strengthening Institutional Links’ February 5-7, 2009 at Christ University, Bangalore
Workshop on Revised TYBSc University Syllabus in Microbiology -April 29\textsuperscript{th}, 2010 at Wilson College (Resource Person)

Workshop on ‘Lecturing and Assessments for Large Group Teaching’: Dr. (Ms.) Momna Hejmadi, University of Bath, U.K June, 2009 at St. Xavier’s College

Faculty Seminars at St. Xavier’s College

Alternatives in Continuous Internal Assessments – November 2009

Semester System, Credits and Syllabi under the autonomy system – December 2009

Assessment of Practicals – December 2009

Service Learning – January 2010

Faculty Seminar May 2010

2010-11

Academic activities:

- Conducted B. Sc lectures and practicals in Microbiology
- Conducted M.Sc practicals in Microbiology
- Conducted lectures for PG Biotechnology
- Conducted lectures for the Post Graduate Diploma course - Industrial Biotechnology and Enterprise offered by the college which leads to a Masters Degree from the University of Bath, U.K
- Chairperson of Board of Studies of Microbiology, St. Xavier’s College, Autonomous

Department Co-curricular Activities:

- Honour’s programme- Annual department exhibition
- Faculty Adviser of ‘Haath Mein Sehat’ a student community service programme in collaboration with the University of California- Berkeley, which involved microbiological testing of drinking water in certain slums (poor quality housing colonies) of Mumbai 2007-2011
- Helped in the organization of department activities

At the College level

- Associate Prof. - Head of the Dept. of Microbiology
- Head of the M.Sc. Biotechnology Course
- Vice Principal – Academic Improvement of the college
  In this capacity:
  - Co-ordinator of the Introduction of Autonomy in the college
  - Co-ordinator of the Honour’s Programme of the college
  - Convenor of IQAC
  - Member of the Council for International Programmes
  - Member of the Purchase Committee
  - Co-ordinated several staff workshops/ seminars
  - Orientation Programme for new Teaching faculty – 30\textsuperscript{th} June & 1\textsuperscript{st} July, 2010
  - Workshop - ‘Criteria for Continuous Assessment’ – 7\textsuperscript{th} July 2010
  - Workshop – Reviewing Autonomy Systems – 18\textsuperscript{th} August, 2010
  - Seminar in Khandala: Organisational behaviour team building and teacher leader- 7th to 9th October 2010
  - Faculty Research Presentations – February 2011
Faculty Seminar – April 2011
- Made a presentation at the
- Orientation Programme for new Teaching faculty – 30th June & 1st July, 2010
- Workshop - ‘Criteria for Continuous Assessment’ – 7th July 2010
- Member of the Management Board, Academic Board and Examination Committee of St. Xavier’s College – autonomous
- Organised ‘College Environment Day’ which involved an exhibition and a talk by Sir Robert Swan, the first person to walk to both Poles.

At the University of Mumbai level
- Member of the Board of Studies – Microbiology, University of Mumbai up to 31st August 2010.
- Member of the Faculty of Science, University of Mumbai, up to 31st August 2010.
- Member of the Syllabus Committee for Microbiology
- Chairperson of the Examination Committee for M.Sc Microbiology I
- Member of the Committee as Subject Expert in Microbiology for recommending University Minor Research Grants for Science Faculty
- Subject Expert for selection of teacher for Teacher Fellowship Scheme - XI Plan Jai Hind College – December 2010
- Subject Expert (Microbiology) on Interview Panel for Assistant Professor – 10th July, 2010, Wilson college

Other Universities
- Invited as subject expert for Unitization of the UG Syllabus of Sikkim University in the subjects of Microbiology and Environmental Studies June 2010
- Invited Member of the QAC of Dr. Bhanuben Mahendra Nanavati College of Home Science affiliated to S.N.D.T. University

International level
- Selected by the college to participate in a faculty visit to the University of Bath, UK which was partially sponsored by British Council. May 2011

Research
- M.Sc Projects guided (Papers students)
  - Synthesis and Characterization of Silver Nanoparticles from Biological Sources.
- Oral Presentations:
  - ‘Continuous Assessment – A Quality Strategy?’ At the conference on Examination Reforms in Higher Education for Universities and Colleges held in Christ University, Bangalore- December 2010
  - ‘Academic Autonomy: Curriculum Development & Continuous Assessment’ At the seminar of the Teacher’s Academic Forum of Jai Hind College titled ‘Teaching Gen X and Beyond’ February, 2011
- ‘Autonomy to Colleges’ At the 2 day workshop on ‘Autonomy to Colleges in Maharashtra State’ at Birla College, Kalyan, April, 2011 with Dr. Frazer Mascarenhas, SJ
- ‘Honour’s Programme at St. Xavier’s College’ At the Innovations in Learning and Teaching Swap Shop –University of Bath Innovation Day, May 2011
- **Poster Presentations**
  - Was involved in an International Presentation as a collaborator- ‘Engaging international students in biotechnology and enterprise’ at the ’Effective Learning in the Biosciences Conference 2011, University of Edinburgh. Dr. Momna Hejmadi, Dr. Madhuri Hambarde & Dr. Ms. Vivien Amonkar.
- **Published Research**
  - Aakanksha Ghatpande, Dr. Ms. Vivien Amonkar Solid state fermentation for degradation of fruit and vegetable waste and production of significant enzymes XPLOR E, Xavier’s research journal, Vol. 2, Issue 1, December 2011
- **Projects**
  - DBT-ICT-Centre for Energy Biosciences project
    “Characterization of cellulase produced by micro-organisms growing on specific cellulose substrates”: 2010-11

**Continuous Professional Development**
Conferences, Seminars, Workshops Attended
- Conference on Examination Reforms in Higher Education for Universities and Colleges held in Christ University, Bangalore- December 2010
- The Innovations in Learning and Teaching Swap Shop –University of Bath Innovation Day, May 2011
- Several staff workshops/ seminars
  - Workshop - ‘Criteria for Continuous Assessment’ – 7th July 2010
  - Workshop – Reviewing Autonomy Systems – 18th August, 2010
  - Seminar in Khandala: Organizational behavior team building and teacher leader- 7th to 9th October 2010
  - Faculty Research Presentations – February 2011
  - Faculty Seminar – April 2011
- Participated in a faculty visit to the University of Bath, UK which was partially sponsored by British Council. May 2011

**2011-12**
**Academic activities**
- Conducted B. Sc lectures and practicals in Microbiology
- Conducted M.Sc practicals in Microbiology
- Conducted lectures for PG Biotechnology
- Conducted lectures for the Post Graduate Diploma course - Industrial Biotechnology and Enterprise offered by the college which leads to a Masters Degree from the University of Bath, U.K
- Chairperson of Board of Studies of Microbiology, St. Xavier’s College, Autonomous

**Department Cocurricular Activities**
• Honour’s programme- Annual department exhibition
• Helped in the organization of department activities
• Taught a course on Scientific Communication Skills which had guest speakers and finally poster presentations by students judged by professionals from the Science Writing Industry

At the College level:
• Associate Prof. - Head of the Dept. of Microbiology
• Head of the M.Sc. Biotechnology Course
• Member of the Management Board, Academic Board and Examination Committee of St. Xavier’s College – autonomous
• Member of the Custodian Committee
• Made a presentation on Grids for Group Presentations

At the University of Mumbai level
• Member of the Syllabus Committee for Microbiology
• Chairperson of the Examination Committee for M.Sc Microbiology I up to October 2011
• Member of the Examination Committee for M.Sc Microbiology II

International level
• Member of the ASM Journal of Microbiology & Biology Education (JMBE) Editorial Board as reviewer
• Selected by the college to participate in a faculty visit to the University of Bath, UK which was partially sponsored by British Council. May 2011
• Member of a St. Xavier’s college team which collaborated with Fairfield University Connecticut, USA and Loyola college, Chennai on a joint research project 2011-12
• Organized and coordinated a Faculty Development Programme – a British Council sponsored Knowledge Economy Partnerships 2011 Programme – in which St. Xavier’s College partnered with two UK universities – University of Bath and Liverpool Hope University. Visited several UK universities as part of this program to study teaching learning practices, May, 2012
• Coordinated the Collaboration between St. Xavier’s College and the University of Bath UK which involved a Summer Exposure Program in which eleven Bioscience students of St. Xavier’s College spent three weeks of lectures, practicals and exposure to research labs at the University of Bath.

Research Related
• Oral Presentations:
  ➢ ‘The Xavier’s Experience of turning Autonomous’ at the Professional Development Programme organized at St. Xavier’s College by the Academic Staff College for academic administrators and principals of colleges in Maharashtra: Feb, 2012
  ➢ Plenary Session ‘Approaches to Teaching and Learning – an Indian Perspective’ at the conference ‘Enhancing the International Student Learning Experience in the Biosciences’ organized by the Higher Education Academy STEM Biosciences and the Dept. of Biology & Biochemistry, University of Bath, UK: May, 2012
Projects

- Minor Research Project from UGC “Microbial Synthesis and characterization of silver nanoparticles.”: 2011
- DBT-ICT-Centre for Energy Biosciences project- Studying soil community DNA (metagenomics) for endo – GH’s and cellulose binding”: 2011-12
- Industrial Project with Swati Spentose Pvt. Ltd. ‘Dextran Fermentation’: 2011- ongoing

Continuous Professional Development

Attended

- Conference ‘Enhancing the International Student Learning Experience in the Biosciences’ organised by the Higher Education Academy STEM Biosciences and the Dept. of Biology & Biochemistry, University of Bath, UK: May, 2012
- Visited several UK universities to study teaching learning practices, May, 2012 as part of a Faculty Development Programme – a British Council sponsored Knowledge Economy Partnerships 2011 Programme – in which St. Xavier’s College partnered with two UK universities – University of Bath and Liverpool Hope University.
- A 3 day workshop on animal tissue culture and gas chromatography in June conducted in the college
- A workshop on Bioinformatics in College- June.
- Seminar on “Scientific Communication Skills” – April 16th, 2012

B. Ms. Miriam Stewart
2006-2007

Academic Activities:

- Conducted Lectures For Lectures and Practicals for FY and TYBSc Students Of The College
- Conducted M.Sc practicals in Microbiology
- Conducted practicals in Microbiology for the M.Sc II Course in Nutrition at Nirmala Niketan.
- Conducted S.N.D.T M.Sc II University Exams in Microbiology for students of Analytical chemistry
- Used A Few Power-Point Presentations For Honours Programme activities and For Regular Lectures

Department Co-Curricular Activities

- Conducted ‘Exploring the World of Microbes’- A basic workshop on microbiological techniques for Non Microbiologists as part of the Honours Programme
- Conducted Workshop On Electrophoresis Of Human Plasma Using Native Page, Western Blotting Of The Same And Sandwich Elisa Technique As Part Of The Honours Programme Activities For The S.Y.B.Sc And T.Y.B.Sc. Students On 14th, 16th, And 17th Oct 2006..
- Honour’s programme- Involved in the organization of Annual department exhibition
- Involved in the organization of An international conference on “Advances in Pharmaceutical Microbiology” organized by Dept. of Microbiology in
collaboration with Mumbai University as part of Sesquicentennial Celebrations of the Mumbai University which was held on 6th Jan 2007.

**At the College level**
- Associate Professor
- Convenor and Member of the Infrastructure Committee of the College.

**At the University of Mumbai level**
- Panel member, Paper setter and Examiner For T.Y.B.Sc Microbiology Practicals
- Examiner for Third Year University Practical Examinations for the Second Half of 2006.

**Continuous Professional Development**
- Attended Seminars On Autonomy Held In College
- Attended Lecture Series on Biostatistics- covered applications of statistical techniques to scientific research in biology conducted by the Statistics Dept.
- Helped Organize and Attended Talk On Biotechnology- Its Benefits, And Risks By Dr. Lester Crawford, USA.
- Attended A Seminar On Underprivileged Students Held In August 2006 By St. Xavier’s College
- Participated in a Two Days Seminar on Dyslexia and Interpersonal Relationships Held at St. Xavier’s In The Month Of September 2006.
- One of the organizers of An international conference on “Advances in Pharmaceutical Microbiology” organized by Dept. of Microbiology in collaboration with Mumbai University as part of Sesquicentennial Celebrations of the Mumbai University was held on 6th Jan 2007
- Recent trends in Diagnostic Techniques –Jai Hind College
- Clinical Research-Current scenario- CHM college

**Other Activities**
- Judged Rangoli Competition and Skit Competition on Microbiological Aspects at Gyan Manthan 2006- Royal College, Mira Road.

**2007-2008**

**Academic Activities:**
- Conducted Lectures and Practicals for FY and TYBSc Students Of The College
- Conducted M.Sc practicals in Microbiology
- Conducted Practicals, Lectures For M.Sc Part I Biotechnology of the College
- Conducted practicals in Microbiology for the M.Sc II Course in Nutrition at Nirmala Niketan.
- Guided two MSc II students in the MSc Microbiology Projects
  1) The Study of Bacterial and Fungal Xylanases and their application in Saccharification.
2) Characterization of Alkaline Proteases from *Bacillus spps.* and study of its potential applications

- Worked As Expert And Lab. Supervisor For M.Sc- II Microbiology & M.Sc.-I Biotechnology University exams

**Department Co-Curricular Activities**

- Honour’s programme- Involved in the organization of Annual department exhibition
- Organized a Workshop On Elisa And Western Blot as part of the Honours Programme

**At the Department level**

- In-charge of Instruments of the Department

**At the College level**

- Convenor and Member of the Infrastructure Committee of The College

**At the University of Mumbai level**

- Paper setter and Examiner for T.Y.B.Sc Microbiology Practicals.

**Continuous Professional Development -**

- Attended Seminars Held In College
- Attended a workshop on the Revised Pattern of M.Sc University Practical Examination in Microbiology, for the M.Sc Faculty in the subject. – October 2007 held at St Xaviers College
- Judged Paper Presentations For Selection Of 2 Papers To Be Sent Up For An Interdisciplinary Competition In Biological Sciences In The College.
- Organized Talk On ‘Leveraging Technologies In Laboratory Diagnosis’ ‘By Dr. Pascoal Carvalho Through The Prof. J.V. Bhat Memorial Committee.
- Involved in the Organization of International Conference on Recent Advances in Pharmaceutical Microbiology held as part of the Platinum Jubilee celebrations of the Department.
- Involved in the Organization of the Alumni dinner as part of the Platinum Jubilee celebrations of the Department.

**Research**

- M.Sc Projects guided (Papers students)
  1) The Study of Bacterial and Fungal Xylanases and their application in saccharification.
  2) Characterization of Alkaline Proteases from *Bacillus spps.* and study of its potential applications

**2008-2009**

**Academic Activities:**

- Conducted Lectures and Practicals for FY and TYBSce students of the College
- Conducted M.Sc practicals in Microbiology
- Conducted Practical Course For MSc Part II Nutrition Students From Nirmala Niketan of The University Of Mumbai
- Conducted Lectures For MSc Part II Biotech Students Of The College
• Conducted lectures On Health And Diagnostics for the Post Graduate Diploma course - Industrial Biotechnology and Enterprise offered by the college which leads to a Masters Degree from the University of Bath, U.K

**Department Co-Curricular Activities**

• Honour’s programme- Involved in the organization of Annual department exhibition
• Guided Honour’s project Isolation of organisms for preparation of Bioplastics

**At the Department level**

• Honours Programme Co-ordinator of Department

**At the College level**

• Convenor and Member of the Infrastructure Committee of The College

**At the University of Mumbai level**

• Paper setter and Examiner For T.Y.B.Sc Microbiology Practicals- April 2009.
• Examiner For MSc Biotechnology Practicals- April 2009

**Continuous Professional Development**

• Attended Seminars On Autonomy Held In College

**2009-2010**

**Academic Activities:**

• Designed The FYBSc Microbiology Syllabus Under Autonomy of the college
• Conducted M.Sc practicals in Microbiology
• Took lectures for lectures and practicals for FY and TYBSc students of the college

**At the Department level**

• Honours Programme Co-ordinator of Department

**At the College level**

• Member of The Placement Committee, Of The College.
• Helped in organising an event for the Alumni Dinner on 3rd January 2010 to mark the end of the 140 years celebration of the college

**Co-curricular Activities**

• Conducted Workshop On Western Blot And Elisa Techniques for Honours Programme
• Honour’s programme- Involved in the organization of Annual department exhibition

**At the University of Mumbai level**

• Examiner For T.Y.B.Sc Microbiology Practicals/ April 2010.
• Examiner For Msc I Biotechnology Practicals- April 2010

**Continuous Professional Development**

• Attended Seminars On Autonomy – Continuous Internal Assessment & Service Learning Seminars, Research Paper Presentations
• Attended Seminar On’ When To Use Which Statistical Tool To Analyze Data And Conclude” Held On 6th And 7th May, 2010 At SIES College Of Management Studies, Nerul

**2010-2011**
Academic Activities:
- Involved in the Design of The SYBSc Microbiology Syllabus Under Autonomy in The College
- Lectures and Practicals for FY (Autonomous) and TYBSc
- Conducted M.Sc practicals in Microbiology

At the Department level
- Honours Programme Co-ordinator of Department

At the College level
- Member of the Placement Committee,

Department Co-curricular Activities
- Conducted Workshop On Polymerase Chain Reaction Techniques,
- Involved in the organization of Annual department exhibition

At the University of Mumbai level
- Paper setter and Examiner For T.Y.B.Sc Microbiology Practicals/ April 2011.
- Examiner For Msc I Biotechnology Practicals- April 2011
- Examiner For Msc I Microbiology Theory- April 2011

Continuous Professional Development -
- Attended Faculty Autonomy Seminars and Research Paper Presentations
- Attended Faculty Seminar On Management Skills Of Autonomy Seminar, In Khandala.
- Member of Mumbai Immunology Group (MIG)
- Participated in a faculty visit to the University of Bath, UK which was partially sponsored by British Council. May 2011

2011-2012

Academic Activities:
- Involved in designing of the TYBSc Microbiology Syllabus Under Autonomy Of The College
- Lectures and Practicals for FY (Autonomous) and TYBSc
- Conducted M.Sc practicals in Microbiology
- Lectures for SYBSc Cross Faculty course on ‘Infectious diseases – staying ahead’

Department Co-curricular Activities
- Helped to Conducted Workshop On Animal tissue culture Techniques,
- Involved in the organization of Annual department exhibition

At the Department level
- Honours Programme Co-ordinator of Department

At the College level
- Member of the Infrastructure Committee in College.

At the University of Mumbai level
- TYBSc Univ Practical exam Oct 2011 , Paper Setter and Examiner
- MSc I Panel member Paper Setter and Examiner March 2012

Continuous Professional Development
- Attended 3 days workshop on animal tissue culture and gas chromatography in June conducted in the college by Caius laboratory.
- Attended workshop on Bioinformatics organized by Biotechnology Dept in June.
- Attended DBT sponsored Conference: Interdisciplinary Strategies in Biology 16th and 17th Dec 2011 in Ramnarain Ruia college.
- Seminars conducted by College- Seminar on “Scientific Communication Skills” – April 16th, 2012
- Attended’ Khandala seminar’ organized by the college

C. Ms. Sangeetha Chavan

2006-2007

Academic activities
- Conducted BSc Lectures and Practicals and M.Sc Practicals

Department Co-curricular Activities
- Honour’s Programme Coordinator
- Coordinated various activities like ELISA workshop, workshop on Bioassays,
- Projects on Vermiculture and anti bacterial properties of plants.
- Member of the organizing committee for the International conference-Advances in Pharmaceutical Microbiology

At the College level
- Worked as the Convenor of the Scholarship Committee of the College which oversees distribution of various scholarships for students of the College, handles the Students’ beneficiary fund-a fund for financially disadvantaged students’ and facilitates the distribution of books through the book bank for financially disadvantaged students.

At the University of Mumbai level
- Examiner for TYBSc Practical exams
- Conducted M.Sc Part I lectures in Microbiology

Continuous Professional development

Seminars attended
- Recent trends in Diagnostic Techniques –Jai Hind College
- Clinical Research-Current scenario- CHM college
- Seminar on underprivileged students held at St. Xavier’s College
- Two days seminar on dyslexia and interpersonal relationships held at St. Xavier’s College
- Two days International Conference on Advances in Pharmaceutical Microbiology-St Xavier’s College.

2007-2008

Academic activities
- Conducted BSc Lectures and Practicals and M.Sc Practicals
- Conducted lectures for M.Sc Part I Biotechnology

Department Co-curricular Activities
- Honour’s Programme Coordinator
  - Coordinated various activities like ELISA workshop, workshop on Bioassays and Bioinformatics and anti bacterial properties of plants.
  - Conducted a workshop on PCR.
  - Annual Department Exhibition.
At the College level
- Worked as the Convenor of the Scholarship Committee in College which oversees distribution of various scholarships for students of the College, handles the Students’ beneficiary fund-a fund for financially disadvantaged students’ and facilitates the distribution of books through the book bank for financially disadvantaged students.

At the University of Mumbai level
- Examiner for TYBSc Practical exams
- Conducted M.Sc Part I lectures in Microbiology

Research
- Received Rs 25000/- Minor Research Grant from Mumbai University- Production and activity studies of biosurfactants using waste substrates -6 months project

Continuous Professional development
- Attended a seminar on Student evaluation- St Xavier’s College
- Organized and attended a workshop on the revised pattern of the MSc university Practical examinations in Microbiology –St Xavier’s College

2008-2009
Academic activities
- Conducted BSc Lectures and Practicals and M.Sc Practicals
- Conducted lectures for M.Sc Part I Biotechnology

Department Co-curricular Activities:
- Honour’s programme
- Department Coordinator for the Interdisciplinary Programme on Environment and Society with emphasis on water.
- Annual department exhibition

At the College level
- Worked as the Convenor of the Scholarship Committee of the College which oversees distribution of various scholarships for students of the College, handles the Students’ beneficiary fund-a fund for financially disadvantaged students’ and facilitates the distribution of books through the book bank for financially disadvantaged students.

At the University of Mumbai level
- Examiner for TYBSc Practical exams
- Examiner for MSc Biotechnology Practical exams
- Conducted M.Sc Part I lectures in Microbiology

Research
- Guided M.Sc research projects
- Evaluation of probiotic potential of a Lactobacillus sp isolated from a lactic acid fermented product based on in vitro tests and oral administration tests in mice
- Synthesis of silver nanoparticles from chemical, fungal and bacterial sources and evaluation of its antibacterial activity of nanoparticles impregnated on textiles.

Continuous Professional development
- Attended a Teachers training workshop on techniques in Molecular Biology at St.Xavier’s College
- Participated in a seminar on Systems in autonomy -credits and syllabi-St Xavier’s College
- Attended a seminar-Visioning for 2015-St Xavier’s College
- Organized and attended a workshop on Designing the University syllabus grid in Microbiology- Board of studies, Microbiology, Mumbai University and St Xavier’s College.

2009-2010
Academic activities
- Conducted BSc Lectures and Practicals and M.Sc Practicals
- Conducted lectures for M.Sc Part I Biotechnology
- Conducted lectures for the Postgraduate Diploma course in Industrial Biotechnology and Enterprise
- Member of the team that designed the FYBSc Microbiology syllabus under Autonomy

Department Co-curricular Activities
- Honour’s programme
  - Department Coordinator for the Interdisciplinary Programme on Environment Degradation and Mitigation
  - Annual Department Exhibition

At the College level
- Worked as the Convenor of the Scholarship Committee of the College which oversees distribution of various scholarships for students of the College, handles the Students’ beneficiary fund—a fund for financially disadvantaged students’ and facilitates the distribution of books through the book bank for financially disadvantaged students.

At the University of Mumbai level
- Examiner for TYBSc Practical exams and Theory exams
- Examiner for MSc Biotechnology Practical exams
- Conducted M.Sc Part I lectures in Microbiology

Research
- Received Rs 22500/- Minor Research Grant from Mumbai University-Isolation of lactobacilli from lactic acid fermented products and evaluation of its probiotic potential

Continuous Professional development
- Participated in a workshop on Transaction of Revised syllabus of Microbiology for SYBSc –KC College
- Attended seminars on autonomy – continuous internal assessment & service learning seminars, research paper presentations –St Xavier’s College.

Other Activities
- Participated in a two days workshop on Issues related to Social justice and Diversity in Higher Education conducted by Centre for Study of Culture and Society, Bangalore, supported by Ford Foundation

2010-2011
Academic activities
- Conducted BSc Lectures and Practicals and M.Sc Practicals
- Conducted lectures for M.Sc Part I Biotechnology
Conducted lectures for the Postgraduate Diploma course in Industrial Biotechnology and Enterprise
Member of the team that designed the SYBSc Microbiology syllabus under Autonomy

Department Co-curricular Activities

- Honour’s programme
  - Conducted Lecture and Practical for the Interdisciplinary Environment programme.
  - Annual Department Exhibition.

At the College level

- Worked as the Convenor of the Scholarship Committee of the College which oversees distribution of various scholarships for students of the College, handles the Students’ beneficiary fund—a fund for financially disadvantaged students and facilitates the distribution of books through the book bank for financially disadvantaged students.

At the University of Mumbai level

- Examiner for TYBSc Practical exams and Theory exams
- Examiner for MSc Biotechnology Practical exams
- Conducted M.Sc Part I lectures in Microbiology

Research

- Received Rs 22500/- Minor Research Grant from Mumbai University—Isolation of lactobacilli from lactic acid fermented products and evaluation of its probiotic potential

Continuous Professional development

- Attended Workshop on Flow cytometry-ACTREC
- Participated in the faculty seminar on Organisational Behaviour and Team building-St Xavier’s College.
- Organized and attended a one day seminar on Infectious Diseases: Staying Ahead-St Xavier’s College.

Other Activities

- Coordinator—Pathways Cell, Pathways programme for Higher Education supported by Ford Foundation.
- Organized a 3 days’ Technology workshop for disadvantaged students
- Coordinated various student activities through the Pathways Cell.
- Coordinator –Equal Opportunity Centre, UGC XI Plan Development Assistance grant
- Equal Opportunity Centre was set up in college to oversee the effective implementation of policies and programmes for disadvantaged groups, to provide guidance and counseling with respect to academic, financial, social and other matters
- Conducted a soft skills workshop for students of the Commerce College
- Attended a two days seminar on-Development of new pedagogic strategies and curricular innovation in the context of Social Justice and Diversity
conducted by Centre for Study of Culture and Society, Bangalore, supported by Ford Foundation

2011-2012

Academic activities

- Conducted BSc Lectures and Practicals and M.Sc Practicals
- Conducted lectures for M.Sc Part I Biotechnology
- Conducted lectures for the Postgraduate Diploma course in Industrial Biotechnology and Enterprise
- Conducted lectures for the cross faculty course in Infectious diseases for SYBA students.
- Member of the team that designed the TYBSc Microbiology syllabus under Autonomy
- Member of the team that designed the SY cross faculty syllabus under Autonomy

Department Co-curricular Activities

- Honour’s programme
  - Conducted Lecture and Practical for the Interdisciplinary Environment programme.
  - Annual Department Exhibition

At the College level

- Worked as a member of the Scholarship Committee in college which oversees distribution of various scholarships for students of the College, handles the Students’ beneficiary fund—a fund for financially disadvantaged students’ and facilitates the distribution of books through the book bank for financially disadvantaged students.

At the University of Mumbai level

- Paper setter and moderator for TYBSc exams
- Examiner for MSc Practical exams
- Conducted M.Sc Part I lectures in Microbiology

Research


Continuous Professional development

- Participated in a 3 days’ workshop on animal tissue culture and gas chromatography—St Xavier’s College
- Workshop in Bioinformatics-St Xavier’s College
- Selected by the college to participate in a faculty visit to Study healthy practices in Higher Education the University of Bath, UK which was partially sponsored by British Council. May 2011

Other Activities

- Coordinator-Pathways Cell-Pathways programme for Higher Education supported by Ford Foundation.
  - Organized a three days’ Technology workshop for disadvantaged students.
  - Coordinated various student activities through the Pathways Cell-Ford programme.
Conducted a needs analysis to recommend changes in the English language curricula for Science and Commerce students in College-supported by Ford Foundation.

Coordinator –Equal Opportunity Centre, UGC XI Plan Development Assistance Grant

Equal Opportunity Centre was set up in college to oversee the effective implementation of policies and programmes for disadvantaged groups, to provide guidance and counseling with respect to academic, financial, social and other matters.

Three separate orientations were conducted at the beginning of the term for Science/Arts and Commerce students. Students were made aware of various scholarships/freeships/schemes and other facilities offered by the government and College.

Organized Soft skills workshops for 50 students-mainly from Commerce section in batches of 10-15 students per batch for a month.

D. Ms. Karuna Gokarn

2006-2007

Academic activities:

- Conducted B. Sc & M.Sc Lectures and Practicals in Microbiology

Department Curricular Activities:

- Honour’s programme
- Conducted workshops on Bioassays of Penicillin & Vitamin B12 assay
- Conducted Project on Microbial studies of Vermicompost and worm tea
- Guided Annual department exhibition
- Helped in the organisation of department activities
- Co-ordinator of the UMAX committee of the dept. of microbiology

At the College level

- Worked as a member on the examination committee of the college

At the University of Mumbai level

- TYBSc Theory examiner
- Conducted M.Sc lectures in Microbiology

Research

- Received a minor research university grant for a project on “Microbial studies of vermicompost and worm tea” in July 2006

Continuous Professional development

- An international conference on “Advances in Pharmaceutical Microbiology” organized by Dept. of Microbiology in collaboration with Mumbai University as part of Sesquicentennial Celebrations of the Mumbai University was held on 6th Jan 2007
- Attended a seminar on underprivileged students held in august 2006 at St. Xavier’s college
- Participated in two days seminar on dyslexia and interpersonal relationships held at St. Xavier’s in the month of September 2006.
- Attended the time table meeting for M.Sc –I lectures in August 2006
- Attended a refresher course in Biosciences in Oct-Nov 2006 at Birla college

2007-2008
Academic activities
- Conducted B. Sc & M.Sc Lectures and Practicals in Microbiology
- Conducted lectures for M.Sc part I biotech students

Department Cocurricular Activities
- Honour’s programme
  - Conducted workshops on biotechnology module (study of antimicrobial action of herbal plants, mushroom cultivation & plasmid isolation)
  - Conducted workshops on Bioassays of Penicillin & Vitamin B12 assay
- Guided Annual department exhibition
- Helped in the organisation of department activities
- Co-ordinator of the UMAX committee of the dept. of microbiology
- Co-ordinator of haat mein sehat (HMS) – an ongoing project on microbiological testing of drinking water in the slums of Sion (Panchsheel nagar) & Bandra (Behrampada) in collaboration with Berkeley University, USA, started in September 2007.

At the College level
- Worked as a member on the examination committee of the college

At the University of Mumbai level
- TYBSc Theory examiner
- Conducted M.Sc lectures in Microbiology

Continuous Professional development
- Attended a workshop on the revised pattern of the M.Sc university practical examinations in microbiology conducted by the board of studies and dept. Of microbiology, St. Xavier’s college, Mumbai, held in October 2007.
- Attended a seminar on in October 2007 at St. Xavier’s college, Mumbai.
- Attended a workshop on validation in the laboratory at VES College in December 2007.
- Attended a workshop on bioinformatics at ACTREC in January 2008.

Other Activities
- Judged paper presentations for selection of 2 papers to be sent up for an interdisciplinary competition in biological sciences in the college.

2008-2009

Academic activities
- Conducted B. Sc & M.Sc Lectures and Practicals in Microbiology
- Conducted lectures for M.Sc part II biotech students

Department Cocurricular Activities
- Honour’s programme
  - Conducted workshop on biotechnology module (study of antimicrobial action of herbal plants, mushroom cultivation & plasmid isolation)
  - Conducted workshops on Bioassays of Penicillin & Vitamin B12 assay
  - Conducted a project on Biosorption of industrial dyes using dead fungal biomass
- Guided Annual department exhibition
- Helped in the organization of department activities
- Coordinator of the UMAX committee of the dept. of microbiology
Co-ordinator of haat mein sehat (HMS) – an ongoing project on microbiological testing of drinking water in the slums of Sion (Panchsheel nagar) & Bandra (Behrampada) in collaboration with Berkeley University, USA, started in September 2007.

At the College level
• Worked as a member on the examination committee of the college

At the University of Mumbai level
• TYBSc Theory examiner
• Conducted M.Sc lectures in Microbiology

Research
• Received a minor research university grant for a project on Biosorption of industrial dyes using dead fungal biomass
• Helped in making poster presentation on “Service Learning – Intervention Strategies in Malaria and Water Borne Disease Awareness Programs in Low Income Communities” at the ASM Conference for Undergraduate Educators (ASMCUE). 2009 at Colorado State University Colorado, USA: Dr. Ms. Vivien Amonkar & Ms. Karuna Gokarn

Continuous Professional development
• Attended seminars on autonomy held in college

2009-2010
Academic activities
• Conducted B. Sc & M.Sc Lectures and Practicals in Microbiology
• Conducted lectures for the Postgraduate Diploma course in Industrial Biotechnology and Enterprise
• Designed the FYBSc microbiology syllabus under autonomy of the college

Department Co-curricular Activities
• Honour’s programme
  ➢ Conducted workshop on biotechnology module (study of antimicrobial action of herbal plants, mushroom cultivation & plasmid isolation)
  ➢ Conducted workshops on Bioassays of Penicillin & Vitamin B12 assay
• Guided Annual department exhibition
• Helped in the organisation of department activities
• Co-ordinator of the UMAX committee of the dept. of microbiology
• Co-ordinator of Haat mein sehat (hms) – an ongoing project on microbiological testing of drinking water in the reclamation slum, Bandra in collaboration with Berkeley university, USA

At the College level
• Worked as a member on the examination committee of the college

At the University of Mumbai level
• TYBSc Theory examiner
• Conducted M.Sc lectures in Microbiology

Research
• Guided M.Sc research projects:
  ➢ Study of Nutraceutical properties of Morinda citrofolia (Noni) fruit extract and its comparative analysis with traditional Noni juice.
Extraction & characterization of Silk Sericin protein & its applications in industry

Continuous Professional development
• Attended seminars on autonomy – continuous internal assessment & service learning seminars, research paper presentations
• Participated in a workshop on bioinformatics at Ruia college
• Life membership of Mumbai Immunology Group

2010-2011
Academic activities:
• Conducted B. Sc & M.Sc Lectures and Practicals in Microbiology
• Conducted lectures for the Postgraduate Diploma course in Industrial Biotechnology and Enterprise
• Designed the SYBSc microbiology syllabus under autonomy of the college

Department Co-curricular Activities
• Honour’s programme
• Conducted workshop on biotechnology module (study of antimicrobial action of herbal plants, mushroom cultivation & plasmid isolation)
• Conducted workshops on Bioassays of Penicillin & Vitamin B12 assay
• Guided Annual department exhibition
• Helped in the organization of department activities
• Co-ordinator of the UMAX committee of the dept. of microbiology

At the College level
• Worked as a member on the examination committee of the college

At the University of Mumbai level
• TYBSc Theory examiner
• Conducted M.Sc lectures in Microbiology

Research
• Completed a research project and published a paper on Siderophores & pathogenecity of microorganisms in the Journal of Biosciences & Technology in October 2010
• Biosorption of Industrial Dyes Using Dead Fungal Biomass, XPLORE, Xavier’s Research Journal, Vol. 1, Issue 1, December 2010

Continuous Professional development
• Attended a workshop on proteomics at ACTREC
• Attended autonomy seminars, research paper presentations

2011-2012
Academic activities
• Conducted B. Sc & M.Sc Lectures and Practicals in Microbiology
• Conducted lectures for the Postgraduate Diploma course in Industrial Biotechnology and Enterprise
• Conducted lectures for the cross faculty course on Infectious diseases – staying ahead
• Designed the TYBSc microbiology syllabus under autonomy of the college

Department Co-curricular Activities
• Honour’s programme
Conducted workshop on biotechnology module (study of antimicrobial action of herbal plants & mushroom cultivation)
- Guided Annual department exhibition
- Helped in the organization of department activities
- Co-ordinator of the UMAX committee of the dept. of microbiology
- Co-ordinator for communication skills in science

**At the College level**
- Worked as a member on the examination committee of the college

**At the University of Mumbai level**
- TYBSc Theory and Practical examiner
- Conducted M.Sc lectures in Microbiology

**Continuous Professional development**
- Participated in 3 weeks Summer exposure program at the University of Bath, UK in the month of May 2012
- Participated in Plenary Session ‘Approaches to Teaching and Learning – an Indian Perspective’ at the conference ‘Enhancing the International Student Learning Experience in the Biosciences’ organised by the Higher Education Academy STEM Biosciences and the Dept. of Biology & Biochemistry, University of Bath, UK: May, 2012
- Attended seminar conducted by college-seminar on “Scientific communication skills” – April 16, 2012
- Helped to organize a workshop on awareness of infectious diseases for the non-teaching staff of the college
- Also participated in the workshop on HACCP principles conducted for canteen staff of the college
- Participated in 3 days workshop on animal tissue culture and gas chromatography at St. Xavier’s College
- Participated in Bioinformatics workshop at St. Xavier’s College

**Other Activities**
- Conducted workshop on SDS-PAGE electrophoresis for the students who will be visiting bath university in summer
Department of Physics

1. Name of the Department & its year of establishment:
DEPT OF PHYSICS

2. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.) :
UG (6 UNITS B.Sc. with physics)

3. Interdisciplinary courses and departments involved:
(1) ‘Computer Science’ as applied component at third year (5th and 6th sem) departments involved are Geology, Mathematics, Statistics, Chemistry, Physics. (2) ‘Astronomy, Physics and its impact on the world’ offered to 4th sem students of Arts Faculty, (3) ‘The scientific Revolution and the shifting paradigm’ offered to 4th sem students of Arts Faculty.

4. Annual/ semester/choice based credit system: semester based credit system

5. Participation of the department in the courses offered by other departments:
Few teachers from physics department participate in the courses offered by IT department.

6. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate Professors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asst. Professors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. Faculty profile with name, qualification, designation, specialisation (D.Sc./D.Litt./ Ph.D./M.Phil., etc.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialization</th>
<th>No. of Years of Experience</th>
<th>No. of Ph.D. students guided in the last 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Shyamala P. Bodhane</td>
<td>M. Sc., M.Phil, Ph.D</td>
<td>Associate Professor and HOD</td>
<td>Electronics, Thin film technology</td>
<td>28yrs, 4 months</td>
<td>Nil</td>
</tr>
<tr>
<td>Dr. K. Vedasankari</td>
<td>M.Sc., Ph.D.</td>
<td>Associate professor</td>
<td>Electronics, X-ray crystallography</td>
<td>23yrs, 6 months</td>
<td>Nil</td>
</tr>
<tr>
<td>Dr. Jyoti Singh</td>
<td>M.Sc., Ph.D.</td>
<td>Associate Professor</td>
<td>Electronics, Exptal</td>
<td>17years</td>
<td>Nil</td>
</tr>
<tr>
<td>Name</td>
<td>Qualification</td>
<td>Designation</td>
<td>Specialization</td>
<td>No. of Years of Experience</td>
<td>No. of Ph.D. students guided in the last 4 years</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------</td>
<td>----------------------</td>
<td>------------------------------</td>
<td>---------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Rajesh Singh</td>
<td>M.Sc.</td>
<td>Assistant Professor</td>
<td>Electronics</td>
<td>9 years</td>
<td>Nil</td>
</tr>
<tr>
<td>Ajay Yadav</td>
<td>M. Sc.</td>
<td>Assistant Professor</td>
<td>Electronics</td>
<td>4 years, 6 months</td>
<td>Nil</td>
</tr>
<tr>
<td>Dr. Rohan Jadhav</td>
<td>M.Sc., Ph.D.</td>
<td>Assistant Professor</td>
<td>Electronics, Material science</td>
<td>2 years, 5 months</td>
<td>Nil</td>
</tr>
<tr>
<td>Dr. Ashwin Kale</td>
<td>M.Sc., Ph.D.</td>
<td>Assistant Professor</td>
<td>Nuclear physics, Thin film coating</td>
<td>6 months</td>
<td>Nil</td>
</tr>
</tbody>
</table>

8. **Percentage of classes taken by temporary faculty – programme-wise information:**
   no temporary faculty exist in the dept

9. **Programme-wise Student Teacher Ratio**

10. **Number of academic support staff (technical) and administrative staff: sanctioned and filled**

11. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise. :NIL**

12. **Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received**
   1. Minor Research project funded by University of Mumbai was undertaken by Prof. S. Bodhane in 2011-12 with total grant of Rs 25000/-.  
   2. Minor Research project funded by University of Mumbai is undertaken by Prof. A. Yadav during the current year, 2012-13, with total grant of Rs 27400/-.  

13. **Research facility / centre with**
   - state recognition  
   - national recognition  
   - international recognition

14. **Publications:**
   * number of papers published in peer reviewed journals (national / international)

Following is the list of publications in last five years:
I. Dr. Ashwin Kale:

II Dr. Rohan Jadhav:

III. Dr. S. Bodhane

15. Details of patents and income generated

16. Areas of consultancy and income generated

17. Faculty recharging strategies
18. **Student projects**
- percentage of students who have done in-house projects including inter-departmental: **20%**
- percentage of students doing projects in collaboration with industries / institutes: **2%**

19. **Awards / recognitions received at the national and international level by**
- Faculty
- Doctoral / post doctoral fellows
- Students

20. **Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.**

21. **Student profile course-wise:**

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>Applications received</th>
<th>Selected Male</th>
<th>Female</th>
<th>Pass percentage Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.Sc – (Physics)</td>
<td>295</td>
<td>232</td>
<td></td>
<td>FY: 75</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SY: 90</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TY: 90</td>
<td></td>
</tr>
</tbody>
</table>

22. **Diversity of students**

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>% of students from the College</th>
<th>% of students from the State</th>
<th>% of students from other States</th>
<th>% of students from other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departmental data not available</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

23. **How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?**

24. **Student progression**

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Percentage against enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG to PG</td>
<td>60%</td>
</tr>
<tr>
<td>PG to M.Phil.</td>
<td></td>
</tr>
<tr>
<td>PG to Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Ph.D. to Post-Doctoral</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td></td>
</tr>
<tr>
<td>• Campus selection</td>
<td></td>
</tr>
</tbody>
</table>
25. Diversity of staff

<table>
<thead>
<tr>
<th>Percentage of faculty who are graduates</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>of the same parent university</td>
<td><strong>86%</strong></td>
</tr>
<tr>
<td>from other universities within the State</td>
<td><strong>nil</strong></td>
</tr>
<tr>
<td>from other universities from other States</td>
<td><strong>14%</strong></td>
</tr>
</tbody>
</table>

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.: ONE

27. Present details about infrastructural facilities
   a) Library :
   b) Internet facilities for staff and students
   c) Total number of class rooms
   d) Class rooms with ICT facility
   e) Students’ laboratories
   f) Research laboratories

28. Number of students of the department getting financial assistance from College.

29. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.
   Yes. We did contact our students who have undertaken various courses for post graduate degrees and obtain feedback from them regarding the shortcomings of our syllabus and the treatment given to it. This helped us in planning new courses or upgrading the existing ones.

30. Does the department obtain feedback from
   g. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?
      YES. Think and discuss positive changes sitting together and put them forth in the Board of studies Meetings for further discussion and action.
   h. students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?
      YES. The concerned staff is explained and suggested some solutions to the problems if any or encouraged if the feedback is positive.
   i. alumni and employers on the programmes and what is the response of the department to the same?
      They are part of BOS, their suggestions are incorporated after proper discussions in the curriculum.
31. List the distinguished alumni of the department (maximum 10):
1) Dr. Aseem Paranjape: Ph.D. in Cosmology from TIFR presently a post-doc fellow at the univ of zurich;
2) Dr. Sanhita Dikshit: Ph.D. in Biophysics;
3) Dr. Sharvari Nadkarni: Visiting Faculty at IIT Kanpur, Ph. D. Cornell University, USA,
4) Mr. Sushil Chejara: M.Sc from IIT Roorkey working at GCI Sikar;
5) Mr. Abhimanyu Radhakrishnan: Vice President, India times;
6) Mr. Jimmy Shroff: Program Manager, Zeus Learning;
8) Mr. Sharanya Ghosh: pursuing Phd. at TIFR with High Energy Physics group in collaboration with LHC, CERN, Switzerland.
9) Mr. Achintya Rao: Science communicator with CERN lab.
10) Ms. Sania Zaidi: pursuing PhD in Science Education from Univ. of Michigan

32. Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.
1. A workshop on science communication was arranged in Sept 2012 for second year students wherein Mr. James Dacey, Multimedia Projects Editor of Physics World, U.K., talked to students about science reporting as a field. He also talked to few students regarding physics education in India.
2. A seminar on Higg’s Boson was arranged on 1st Augst 2012. Prof Kajouri Mazumdar and Prof Amol Dighe, the scientists from TIFR, were invited to give detail information about the latest discovery of Higgs Boson to our students.
3. A special lecture of Prof T. P. Singh, TIFR was arranged for SYBSc students on Quantum Physics in Sept 2011.
4. Prof Punit Purmanan, IIT Mumbai was invited in Jan 2011 to talk on ‘Chaos’.
5. Prof Vandana Nanal, TIFR, was invited to deliver a special lecture on ‘Exploring the Nuclea world’ in Jan 2011.
6. A two day workshop ‘Opening windows of Physics’ was arranged for career guidance to the physics students in April 2011.
7. A two day workshop on ‘Cosmology’ was arranged for Physics teachers and students of Mumbai University UG colleges in Jan 2010 where scientists from TIFR, IIUCA and Mumbai University were invited as speakers.
8. An inter college quiz competition in physics, ‘spectaculum’, was arranged in January 2009.

33. List the teaching methods adopted by the faculty for different programmes.
1. Some lecture courses are given with the help of PPT presentations.
2. Working demonstrations are arranged in the class for some topics.
3. Some demonstrations are downloaded from different websites and presented in the class.
4. At least six Demonstrations on various concepts of physics are part of FY as
well as SY syllabus.
5. Skills required for performing practicals are taught with proper emphasis and tested separately during internal assessment.

34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?
1. The students are frequently asked to give their feedback about the courses and the methods adopted to handle them. Based on the feedback an appropriate action is taken as early as possible.
2. Every assessment is carefully judged and the reasons for good or bad performance of students are identified, discussed with them and necessary action is taken in the next part of the course.

35. Highlight the participation of students and faculty in extension activities.
1. Each student spends 60 hrs over the three years of graduation in Social Involvement Programme of the College.
2. One of the teachers is actively working as a committee member for one school.
3. One teacher is involved in the activities of Homi Bhabha Center for Science Education.

36. Give details of “beyond syllabus scholarly activities” of the department.
1. For past four years we are taking FYBSc students to visit Homi Bhabha Center for science Education, a branch of TIFR, where they get a chance to experience and handle some working models through which they learn and understand basic concepts of physics.
2. Second year students, with the help of teachers, have been arranging an exhibition, for past four years, to demonstrate the juniors how interesting and simple the Physics is through some demonstrations.
3. The third year students are taken to visit TIFR, Mumbai.
4. Our department is publishing a magazine for past four years, earlier named as ‘VOID’ now changed to ‘CELERITAS’, with major component of work and articles put in by students of all the three years.
5. Every year number of students undertake various projects under the guidance of department faculty members and complete them successfully to get Honour’s credits.
6. Each third year student takes up a project in the 5th as well as 6th semester as one component of practical course.
7. A group of first year students have started ‘the physics circle’ through which they get chance to discuss physics of their interest, beyond syllabus, and will in future take help of scientists and researchers in various fields to upgrade their knowledge.

37. State whether the programme/ department is accredited/ graded by other agencies. Give details.
38. **Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department:**

1. There is good cooperation among the teaching staff as well as the non teaching staff of the department.
2. The teaching staff is willing to upgrade their knowledge and handle different teaching and evaluation methods. This helps making required changes in the courses.
3. The number of good, interested students coming for Physics is increasing every year, we have to keep providing them enough challenge and support to maintain their interest in the subject.
4. We also get a large number of students coming to our subject at the first year level, who are not much interested in the subject and have not made up their mind to select the subject for final graduation. It is a challenge to us to develop interest in them for Physics and make them comfortable with the subject.
5. To make the students aware of opportunities in the field of Physics, they should be send out to various industries, institutes for visits, internship programmes or should be given chance to meet people working in different fields after having graduated in physics.

39. **Future plans of the department.**

The department would like every student graduating with Physics to go out with full satisfaction of having done physics with us. We would like to give good, valuable projects for our third year students and an opportunity to do internship with good institutes or industries to our second year students. We would also like to start M.Sc. by Research in Physics.
Department of Statistics

1. Name of the Department & its year of establishment
   Department of Statistics. Estd: 1987

2. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)
   Undergraduate

3. Interdisciplinary courses and departments involved
   Descriptive Statistics – Sociology/ Psychology /Economics /BMM /BMS

4. Annual/ semester/choice based credit system
   Semester

5. Participation of the department in the courses offered by other departments
   Our Science students take up courses offered by the Arts Departments and vice versa.

6. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Associate Professors</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Asst. Professors</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

7. Faculty profile with name, qualification, designation, specialisation (D.Sc./D.Litt./Ph.D./M.Phil., etc.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialization</th>
<th>No. of Years of Experience</th>
<th>No. of Ph.D. students guided in the last 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pooja Ochaney</td>
<td>M.Sc</td>
<td>Assoc Prof. &amp; Head of Dept.</td>
<td>Statistics</td>
<td>26</td>
<td>NIL</td>
</tr>
<tr>
<td>Myrtle Fernandes</td>
<td>M.Sc</td>
<td>Assoc. Prof.</td>
<td>Statistics</td>
<td>29</td>
<td>NIL</td>
</tr>
<tr>
<td>Ayesha Dias</td>
<td>M.Sc</td>
<td>Assoc. Prof.</td>
<td>Statistics</td>
<td>23</td>
<td>NIL</td>
</tr>
<tr>
<td>Saju George</td>
<td>M.Sc, M.Phil</td>
<td>Assoc. Prof.</td>
<td>Statistics</td>
<td>23</td>
<td>NIL</td>
</tr>
<tr>
<td>S. Annapurna</td>
<td>M.Sc</td>
<td>Asst. Prof.</td>
<td>Statistics</td>
<td>20</td>
<td>NIL</td>
</tr>
<tr>
<td>P. Unnikrishnan</td>
<td>M.Sc</td>
<td>Asst. Prof.</td>
<td>Statistics</td>
<td>15</td>
<td>NIL</td>
</tr>
</tbody>
</table>

8. Percentage of classes taken by temporary faculty – programme-wise information
   NIL

9. Programme-wise Student Teacher Ratio
   50 : 1
10. Number of academic support staff (technical) and administrative staff: sanctioned and filled
   NIL

11. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.
   NIL

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received
   NIL

13. Research facility / centre with
   • state recognition  NIL
   • national recognition  NIL
   • international recognition  NIL

14. Publications: NIL
   * number of papers published in peer reviewed journals (national / international)
   * Monographs
   * Chapter(s) in Books
   * Editing Books
   * Books with ISBN numbers with details of publishers
   * number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
   * Citation Index – range / average
   * SNIP
   * SJR
   * Impact factor – range / average
   * h-index

15. Details of patents and income generated : NIL

16. Areas of consultancy and income generated : NIL

17. Faculty recharging strategies
   1. Attending interactive sessions/ seminars/ workshops conducted by other colleges.
   2. Attending faculty improvement programmes conducted by the college.

18. Student projects
   • percentage of students who have done in-house projects including inter-departmental  Approx. 10%
   • percentage of students doing projects in collaboration with industries / institutes 1 – 2%
19. Awards / recognitions received at the national and international level by
   - Faculty: NIL
   - Doctoral / post doctoral fellows: NIL
   - Students: NIL

20. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.
   - Students pay fees for conducting Add On courses (Refer to pts 32 and 36)
   - Events conducted on a larger scale, which involves intercollegiate participation like the Statistics festival ‘Xstatic’ are funded by industry sponsors like Sankhya Consultants, Future Track & Direxions Global Solutions

21. Student profile course-wise:

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>Applications received</th>
<th>Selected Male</th>
<th>Female</th>
<th>Pass percentage Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>T.Y.B.Sc</td>
<td>215</td>
<td>140</td>
<td></td>
<td>FY:90</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SY:95</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TY:100</td>
<td></td>
</tr>
<tr>
<td>T.Y.B.A. (Double Major)</td>
<td>170</td>
<td>142</td>
<td></td>
<td>FY:85</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SY:95</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TY:100</td>
<td></td>
</tr>
</tbody>
</table>

22. Diversity of students

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>% of students from the College</th>
<th>% of students from the State</th>
<th>% of students from other States</th>
<th>% of students from other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departmental data not available</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations? ............

24. Student progression

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Percentage against enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG to PG</td>
<td>50%</td>
</tr>
<tr>
<td>PG to M.Phil.</td>
<td>-</td>
</tr>
<tr>
<td>PG to Ph.D.</td>
<td>10%</td>
</tr>
<tr>
<td>Ph.D. to Post-Doctoral</td>
<td>-</td>
</tr>
<tr>
<td>Employed</td>
<td></td>
</tr>
<tr>
<td>Campus selection</td>
<td>15%</td>
</tr>
<tr>
<td>Other than campus recruitment</td>
<td>95%</td>
</tr>
<tr>
<td>Entrepreneurs</td>
<td>5%</td>
</tr>
</tbody>
</table>
24. Diversity of staff

<table>
<thead>
<tr>
<th>Percentage of faculty who are graduates</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>of the same parent university</td>
<td>66%</td>
</tr>
<tr>
<td>from other universities within the State</td>
<td>17%</td>
</tr>
<tr>
<td>from other universities from other States</td>
<td>17%</td>
</tr>
</tbody>
</table>

25. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.
NIL

26. Present details about infrastructural facilities
   a) Library                     80 books
   b) Internet facilities for staff and students     Yes
   c) Total number of class rooms       ----- 
   d) Class rooms with ICT facility    Yes
   e) Students’ laboratories      ----- 
   f) Research laboratories        ----- 

27. Number of students of the department getting financial assistance from College.
   2 persons per year.

28. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.  NIL

29. Does the department obtain feedback from
   a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?
      Yes. Based on their inputs, we organise lecture series and software courses for the students
   b. students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?
      Yes.
      Feedback on staff: Informal discussions in the department to improve strategies.
      Feedback on curriculum: We try to incorporate their suggestions while framing the syllabus or in our Add On courses.
   c. alumni and employers on the programmes and what is the response of the department to the same?
      Yes.
      We are in contact with our alumni and experts from industry who give us input as to the relevant topics which would equip our students for enhancement in their future careers.
30. List the distinguished alumni of the department (maximum 10)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of student</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Surily Goel</td>
</tr>
<tr>
<td>2.</td>
<td>Siddi Desai</td>
</tr>
<tr>
<td>3.</td>
<td>Prasad Dhumal</td>
</tr>
<tr>
<td>4.</td>
<td>Rohit D’costa</td>
</tr>
<tr>
<td>5.</td>
<td>Ashish Shah</td>
</tr>
<tr>
<td>6.</td>
<td>Jayeeta Basu</td>
</tr>
<tr>
<td>7.</td>
<td>Niyati Jhalaria</td>
</tr>
<tr>
<td>8.</td>
<td>Ronkini Sen</td>
</tr>
<tr>
<td>9.</td>
<td>Apeksha Rao</td>
</tr>
<tr>
<td>10.</td>
<td>Shruti Jagirdar</td>
</tr>
</tbody>
</table>

31. Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Course Name</th>
<th>Resource person</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Clinical Trials</td>
<td>Ms Anagha Bhatkande, Ms Supriya Brahme - TATA Consultancy Service</td>
</tr>
<tr>
<td>2.</td>
<td>Case studies</td>
<td>Dr Anjali Panigrahi, Raheja College</td>
</tr>
<tr>
<td>3.</td>
<td>Market Research Programme</td>
<td>Anthony Fernandes -</td>
</tr>
<tr>
<td>4.</td>
<td>Categorical Data Analysis</td>
<td>Dr Rajan - MVLU College</td>
</tr>
<tr>
<td>5.</td>
<td>Research project for undergraduate</td>
<td>Dr Anjali Panigrahi - Raheja College</td>
</tr>
<tr>
<td>6.</td>
<td>Geogebra</td>
<td>Dr Subramanyam, Dr Chowdhary - TIFR, Smita Patil - Homi Bhabha Science Center</td>
</tr>
<tr>
<td>7.</td>
<td>Operation Research using EXCEL</td>
<td>Sarah Vaidyan - Human Consulting Capital</td>
</tr>
<tr>
<td>8.</td>
<td>Discriminant Analysis</td>
<td>Dr Geeta Zankar - Cartesian Consulting</td>
</tr>
<tr>
<td>9.</td>
<td>Financial Mathematics</td>
<td>Sanjeev Gupta - Reserve bank of India</td>
</tr>
<tr>
<td>10.</td>
<td>Data analysis using Statistical packages</td>
<td>Dr Chowdhary - TIFR</td>
</tr>
<tr>
<td>11.</td>
<td>Advanced Operation Research</td>
<td>Dr Rajan - MVLU College</td>
</tr>
<tr>
<td>12.</td>
<td>Applications of Time Series</td>
<td>Shobna Balsubramanyam - National Stock Exchange</td>
</tr>
<tr>
<td>13.</td>
<td>Total Quality management</td>
<td>Dr Shilpa Khare - Mumbai University</td>
</tr>
<tr>
<td>14.</td>
<td>A Beginners Course in Minitab</td>
<td>N.R. Hedge - SIES College</td>
</tr>
<tr>
<td>15.</td>
<td>Application of Derivatives</td>
<td>Shobna Balsubramanyam - National Stock Exchange</td>
</tr>
</tbody>
</table>

32. List the teaching methods adopted by the faculty for different programmes.
1. Blackboard  2. Computer.  3. O.H.P.

33. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?
34. **Highlight the participation of students and faculty in extension activities.**
- Encouraging students to take part in intercollegiate festivals/workshops/exhibitions.
- To organize and participate in Statistics based events within the college. (Statistics festival – Xstatic, Department Magazine – The Plot, Khandala Seminar)

35. **Give details of “beyond syllabus scholarly activities” of the department.**

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Course Name</th>
<th>Resource person</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Time Series</td>
<td>Ms Niyati Jhalaria</td>
</tr>
<tr>
<td>2.</td>
<td>Mumbai road transport project</td>
<td>Ms. Antara Ganguly &amp; Ms. Anwesha Chowdhary</td>
</tr>
<tr>
<td>3.</td>
<td>Statistics in EXCEL</td>
<td>Ms. R. Madhura, XIMR</td>
</tr>
<tr>
<td>4.</td>
<td>Qualitative analysis in politics and policy making</td>
<td>Ms. Shruti Jagirdar</td>
</tr>
<tr>
<td>5.</td>
<td>SPSS</td>
<td>Statistics department, SXC</td>
</tr>
<tr>
<td>6.</td>
<td>Goal programming</td>
<td>Prof. S.V George</td>
</tr>
<tr>
<td>7.</td>
<td>Integer programming</td>
<td>Prof. Pooja Ochaney</td>
</tr>
<tr>
<td>8.</td>
<td>Markov analysis</td>
<td>Prof. Piyali unnikrishnan</td>
</tr>
<tr>
<td>9.</td>
<td>Queueing Theory</td>
<td>Prof. S. Annapurna</td>
</tr>
<tr>
<td>10.</td>
<td>A Beginners course in JAVA programming</td>
<td>Prof. Ashok Bingi</td>
</tr>
<tr>
<td>11.</td>
<td>Simulation</td>
<td>Prof. Felix Almeida</td>
</tr>
<tr>
<td>12.</td>
<td>PERT-CPM</td>
<td>Prof. J.B Mistry</td>
</tr>
<tr>
<td>13.</td>
<td>Individual projects</td>
<td>Prof. Myrtle Fernandes &amp; Prof. S. Annapurna</td>
</tr>
</tbody>
</table>

*In addition please refer to pt. 32 above*

36. **State whether the programme/ department is accredited/ graded by other agencies.** Give details. : NIL

37. **Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department**

<table>
<thead>
<tr>
<th>Strengths</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Highly motivated staff.</td>
</tr>
<tr>
<td>2.</td>
<td>Academically strong teaching faculty.</td>
</tr>
<tr>
<td>3.</td>
<td>Enthusiastic set of students.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weaknesses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lack of dedicated laboratory for Practicals</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Teaching at M.Sc / M.B.A./ B.M.S classes.</td>
</tr>
<tr>
<td>2.</td>
<td>Extending help for Data Analysis and teaching of statistical software.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Challenges</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Large class strength – To reach out to each student.</td>
</tr>
<tr>
<td>2.</td>
<td>To motivate student interest in the subject and encourage them to go beyond the syllabus.</td>
</tr>
</tbody>
</table>
38. **Future plans of the department.**
1. To increase and enhance our Add on courses.
2. To introduce a compulsory data collection and analysis, which will start in semester one and end in semester four.
3. To increase student exposure to industry by inviting experts from various fields to give guest lectures of the application of Statistics to the real world.
4. To provide opportunities of hands on experience to students in the subject.
Department of Zoology

1. **Name of the Department & its year of establishment:**
   DEPARTMENT OF ZOOLOGY, Established in the Year 1970

2. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**
   - B.Sc. with 3 units (Zoology- Biochemistry and Zoology – Botany)
   - Ph.D. in Zoology,
   - M.Sc. IBE (a joint venture between St. Xavier’s College Society and University of Bath).
   - Diploma in Forensic Science,
   - Certificate course in Criminal law and Jurisprudence,
   - Certificate course in Cyber Forensic and Criminal Investigation,

3. **Interdisciplinary courses and departments.**
   - Honours program (Open to Botany, Microbiology and Life Sciences)
   - CUBE (Collaborative Undergraduate Biological Education)
   - Cross Faculty Programme on “Secret lives of animals” (offered to students of S.Y.B.A., S.Y.B.M.M, S.Y.B.M.S.)
   - Applied component course in “Economic Entomology” (offered to T.Y.B.Sc. students of Life Science, Botany and Microbiology)
   - Diploma in Forensic Science (offered to any stream of Science and students from Sociology, Psychology, Law and Medicine)
   - Certificate course in Criminal law and Jurisprudence (offered to anyone interested)
   - Certificate course in Cyber Forensic and Criminal Investigation (offered to students with basic computer knowledge)

4. **Annual/ semester/choice based credit system:**
   - The department follows a choice-based credit system with two semesters in a year for a three year graduation programme.
   - Inter departmental choices in the S.Y. and T.Y.B.Sc levels between Botany/Chemistry/Bio-Chemistry.
   - Interdisciplinary choice for the T.Y.B.Sc. Applied Component.
   - Cross faculty Special course.
   - Course in Scientific Communication skills.

5. **Participation of the department in the courses offered by other departments.**
   **Students**
   - Students of the S.Y.B.Sc. Zoology have to take a Cross Faculty course with the Arts departments.
   - Students of T.Y.B.Sc. have the freedom to choose an applied component course offered by either Chemistry or Life Sciences departments.

   **Faculty**
   - Staff from the department were resource persons for the M.Sc. Biotechnology
course from 2007-2009.
- Staff of the department are also part time faculty for the M.Sc. IBE course from 2009 to date.

6. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Associate Professors</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Asst. Professors</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

7. Faculty profile with name, qualification, designation, specialisation (D.Sc./D.Litt./Ph.D./M.Phil., etc.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialization</th>
<th>No. of Years of Experience</th>
<th>No. of Ph.D. students guided in the last 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. C.Vaman Rao</td>
<td>Ph.D</td>
<td>Associate Professor</td>
<td>Bio-Chemistry</td>
<td>26 (ret'd in 2009)</td>
<td>1</td>
</tr>
<tr>
<td>Dr. Smita Krishnan</td>
<td>Ph.D</td>
<td>Associate Professor</td>
<td>Marine Zoology</td>
<td>22</td>
<td>Nil</td>
</tr>
<tr>
<td>Dr. Pushpa Sinkar</td>
<td>PhD, B.Ed.</td>
<td>Assistant Professor</td>
<td>Marine Zoology</td>
<td>19</td>
<td>Nil</td>
</tr>
<tr>
<td>Dr. Madhuri Hambarde</td>
<td>Ph.D</td>
<td>Associate Professor</td>
<td>Endocrinology</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>Conrad Cabral</td>
<td>M.Sc.</td>
<td>Assistant Professor</td>
<td>Molecular Biology</td>
<td>5</td>
<td>Nil</td>
</tr>
<tr>
<td>Dr. Sujata Deshpande</td>
<td>Ph.D</td>
<td>Assistant Professor</td>
<td>Biological Sciences</td>
<td>1</td>
<td>Nil</td>
</tr>
</tbody>
</table>

8. Percentage of classes taken by temporary faculty – programme-wise information
- Undergraduate programme in Zoology (3 units) – 0%
- Diploma in Forensic Science – 100%
- Certificate course in Criminal law and Jurisprudence – 100%
- Certificate course in Cyber Forensic and Criminal Investigation – 100%
- M.Sc. IBE – 60%

9. Programme-wise Student Teacher Ratio

<table>
<thead>
<tr>
<th>Class</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate programme in Zoology (3 units)</td>
<td>20:1</td>
</tr>
<tr>
<td>Diploma in Forensic Science</td>
<td>15:1</td>
</tr>
<tr>
<td>Certificate course in Criminal law and Jurisprudence</td>
<td>15:1</td>
</tr>
</tbody>
</table>
10. Number of academic support staff (technical) and administrative staff: sanctioned and filled

<table>
<thead>
<tr>
<th>Position</th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Lab Assistant</td>
<td>1(part time)</td>
<td>1(part time)</td>
</tr>
<tr>
<td>Technical Lab Attendant</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Administrative staff</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

11. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.

- UKIERI – £ 14,000 (2009-2012) for M.Sc. IBE

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received

<table>
<thead>
<tr>
<th>Name of funding agency</th>
<th>Year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>UGC major</td>
<td>2004-07</td>
<td>Rs. 4,69,600/-</td>
</tr>
<tr>
<td>University of Mumbai Minor project</td>
<td>2008-09</td>
<td>Rs. 30,000/-</td>
</tr>
<tr>
<td>University of Mumbai Minor Project</td>
<td>2009-10</td>
<td>Rs. 15,000/-</td>
</tr>
<tr>
<td>Star College</td>
<td>2012-15</td>
<td>Rs. 11,00,000/-</td>
</tr>
<tr>
<td>DST-FIST</td>
<td>2012-13</td>
<td>Rs. 2,00,000/-</td>
</tr>
</tbody>
</table>

Total Grants received – Rs.18,14,600/-

DST-FIST grant of Rs. 34.20 lakhs for Equipments and Infrastructure facility (2004-07) to Dept. of Biological Sciences (Life Science, Botany, Microbiology and Zoology)

13. Research facility / centre with
- state recognition
- Department of Zoology has a research laboratory with life time recognition for PhD from the University of Mumbai.
- Department of Zoology has recognition for Ph.D. in Zoology from University of Mumbai
- national recognition
- Department of Zoology has an Animal house facility registered with the CPCSEA.
- international recognition
  NIL
14. **Publications:**

* number of papers published in peer reviewed journals (national / international)

* STAFF


* STUDENTS


* Monographs -NIL

* Chapter(s) in Books - NIL

* Editing Books - NIL

* Books with ISBN numbers with details of publishers - NIL

* Number listed in International Database (For e.g. Web of Science,
15. Details of patents and income generated
NIL

16. Areas of consultancy and income generated
NIL

17. Faculty recharging strategies

a) Seminars/Workshops/Conferences attended by faculty
   - Dr. Madhuri Hambard e attended an International symposium on MIF in health and disease at Piramal Life Sciences from 1st – 2nd November 2012.
   - Conrad Cabral attended a workshop in “Classical Genetics and Molecular Genetics” at Banares Hindu University from 22nd to 24th January 2012.
   - Dr. Madhuri Hambarde attended a 14 Day workshop on Animal Tissue Culture conducted by Medicine and Biomedicine and National Centre for Cell Science held at National Centre for Cell Science from 16th to 28th June 2008.
   - Dr. Madhuri Hambarde attended a three day workshop on “Basics of Bioinformatics and its application” at Biomedical informatics Centre, NIRRH from 5th to 7th June 2012.
   - Conrad Cabral participated in a workshop on “Bioinformatics: Emerging tool in Biological Sciences” at Ruia College from Feb 1st to 5th 2010.
   - Conrad Cabral participated in hands on workshop in “Applied Genetics and Genetic Counselling” at CREMERE Malad (Mumbai) from Sept 5th to 8th 2007.
   - Dr. Smita Krishnan and Dr. Pushpa Sinkar attended the IATBS 1st convention 2006 - Recent trends in Biological Sciences on Feb 11th 2006 at the Homi Bhaba Centre for Science Education.
   - Dr. Smita Krishnan, Dr. Pushpa Sinkar and Dr. Madhuri Hambarde attended a National Seminar on Development of Innovative Strategies and Higher academics (DISHA) from February 3rd to 5th 2006 at St. Xavier’s College.
   - Dr. Pushpa Sinkar attended the IATBS National Workshop on Methods of Instrumental Analysis for Biological Sciences from Nov 2nd to 4th, 2006 at Jhunjhunwala College.
   - Dr. Pushpa Sinkar attended a Workshop on Wonderful World of Insects on 26th August 2008 at Bandodkar College, Thane.
• Dr. Smita Krishnan attended a Workshop on Wonderful World of Insects on 16\textsuperscript{th} January, 2008 at Bandodkar College, Thane.

b) Refresher course
• Dr. Pushpa Sinkar participated in a Refresher Course in Biotechnology at Khalsa College from Oct 1\textsuperscript{st} to 22\textsuperscript{nd} 2008.
• Dr. Pushpa Sinkar participated in a Refresher Course in Biosciences at Mithibai College from Oct 11\textsuperscript{th} to 30\textsuperscript{th} 2010.

c) Faculty as resource persons
• Dr. Madhuri Hambarde was a member of the organizing committee for Lecture workshop on techniques in animal tissue culture and gas chromatography conducted by CIF and Dept. of Life Science, St.Xavier’s College from 16\textsuperscript{th} to 18\textsuperscript{th} June 2011.
• Dr. Madhuri Hambarde was a resource person for a seminar on Alternatives in Continuous Internal Assessment organized by St. Xavier’s College on Nov 20\textsuperscript{th} 2009.
• Dr. Madhuri Hambarde is a reviewer for 4 Journalss namely: Journal of Food Biochemistry, Natural Product Radiance and Food and Chemical Toxicology and Saudi Journal of Gastroenterology.
• Conrad Cabral was one of the resource persons for the various workshops on “Moodle” conducted for the staff of St. Xavier’s College Mumbai in 2010.
• Conrad Cabral is a visiting faculty for a diploma course in “Bioinformatics” at Sophia College, Mumbai. From 2008 till date.
• Conrad Cabral was invited for a guest lecture in “Intracellular Trafficking: Microtubules the cellular tracks” for the Second and Third year students and “Molecular Phylogeny” for the Post graduate students of H.P.T. / R.Y.K. college, Nashik on 13\textsuperscript{th} December 2011.
• Conrad Cabral was invited for a guest lecture in “Tips on Immunology” to aid clear the NET exam at Vaze-Kelkar College, Mumbai on the 14\textsuperscript{th} September 2011.
• Conrad Cabral was a resource person for a half day orientation for the Non-teaching staff of St. Xavier’s College.

d) Faculty exchange programs with foreign Universities
• Dr. Madhuri Hambarde as co-ordinator of M.Sc. IBE was deputed to participate in the UKEIRI sponsored program for the M.Sc. IBE syllabus development from 28\textsuperscript{th} February to 7\textsuperscript{th} March 2009.
• Dr. Madhuri Hambarde as co-ordinator of M.Sc. IBE was deputed to participate in the UKEIRI sponsored program for the M.Sc. IBE progress meeting from 5\textsuperscript{th} – 13\textsuperscript{th} March 2010.
• Dr. Madhuri Hambarde as co-ordinator of M.Sc. IBE was deputed to participate in the UKEIRI sponsored program for the MSc IBE course development review meeting from 12\textsuperscript{th} – 21\textsuperscript{st} December 2010.
• Dr. Pushpa Sinkar and Dr. Smita Krishnan were deputed by St. .Xavier’s College to visit the University of Bath, UK from 6\textsuperscript{th} – 15\textsuperscript{th} May 2011.

e) Seminars organized by St. Xaviers College for faculty
Dr. Smita Krishnan, Dr. Pushpa Sinkar, Dr. Madhuri Hambarde and Conrad Cabral attended all Wednesday staff seminars held in college during 2009-2011.
Dr. Smita Krishnan, Dr. Madhuri Hambarde and Conrad Cabral attended the faculty seminar held in Khandala in September 2012.

18. **Student Projects**
- percentage of students who have done in-house projects including inter-departmental
  - 2006-2009 = during these years about 20% of the students did year long research projects under the Honours program.
  - 2009-2012 = during these years 100% of the students had to do projects as part of their curriculum in the Applied Component.
- percentage of students doing projects in collaboration with industries / institutes
  - Ms. Pearl Prabal completed a 3 week internship at the University of Bath in May 2012.
  - Ms. Abigail Pais has completed her summer internship at HBCSE through the CUBE program from April to May 2012.
  - Ms. Sharon Maria Jacob completed her summer internship at Holy Spirit Hospital, Andheri from April to May 2012.
  - Ms. Janice Vaz completed her summer internship at Dr. Gadge’s Veterinary clinic from March to June 2012.
  - Ms. Priyanka Pereira completed her summer internship at Nova Medical Centre, Deonar, from April to May 2012.
  - Ms. Shirley Dias completed her internship at Dr. Asha Makde’s Pet Clinic for the month of May 2012.
  - Mr. Hussain Shaikh completed his summer internship in the Pathology Laboratory at Bombay Hospital from March to June 2011.
  - Mr. Hussein Shaikh attended a week long workshop on Animal handling and Maintenance at Haffkine Institute in December 2011.

19. **Awards / recognitions received at the national and international level by**
- Faculty
  - Dr. Smita Krishnan has been appointed as Chairman, Board of Studies in Applied Component (Entomology) for T.Y.B.Sc. by the University of Mumbai.
  - Dr. Smita Krishnan is the Chairman for IAEC for St. Xavier’s College.
  - Dr. Madhuri Hambarde has been appointed as member of Syllabus Committee for M.Sc. Part I by the University of Mumbai.
  - Dr. Madhuri Hambarde is a recognized PhD guide in Zoology at the University of Mumbai.
  - Dr. Pushpa Sinkar has been appointed as Chairman, Board of Studies for
Dr. Pushpa Sinkar has been appointed as Co-convener of Syllabus Committee for T.Y.B.Sc. by the University of Mumbai.

Conrad Cabral has been appointed as member of Syllabus Committee for T.Y.B.Sc. by the University of Mumbai.

Doctoral / post doctoral fellows

Ms. Norine D’souza is presently a doctoral fellow at the department.

Students

Ms. Smruti Deoghare from S.Y.B.Sc. was selected for the student exchange program to Berkeley University, California, U.S.A. in the year 2009.

Rohit Jha and Rishiddh Jhaveri from S.Y.B.Sc. were awarded First prize in the Quiz Competition at the inter-collegiate festival “Ozone Fest 2009” held at Institute of Science, Mumbai.

Ms. Shruti Jadhav and Jeneshmary Nadar from S.Y.B.Sc. secured Second position in powerpoint presentation on “Environmental Adaptations” at the inter-collegiate festival at Ratnam College, Bhandup, in 2009.

GANGREEN - Nature Club members (students from Zoology and Botany departments) won the First prize and Best Speaker Award for, Methodology Used in Biodiversity Studies, in a competition organized by National College, Mumbai. in 2009.

Ms. Payal Gupta won the First prize for presenting a poster Nature Vs Nurture at the Inter-collegiate event ENTERNO organized by SIES College, Nerul, Mumbai, in 2010.

Ms. Payal Gupta won the Consolation Prize and a Certificate Of Merit in an Essay Writing Competition held by University Of Mumbai, in 2011. The topic for essay was Should There Be Positive Discrimination in Higher Education.

Ms. Payal Gupta won the State Merit Scholarship awarded by University Of Mumbai, in 2009.

Ms. Payal Gupta won the Fifth prize in Treasure Hunt at the Inter-collegiate event CHEMEXTREME organized by St. Xavier’s College, Mumbai in 2011.

Ms. Payal Gupta won the Third prize in a Quiz at the Inter-collegiate event CHEMEXTREME organized by St. Xavier’s College, Mumbai in 2012.

Mr. Faisal Khan and Mr. Clinton D’Silva won the First prize in Treasure Hunt at the Inter-collegiate event ENTERNO organized by SIES College, Nerul, Mumbai in 2011.

Mr. Faisal Khan and Mr. Clinton D’Silva won the Third prize in Floral Rangoli at the Inter-collegiate event ENTERNO organized by SIES College, Nerul, Mumbai in 2011.

Mr. Faisal Khan and Mr. Clinton D’Silva won the First prize in Treasure Hunt at the Inter-collegiate event CONVERGENCE organized by K.J. Somaiya College, Vidyavihar, Mumbai in 2011.

Mr. Faisal Khan won the Best Actor Award at the Inter-collegiate event KIRAN organized by K.C. College, Churchgate, Mumbai in 2011.
• Mr. Faisal Khan won the First prize in Bollywood Quiz at the Inter-collegiate event FANTASIES organized by SIES College, Sion, Mumbai in 2012.
• Mr. Faisal Khan won a prize in Housie at the Inter-collegiate event CONVERGENCE organized by K.J. Somaiya College, Vidyavihar, Mumbai in 2011.
• Mr. Snobbin Jacob, Mr. Orville Nazareth, Mr. Nikit Surve and Ms. Pallavi Ghaskadbi won the First prize at the inter-collegiate Festival Kshithij in Water Wars organized by Mithibai College Mumbai in 2012.

20. Seminars/Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.
• The department conducted a Syllabus upgradation workshop in Entomology on behalf of the University of Mumbai in July 2010.

21. Student profile course-wise:

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>Applications received</th>
<th>Selected Male</th>
<th>Female</th>
<th>Pass percentage Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate programme in Zoology (3 units)</td>
<td>225</td>
<td>160</td>
<td></td>
<td>FY: 90</td>
<td>SY: 90</td>
</tr>
<tr>
<td>Diploma in Forensic Science</td>
<td>45</td>
<td>30 overall</td>
<td></td>
<td>100% overall</td>
<td></td>
</tr>
<tr>
<td>Certificate course in Criminal law and Jurisprudence</td>
<td>30</td>
<td>20 overall</td>
<td></td>
<td>100% overall</td>
<td></td>
</tr>
<tr>
<td>Certificate course in Cyber Forensic and Criminal Investigation</td>
<td>30</td>
<td>20 overall</td>
<td></td>
<td>100% overall</td>
<td></td>
</tr>
<tr>
<td>M.Sc. IBE</td>
<td>30</td>
<td>10</td>
<td></td>
<td>100% overall</td>
<td></td>
</tr>
</tbody>
</table>

22. Diversity of students

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>% of students from the College</th>
<th>% of students from the State</th>
<th>% of students from other States</th>
<th>% of students from other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate program in Zoology (3 units)</td>
<td>40%</td>
<td>50%</td>
<td>10%</td>
<td>NIL</td>
</tr>
<tr>
<td>Diploma in Forensic Science</td>
<td>10%</td>
<td>90%</td>
<td>NIL</td>
<td>NIL</td>
</tr>
<tr>
<td>Certificate course in Criminal law and Jurisprudence</td>
<td>60%</td>
<td>40%</td>
<td>NIL</td>
<td>NIL</td>
</tr>
<tr>
<td>Name of the Course (refer question no. 2)</td>
<td>% of students from the College</td>
<td>% of students from the State</td>
<td>% of students from other States</td>
<td>% of students from other countries</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-------------------------------</td>
<td>----------------------------</td>
<td>-------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Certificate course in Cyber Forensic and Criminal Investigation</td>
<td>10%</td>
<td>90%</td>
<td>NIL</td>
<td>NIL</td>
</tr>
<tr>
<td>M.Sc. IBE</td>
<td>5%</td>
<td>80%</td>
<td>15%</td>
<td>NIL</td>
</tr>
</tbody>
</table>

### 23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?

NET – 2 Cleared Pune University Entrance Exam in Zoology – 3

### 24. Student progression

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Percentage against enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG to PG</td>
<td>20%</td>
</tr>
<tr>
<td>PG to M.Phil.</td>
<td>----</td>
</tr>
<tr>
<td>PG to Ph.D.</td>
<td>5%</td>
</tr>
<tr>
<td>Ph.D. to Post-Doctoral</td>
<td>5%</td>
</tr>
<tr>
<td>Employed</td>
<td></td>
</tr>
<tr>
<td>• Campus selection</td>
<td></td>
</tr>
<tr>
<td>• Other than campus recruitment</td>
<td>80%</td>
</tr>
<tr>
<td>Entrepreneurs</td>
<td>2%</td>
</tr>
</tbody>
</table>

### 25. Diversity of staff

<table>
<thead>
<tr>
<th>Percentage of faculty who are graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>of the same parent university</td>
</tr>
<tr>
<td>from other universities within the State</td>
</tr>
<tr>
<td>from other universities from other States</td>
</tr>
</tbody>
</table>

### 26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.

NIL

### 27. Present details about infrastructural facilities

a) Library – The department has a well stocked library of about 1000 books which is open to the students and faculty of the department and other Biological departments. The department also subscribes to 6 research journals. Apart from this students also have access to the two college libraries – the Lending and the Reference library, which are well stocked with books and journals.

b) Internet facilities for staff and students – Personal internet facility with each staff member accessible to students.

c) Total number of class rooms

d) Class rooms with ICT facility

e) Students’ laboratories – 03 (One of which is shared with Botany and Life Science)

f) Research laboratories – 01
28. Number of students of the department getting financial assistance from College.
   25 (between 2006-2012)

29. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology. NO

30. Does the department obtain feedback from
   a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it? YES
      • Oral feedback from the faculty and students is taken and relevant suggestions are put forward to the BOS for approval.
      • H.O.D conducts a formal “sit-in”, i.e. an unannounced observation of the lecture conducted by unconfirmed teachers. A detailed report is prepared and discussed with the concerned staff member before the report is submitted to the Vice Principal.
   b. Students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same? YES
      A formal TAQ is conducted by the college to assess the quality of teaching and the results are analyzed and a hard copy of the report followed by a discussion of the analysis is provided to the faculty by the Vice Principal.
      Feedback is obtained from the students during Mentoring sessions.
      Two student representatives are nominated to the BOS and student feedback regarding the syllabi is conveyed through them to the members of the BOS.
   c. Alumni and employers on the programs and what is the response of the department to the same?
      YES Alumni are part of the BOS and their valuable suggestions are discussed.

31. List the distinguished alumni of the department (maximum 10)
   • Dr. Rohan Arthur – Director Nature Conservation Foundation, Mysore.
   • Dr. Roshan D’Souza – Vice principal and Head Dept. of Zoology, Sophia College.
   • Dr. Aldon Fernandes – Deputy General Manager, R&D, Bharat Serums.
   • Mr. James Pereira – President and Director, Pereira Wilcock Solutions Incorporated, Canada
   • Mr. Kiran Kapadia – Advocate High Court, Mumbai.
   • Mr. Ashish Bhasin – Chairman India and CEO S.E Asia, Aegis India Media Pvt.Ltd.
   • Dr. Advait Edgaonkar – Asst Professor, Indian Institute of Forestry Management.
   • Dr. Ryan Pereira – Senior Education Advisor, US India Educational Foundation.
   • Mr. Charles Assisi – Executive Editor Forbes India and Editor Forbes Life India.
   • Dr. Nandita Mangalore – Vice Principal and Head of Life Science and Biochemistry St. Xavier’s College.
32. **Give details of student enrichment programs (special lectures / workshops / seminar) with external experts.**

- “Gene Necklace” a lecture and practical hands on workshop on DNA isolation was conducted by Dr. Moumna Hejmadi From University of Bath.
- A lecture on “Large Carnivore Research and Conservation” was conducted by Dr. Yadavendra Dev Jhalla from WII, on 30th June 2012.
- A lecture on “Conservation and Snakes” was conducted by Dr. Leon Pereira, on 27th August, 2012.
- A workshop for the honours students on “Orthonology and Herpetology” was conducted by Dr. Leon Pereira in 2009-10 and 2010-11.
- A lecture on “Conservation of the Jungle fowl” was conducted by Dr. Mervyn Fernandes from WII, on 13th July 2012.
- The department undertakes an annual study tour for the TY students to the Rural Sericulture Unit at Wai and the Central Bee Keeping Research Institute at Pune.
- The department undertakes an annual study tour for the SY students to the Agricultural University (KKV) at Dapoli.
- Besides these the department organizes a 10 day field excursion to various wild life Sanctuaries/National parks. Places visited are:
  b) October 2008 – Bhitarkanika and Chilka Lake, Orissa.
  c) October 2010 – Gulf of Kutch Marine Sanctuary, Gujarat.
  d) October 2012 - Corbett National Park, Uttaranchal.

33. **List the teaching methods adopted by the faculty for different programs.**

- Power point presentations and Multimedia
- Movies
- Chalk and Talk
- Quiz
- Use of Models
- Case studies
- Experimental demonstration
- Field Trips
- Learning through Projects and Internships

34. **How does the department ensure that program objectives are constantly met and learning outcomes monitored?**

- Monthly departmental meetings and discussions
35. **Highlight the participation of students and faculty in extension activities**
   - Students from the department are actively involved in the annual Beach cleanup organized by WWF India.
   - Some students participate in the Rural camp organized by SSL at Talasari.

36. **Give details of “beyond syllabus scholarly activities” of the department.**
   - Students participated in the Science Exhibition of the college during the intercollegiate Science exhibition ‘Paradigm’ in December 2012.
   - Students participated in a Departmental Exhibition to commemorate 140 years of St. Xavier’s College.

37. **State whether the program/ department is accredited/ graded by other agencies. Give details.**
   - NO

38. **Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

   **Strengths:**
   - Good repository of insects and bones
   - Department runs several part time courses
   - Relevant and up to date library
   - Multimedia enabled labs (Sound and LCD projector)
   - Ph.D. lab with life time recognition
   - Four out of five staff members hold Doctorates
   - Dedicated, enthusiastic and committed staff members
   - Freedom to voice one’s opinion both for staff and students
   - Extremely devoted and loyal non teaching staff

   **Weaknesses:**
   - Lack of sufficient publications
   - No Post Graduate Programme
   - Space constraints
   - No industrial tie up or consultancies

   **Opportunities:**
   - Freedom to design relevant syllabi with autonomy
   - Encourage students towards internships during their summer vacations
   - Improved infrastructure with increased grants
   - Freedom to evaluate students using a variety of evaluation methods

   **Challenges:**
   - To encourage students to pursue basic science
   - Increasing the department involvement in extension activities
   - Majority of the students who enroll, do not do so by choice, our challenge is to capture their interest and motivate them to pursue further studies in Zoology

39. **Future plans of the department.**
   - Promoting research and publishing papers
   - Working towards starting a Post Graduate programme
• Continue encouraging student participation in inter-collegiate activities
• Continue sending non teaching staff for workshops in skill enhancement
• Working with our students to continue enhancing the core values of our department of Harmony with the Environment, striving towards academic excellence and personal integrity.
• Adopt a rural institution and sensitize our students by taking them to rural areas and experiencing the rural life style
• Getting experts from the industry to disseminate current quality standards required by the industry to the students.
• Starting a Department Magazine featuring articles by students

***************
Department of Biotechnology

1. **Name of the Department & its year of establishment**
   Post graduate department of Biotechnology: Established in 2007

2. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**
   PG (Master of Science in Biotechnology)

3. **Interdisciplinary courses and departments involved**
   - Biostatistics with the involvement of the Statistics department of the college
   - Computer applications with the involvement of the IT department of the college

4. **Annual/ semester/choice based credit system**
   - Annual –till 2012
   - Semester since 2012

5. **Participation of the department in the courses offered by other departments**
   - Faculties of the department have conducted lectures for the Post Graduate Diploma course - Industrial Biotechnology and Enterprise offered by the college which leads to a Master’s Degree from the University of Bath, U.K. Dr. Ms. Vivien Amonkar headed the Faculty team that framed the syllabus for the above course.
   - Department of Life science, Department of Biotechnology and CIF conducted a two day Lecture workshop on “Techniques in animal tissue culture and gas chromatography” for faculty of the departments of Biotechnology, Chemistry, Life Science, Microbiology and Zoology – June 2011. These techniques are included in courses of the above departments. Dr. Shiney Peter was a resource person for the techniques in animal tissue culture.
   - Department of Biotechnology conducted a five day workshop on Bioinformatics for the faculty of Microbiology and Biotechnology in July, 2011. Ms. Norine D’souza was the resource person for the same.

6. **Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors) NA**

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate Professors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asst. Professors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. Faculty profile with name, qualification, designation, specialisation  
(D.Sc./D.Litt./ Ph.D./M.Phil., etc.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialization</th>
<th>No. of Years of Experience Total/ In the Dept. in years</th>
<th>No. of Ph.D. students guided in the last 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr.(Ms.) Vivien Amonkar</td>
<td>M.Sc., Ph.D.</td>
<td>Head of Dept., Associate Professor</td>
<td>General Microbiology, Biochemistry, Microbial, Medical Microbiology, Environmental Microbiology, Pharmaceutical and Food microbiology</td>
<td>33 / 5</td>
<td>--</td>
</tr>
<tr>
<td>Ms. Akaanksha Ghatpande</td>
<td>MSc.</td>
<td>Lecturer</td>
<td>Microbiology</td>
<td>2 (2007-2009)</td>
<td>--</td>
</tr>
<tr>
<td>Ms. Norine D'Souza</td>
<td>M.Sc, SET</td>
<td>Assistant Professor</td>
<td>Applied Zoology</td>
<td>10/ 4</td>
<td>--</td>
</tr>
<tr>
<td>Ms. Varnica Khetrapal</td>
<td>MSc</td>
<td>Assistant Professor</td>
<td>Microbiology</td>
<td>3 (2009-2012)</td>
<td>--</td>
</tr>
<tr>
<td>Mr. Melwin Sequiera</td>
<td>MSc</td>
<td>Lecturer</td>
<td>Biotechnology</td>
<td>1 2009-10</td>
<td>--</td>
</tr>
<tr>
<td>Dr. Shiney Peter</td>
<td>PhD</td>
<td>Assistant Professor</td>
<td>Life Sciences Applied Medical Science</td>
<td>3yr/2 yrs</td>
<td>--</td>
</tr>
<tr>
<td>Dr. Biswa Prasun Chatterjee</td>
<td>PhD</td>
<td>Assistant Professor</td>
<td>Biotechnology</td>
<td>1yr/ From July 2012</td>
<td>--</td>
</tr>
</tbody>
</table>

8. Percentage of classes taken by temporary faculty – programme-wise information
The PG Biotechnology course was introduced in 2007 as a self- financing course. It is taught by temporary full time faculty and guest faculty.

9. Programme-wise Student Teacher Ratio
20:1

10. Number of academic support staff (technical) and administrative staff: sanctioned and filled
Four support staff including one Laboratory attendant
11. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.

<table>
<thead>
<tr>
<th>Name of Teacher</th>
<th>Title</th>
<th>Cost</th>
<th>Duration</th>
<th>Date of sanction</th>
<th>Funding agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr.(Ms.) Vivien Amonkar</td>
<td>Characterization of cellulase produced by micro-organisms growing on specific cellulose substrates</td>
<td>25,000/-</td>
<td>1 Year</td>
<td>2010</td>
<td>DBT-ICT-Centre for Energy Bioscience</td>
</tr>
<tr>
<td>Dr.(Ms.) Vivien Amonkar &amp; Ms. Varnica Khetrapal</td>
<td>Microbial Synthesis and characterisation of silver nanoparticles</td>
<td>1,05,000/-</td>
<td>2 Years</td>
<td>2011</td>
<td>UGC Minor Research</td>
</tr>
</tbody>
</table>

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received –

13. Research facility / center with

- state recognition
- national recognition
- international recognition

14. Publications:

- Number of papers published in peer reviewed journals (national / international) -10

**Dr. Shiney Peter:**

- Comparative evaluation of the cytotoxic and apoptotic potential of *Poecilocerus pictus* and *Calotropis gigantean*, Caroline M, **Shiney P** & B P Hardikar; Journal of Environmental Pathology, Toxicology and Oncology, 30(1):83-92(2011)

- Development and characterization of new cell line BPH22 from midgut epithelial cells of *Poekilocerus pictus* (Fabricius, 1775), Kharat K R., Madhavi V. S, **Shiney P** & B. P. Hardikar; In Vitro Cellular and Developmental Biology—Animal DOI 10.1007/s11626-010-9349-4.


**Dr. Biswa Prasun Chatterji**

- Chakraborti, Soumyananda; Chakravarty, Devlina; Gupta, Suvroma; Chatterji, Biswaprasun; Dhar, Gopa; Poddar, Asim; Panda, Dulal; Chakrabarti, Pinak; Ghosh Dastidar, Shubhra; Bhattacharyya, Bhabatarak. (2012) Discrimination
of ligands of different flexibility resulting from the plasticity of the binding site in tubulin. Biochemistry. 51(36):7138-48


- Impact factor – range / average -1.3 – 4

15. Details of patents and income generated NA

16. Areas of consultancy and income generated NA

17. Faculty recharging strategies
- Feedback sessions with HOD
- Attending Faculty seminars and workshops conducted by college (Ref. Annexure 1)
- Attending conferences and workshops on relevant topics at other institutes (Ref. Annexure 1)
- Faculty Mentor system

18. Student projects - (Ref. Annexure 2)
- Percentage of students who have done in-house projects including inter-departmental
  - 2.5%

<table>
<thead>
<tr>
<th>2007-09</th>
<th>2009-2011</th>
<th>2010-2012</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

- Percentage of students doing projects in collaboration with industries / institutes
  - 97.5%

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>27</td>
<td>26</td>
<td>25</td>
<td>97.25%</td>
</tr>
</tbody>
</table>

19. Awards / recognitions received at the national and international level by
- **Faculty:** Dr. Ms. Vivien Amonkar: Awarded The American Society for Microbiology (ASM) and the UNESCO ‘Leadership Grant for International Educators’ May 2009 which allowed for participation in the ASM 16th Annual Conference for Undergraduate Educators (ASMCUE) and a pre-
meeting workshop May 28-31, 2009 at Colorado State University in Ft. Collins, Colorado, USA

- **Student:** Basil D’Mello ( M.Sc Part II student) was selected for a six month DBT-ICT-Centre for Energy Biosciences project, “Characterization of cellulases produced by *Trichoderma reesei* and *Aspergillus niger*” in 2010-11

20. **Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.** –None

21. **Student profile course-wise:**

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Year</th>
<th>Applications received</th>
<th>Selected</th>
<th>Pass percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>MSc</td>
<td>2007-09</td>
<td>123</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>2008-10</td>
<td>341</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>2009-11</td>
<td>265</td>
<td>4</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>2010-12</td>
<td>260</td>
<td>4</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>2011-13</td>
<td>229</td>
<td>4</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>2012-14</td>
<td>210</td>
<td>3</td>
<td>27</td>
</tr>
</tbody>
</table>

22. **Diversity of students**

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>% of students from the College 2006 -12</th>
<th>% of students from the State 2006 -12</th>
<th>% of students from other States 2006 -12</th>
<th>% of students from other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSc I Biotechnology</td>
<td>None (College students are not eligible)</td>
<td>84%</td>
<td>16%</td>
<td>None</td>
</tr>
<tr>
<td>MSc II Biotechnology</td>
<td>100</td>
<td>84%</td>
<td>16%</td>
<td>None</td>
</tr>
</tbody>
</table>

23. **How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?**

- CSIR NET – 6 JRF , 7 LS
- SLET- nil
- GATE- 7
- DBT - 2
- ICMR- 2
24. **Student progression**

<table>
<thead>
<tr>
<th>Student progression</th>
<th>2007-09</th>
<th>2008-10</th>
<th>2009-11</th>
<th>2010-12</th>
<th>Percentage against enrolled Year wise (2008-2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG to PG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>PG to M.Phil.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>PG to Ph.D.</td>
<td>8/20 40%</td>
<td>6/30 20%</td>
<td>3/30 10%</td>
<td>2/30 6.66%</td>
<td>17%</td>
</tr>
<tr>
<td>Ph.D. to Post-Doctoral</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Employed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Campus selection</td>
<td>11/20 55%</td>
<td>18/30 60%</td>
<td>25/30 83%</td>
<td>17/30 56%</td>
<td>65%</td>
</tr>
<tr>
<td>• Other than campus recruitment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrepreneurs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

25. **Diversity of staff**

<table>
<thead>
<tr>
<th>Percentage of faculty who are graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>of the same parent university</td>
</tr>
<tr>
<td>from other universities within the State</td>
</tr>
<tr>
<td>from other universities from other States</td>
</tr>
</tbody>
</table>

26. **Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.**

a. Two

27. **Present details about infrastructural facilities**

a. Library – Main library and the departmental library with 37 books (Ref. Annexure 3)

b. Internet facilities for staff and students – Bioinformatics lab with internet facility available, Knowledge (Computer) Centre of the college, Library

c. Total number of class rooms 1

d. Class rooms with ICT facility 1

e. Students’ laboratories 2

f. Research laboratories 1 Additional: Centralized Instrumentation Facility + Caius Research Lab for research

28. **Number of students of the department getting financial assistance from College.**

a. 1-2

29. **Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.** No
30. Does the department obtain feedback from
a) Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?
   Yes through weekly faculty meetings. Remedial measures are adopted on the basis of the feedback
b) Students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?
   Yes through
   • Formal TAQ administered to all students
   • Annual feedback at the Khandala seminar of the department.
   • Twice a month feedback sessions
   • The department adopts remedial measures on the basis of the feedback
c) Alumni and employers on the programmes and what is the response of the department to the same?
   • Yes, from alumni through informal discussions. The department adopts remedial measures on the basis of the feedback

31. List the distinguished alumni of the department (maximum 10)
   • NA as the department the just 5 years old

32. Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.
   a. Special lectures by experts from the particular field
      2009-10
      1. Dr. Jacinta D'Souza, Reader, Department of Biology, Centre for Basic Sciences, DAE, Mumbai – Bioinformatics.
      2. Dr Ajith Dattar, Senior advisory,, Shimadzu analytical – Spectroscopy
      4. Mr. Sujith Nair, Deputy General Manager, Cognizant Technology solutions-Clinical Databases
      2010-11
      • Dr Deepak Modi , Scientist , National Institute of Research in Reproductive Health, Mumbai– Microarrays and siRNA technology
      • Dr. Srabani Mukherjee, Scientist, National Institute of Research in Reproductive Health, Mumbai – Applications of Flow Cytometry
      • Ms Maithili Achrekar, Patent agent, Associate, Mulla and Mulla associates, Mumbai – Intellectual Property Rights
      • Dr Ajith Dattar, Senior advisory,, Shimadzu analytical – Spectroscopy
      • Mr. Sujith Nair, Deputy General Manager, cognizant Technology solutions-Clinical Databases
      2011-12
      5. Dr Deepak Modi , Scientist , National Institute of Research in Reproductive Health, Mumbai– Microarrays and siRNA technology
      7. Dr Ross Bernard, Director , University of Queensland, Australia - Biofuels
   b. Seminars
2008-2009
One day workshop in collaboration with OPPI - ACADEMIA Programme on “Careers in the Pharma Industry for PG Bioscience students” on May 22nd, 2009
The speakers at the workshop were:
- Mr. Ranga Iyer - President, OPPI and Managing Director, Wyeth Ltd.
- Mr. Tapan Ray - Director General- Organisation of Pharmaceutical Producers of India (OPPI)
- Mr. Ajit Mahadevan - Partner – Business Advisory Services Ernst & Young Pvt. Ltd
- Mr. K. Hari Ram - Managing Director Galderma India Pvt. Ltd
- Dr. Anil Kukreja - Director – Medical Affairs Roche Scientific Company (India) Pvt. Ltd

2010-11
One day seminar in collaboration with Department of Microbiology titled ‘Infectious diseases: Staying Ahead’.
Speakers at the seminar:
- Dr. B.R Das, Executive Director- Research and Innovation, SRL Ltd
- Dr. Sanish Davis, DGM Clinical Research Drug Discovery, Glenmark Research Centre
- Dr. Aamir Shaikh, Founder Assansa, Health Care consultant
- Dr. Zimra Israel Director, Science Policy, Vaccines and Biologics, Pfizer New York,
- Mr. Vishal Jajodia, Executive Director, Swati Spentose.
- Ms. Teja Thorat a public health student, Boston University

c. Workshops 2008-09
1. "How to write a research proposal and to make a scientific presentation" by Dr. Sorab Dalal
2. One day workshop on PCR and Western Blot organised in collaboration with Bangalore Genei

33. List the teaching methods adopted by the faculty for different programmes.
Besides the classical chalk and talk methods other methodologies used by the department are:
   a. Multimedia- PowerPoint presentations, films, animations, specialized software (Bioinformatics).
   b. Problem based learning (for practicals and other courses).
   c. Peer Learning.
   d. Group discussions, Group presentations.
   e. Project based learning (to develop inquiry based learning).
   f. Role play.
   g. Research paper discussion
   h. Experiential learning.
   i. Problem solving.
   j. Skills practices.
k. Use of open courseware.
l. Summary and Primary Paper Writing

34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?
The Head of Dept. and the faculty of the department meet every week for formal meetings in which the objectives of the department, the programmes to be implemented, the achievement of learning outcomes and the remedial measures to be adopted (if necessary) are discussed. Student feedback on various programmes are obtained on a regular basis both orally and in writing. An annual feedback is obtained at the annual Khandala seminar followed by discussions and follow up action.

35. Highlight the participation of students and faculty in extension activities.
A. Students organize an intercollegiate biotech related fest ‘Palindrome’ annually. The fest is associated with a social cause.
   2009- Associated with Cancer Aid and Research foundation in collecting money for cancer patients
   2010- Associated with V9 Orchid Trust in collecting money for cancer patients
   2011- Associated with REAP- (Reach Education Action Programme – founded by Fr. Trevor Miranda) which works towards providing basic primary education to slum children and the empowerment of women. The students visited two REAP centers at Kalwa and Ghatkopar, performed street plays on “The importance of Hygiene” and “Educating the girl child”. Along with spreading awareness about the above issues, they played with the children and interacted with the members of the women’s self help group, discussing additional issues like cleanliness, the dangers of tobacco consumption etc. A donation to the organization was also made.
   2012- Associated with Dr. Babasaheb Ambedkar School at Naepan Sea road, Mumbai. 60 underprivileged street children were provided with goodies and clothes. A Christmas party with games and skits was also organized by the students.
   B. Environment Day Seminar on 14th January 2011.
   An environment audit for the whole college was carried out by the students of the department in collaboration with Eureka Forbes and the report was presented.

36. Give details of “beyond syllabus scholarly activities” of the department.
   a. Workshops/ Lectures by experts
      2008-09
      1. "How to write a research proposal and to make a scientific presentation" by Dr. Sorab Dalal
      2. One day workshop on PCR and Western Blot organised in collaboration with Bangalore Geneti
         2011-12
      3. A lecture on applied aspects of Biotechnology by Dr Ross Bernard, Director, University of Queensland, Australia
   b. Seminars
      1. Khandala seminar
      2010-11
9th-10th January 2011. Student Group Presentations on applications of nanotechnology.

2011-12
- 14th-16th January, 2012
- MSc II students organised a poster presentation competition based on their thesis topics
- Two debates on genetically modified food and stem cell therapies
- Bio-skits on different topics in environmental biotechnology.
- A personality development session for students.

- Other Seminars

2008-2009
- One day workshop in collaboration with OPPI - ACADEMIA Programme on "Careers in the Pharma Industry for PG Bioscience students" on May 22nd, 2009

The speakers at the workshop were:
- Mr. Ranga Iyer - President, OPPI and Managing Director, Wyeth Ltd.
- Mr. Tapan Ray - Director General- Organisation of Pharmaceutical Producers of India (OPPI)
- Mr. Ajit Mahadevan - Partner – Business Advisory Services Ernst & Young Pvt. Ltd
- Mr. K. Hari Ram - Managing Director Galderma India Pvt. Ltd
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- Dr. Aamir Shaikh, Founder Assansa, Health Care consultant
- Dr. Zimra Israel Director, Science Policy, Vaccines and Biologics, Pfizer New York,
- Mr. Vishal Jajodia, Executive Director, Swati Spentose.
- Ms. Teja Thorat a public health student, Boston University

- Environment Day Seminar on 14th January 2011.
  - An environment audit for the whole college was carried out by the students of the department in collaboration with Eureka Forbes and the report was presented.

- Journal club
  - Twice a month students present primary research articles based on the current research scenario in various fields of biotechnology

- Palindrome
  - An intercollegiate fest organized by the students. Since its inception in 2009, this fest brings about the amalgamation of scientific temper and erudition along with entertainment. Around 20 colleges from Mumbai, Navi Mumbai and Thane participate in this annual event. The events in the fest include:
    - Migraine- mixed pack of bioscience based rounds that tested the knowledge,
memory and lab skills

- Brainvita/ Grey Matters – Quiz
- Melodies and Molecules/Silent Mutation- skits based on bioscience topics
- Crimes and Clues- Forensic workshop
- A competition based on biotech entrepreneurship

The event is associated with a social cause every year.

e. Palindrome Magazine:
   i. An annual magazine published by the department since 2009. The magazine portrays the creativity of the students in the form of articles, compilations, poems, news and views. It is an extension of the fest Palindrome.

f. Industrial visit:
   Every year the department organizes visits to Pharmaceutical and Biotechnology related industries in different parts of the country to acquaint students with research, development and production work happening over there.
   - 2008 – Industrial Visit to Chandigarh, Shimla and Delhi where they visited various National Bioscience Institutes and the International Centre for Genetic Engineering and Biotechnology.
   - 2009- Industrial visit to Goa where they visited Goa University, National Institute of Oceanography, Wyeth Limited and the Kingfisher plant
   - 2010- Industrial visit to Rajasthan where they visited Arid Forest Research Institute, BISR and GD Morarka research center,
   - 2011- Industrial visit to Bangalore where they visited Mother Dairy, IIHR, Merck Specialties Ltd, Labland India and CSTRI. Mysore.
   - 2012 – Industrial visit to Rajasthan where they visited Jaipur Dairy, BISR and GD Morarka research centre.

g. Paper Presentation Competition 2007-08
   1. Interdepartmental PG Paper presentation competition organized on 17th January 2008 for the different bioscience departments

37. State whether the programme/ department is accredited/ graded by other agencies. Give details.
   a. NA

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

Strengths
1. Faculty and support staff of the department.
   Faculty who are involved in: (Refer to Annexure 1 for faculty activities)
   a. Quality teaching reflected in the high (good, Very good) TAQ scores
   b. Continuous professional development: See Annexure 1
   c. Sincere, Dedicated work reflected by the Co-curricular activities of the department that require demanding and challenging faculty support. Refer to Q.36
   d. Modern goal based teaching- learning methodologies Refer to Q.33
   e. Teaching that emphasizes research skills:
      • Project based teaching learning
Summary and Primary Paper Writing
Biostatistics
The success of which is reflected in the number of students who join PhD in renowned Universities in India and abroad.
Eg:
India: National Institute of research in reproductive health (NIRRH) Mumbai, Institute of Chemical Technology (ICT), Mumbai, ACTREC, Navi Mumbai, National Institute of Immunology (NII), Delhi.
UK: University of Leicester
USA: Cornell University, University of Michigan, University of Toledo, Indiana University
Others: University of Victoria, Canada; National University of Singapore;

f. Mentoring of students both on career, academic and personal issues.

Support Staff:
Very hard working, sincere, committed staff who always put the interest of the department students before theirs.

2. Curricular and Co-curricular Programmes of the department
Curricular: From 2007 – 2012 the department followed the syllabi of Mumbai University using modern teaching learning pedagogies. (Refer to Q.33)
From 2012, as St. Xavier’s College became autonomous, the department designs its own syllabi and assessments with the help of a Board of Studies that includes industry experts and faculty of other Biotechnology departments.
Co-curricular Programmes of the Dept.: (Refer to Q. 36)

3. Infrastructure
Good lab facilities and basic instrumentation for conducting postgraduate practicals and research projects.

4. Students
Majority of the students are meritorious, several with University ranks. They are intelligent, sincere and motivated, who are keen to learn the advanced principles of Biotechnology, laboratory techniques and soft skills as a Bioscience related career is a significant goal in their lives. They are extremely cooperative and help in the organization of several departments co-curricular activities. Their university results prove their academic capabilities.

5. Good working atmosphere in the department
Teaching and nonteaching faculty and students of the department share a very warm relationship which includes a lot of cooperation and understanding. The students have often appreciated the concern and mentoring they have received.

Weaknesses
• Few Faculty Publications
• Limitation of finance and space

Opportunities
• Academic Autonomy - As the faculty now design their own syllabi and assessments
• Research due to the increased emphasis
• Collaboration with institutes and industries that have a Biotechnology focus
• Interdisciplinary work

Challenges
➢ To provide Quality PG teaching with publication based research
Quality education that prepares students for a global work environment with the existing faculty workload, finance and space

- Student Placements

39. **Future plans of the department.**
- To teach globally relevant postgraduate Biotechnology courses within the autonomy system of the college by continuously reviewing and changing syllabi and teaching methodologies.
- Increasing the interdisciplinary nature of the courses.
- Increasing in-house publication based research.
- Increasing collaborations with industry and other institutes.
- To build an animal tissue culture lab for teaching and research.
ANNEXURE 1

FACULTY ACADEMIC PROFILE

Coordinator/ Head of Dept.- Dr. Ms. Vivien Amonkar

2007-08

Academic activities:

- Conducted lectures for PG Biotechnology
- Conducted B. Sc lectures and practicals in Microbiology
- Conducted M.Sc practicals in Microbiology

Department Activities:

- Coordinated the introduction of the Post Graduate Department of Biotechnology
- Organized an Interdepartmental PG Paper presentation competition organized on 17th January 2008 for the different bioscience departments

At the College level:

- Associate Prof. - Head of the Dept. of Microbiology
- Coordinator of the M.Sc. Biotechnology Course
- Coordinator of an inter-disciplinary course on Environment studies
- Vice Principal – Academic Improvement of the college in this capacity:
  - Co-ordinator of the Honour’s Programme of the college
  - Convenor of IQAC
  - Member of the Council for International Programmes
- Member of the Finance Committee of the college
- Made a presentation on Assessment Techniques at the Xavier’s Faculty Seminar on Student Evaluation held on 9th & 10th October
- Was on the organizing committee of:
  - Xavier’s Faculty Seminar on Student Evaluation held on 9th & 10th October
  - National Conference on ‘Plants in Relation to Man and Biosphere’ organized by the Department of Botany from Nov. 16 to 17, 2008

At the University of Mumbai level

- Member of the Board of Studies – Microbiology, University of Mumbai
- Member of the Faculty of Science, University of Mumbai
- Member of the Syllabus Committee for Microbiology
- Chairperson of the Examination Committee for M.Sc Microbiology I
- Member of the Examination Committee for M.Sc Biotechnology
- Invited Member of panels for selection and confirmation of teaching faculty of Departments of Microbiology of several colleges in Mumbai.
• Judged: The intercollegiate paper presentation competition and poster competition organized by Wilson College
  The intercollegiate Biotechnology Project/ Model Competition organized by Khalsa College

Other Universities
• Nominated as subject expert for UG Syllabus Review Committee of Sikkim University in the subjects of Microbiology and Environmental Studies
  March 2008

Continuous Professional Development
• National Seminar on ‘Commercialization Of Biotechnology In India- Opportunities and Challenges’ Modern College, Vashi 29th – 30th September, 2007
• Workshop on ‘Validation, Calibration and Traceability’ at VES College in December, 2007
• International Colloquium on “Inclusion and Exclusion: Exploring Issues and Practices, 27.02.2008; organized by Liverpool Hope University- UK, St. Xavier’s College, Mumbai at St. Xavier’s College, Mumbai.
• Xavier’s Faculty Seminar on Student Evaluation held on 9th & 10th October
• Attended a workshop (in collaboration with the Board of Studies) on the Revised Pattern of the M.Sc University Practical Examinations in Microbiology, for the M.Sc Faculty in the subject. – October 2007

2008 -09
Academic activities:
• Conducted lectures for PG Biotechnology
• Conducted B. Sc lectures and practicals in Microbiology
• Conducted M.Sc practicals in Microbiology

Department Cocurricular Activities:
Coordinator
1. "How to write a research proposal and to make a scientific presentation"
   by Dr. Sorab Dalal
2. Khandala seminar, workshops, lectures etc.

At the College level:
• Associate Prof. - Head of the Dept. of Microbiology

Coordinator of the M.Sc. Biotechnology Course
• Coordinator of an inter-disciplinary course on Environment studies
• Vice Principal – Academic Improvement of the college

In this capacity:
➢ Co-ordinator of the Introduction of Autonomy in the college
➢ Co-ordinator of the Honour’s Programme of the college
➢ Convenor of IQAC
➢ Member of the Council for International Programmes
Member of the Purchase Committee of the college
Organized Faculty Seminars
- Orientation Programme for new Teaching faculty - June 2008
- VISIONING FOR 2015 – 26th and 27th February, 2009
- ‘Systems in Autonomy – Credits and Syllabi’ : October 2008 ( also made a presentation)
Member of the faculty team that visited Eminent Autonomous Colleges in Chennai (Loyola & Stella Maris) to study the systems implemented under the autonomy status – August 2008
- Helped organize the Alumni Dinner on 3rd January 2009 to mark the beginning of the 140 years celebration of the college
- Member of The Institutional Biosafety Committee – Caius Research Laboratory

At the University of Mumbai level
- Member of the Board of Studies – Microbiology, University of Mumbai
- Member of the Faculty of Science, University of Mumbai
- Member of the Syllabus Committee for Microbiology
- Chairperson of the Examination Committee for M.Sc Microbiology I
- Invited Member of panels for selection and confirmation of teaching faculty of Departments of Microbiology of several colleges in Mumbai.
- Judge of several intercollegiate competitions involving Microbiological aspects organized by various colleges affiliated to the University of Mumbai

International level
- Awarded The American Society for Microbiology (ASM) and the UNESCO ‘Leadership Grant for International Educators’ May 2009 which allowed for participation in the ASM 16th Annual Conference for Undergraduate Educators (ASMCUE) and a pre-meeting workshop May 28-31, 2009 at Colorado State University in Ft. Collins, Colorado, USA
- Headed the Faculty team that framed the syllabus for a Post Graduate Diploma in Industrial Biotechnology and Enterprise at St. Xavier’s College, leading to a Masters Degree from the University of Bath, U.K. 2009

Research Related
Oral Presentations:
- ’Teaching, Learning, Evaluation Component of NAAC’
  At the lecture-cum-workshop for faculty of Dr. Bhanuben Mahendra Nanavati College of Home Science affiliated to S.N.D.T. University, November, 2008.
Poster Presentations
- “Service Learning – Intervention Strategies in Malaria and Water Borne Disease Awareness Programs in Low Income Communities”
  At the ASM Conference for Undergraduate Educators (ASMCUE). 2009 at Colorado State University Colorado, USA: Dr. Ms. Vivien Amonkar & Ms.Karuna Gokarn

Continuous Professional Development
Attended
Food Safety Workshop: June 2008, Bhavan’s Research Centre
Faculty Seminars in college
VISIONING FOR 2015 – 26th and 27th February, 2009
‘Systems in Autonomy – Credits and Syllabi’: October 2008 (also made a presentation)
Attended a workshop (in collaboration with the Board of Studies) on Designing the University syllabus grid in Microbiology, for the Faculty in the subject. – October 2008
International Colloquium on Higher Education and Society at St. Xavier’s College 15th Dec. 2008

2009-10

Academic activities:
- Conducted lectures for PG Biotechnology
- Conducted B. Sc lectures and practicals in Microbiology
- Conducted M.Sc practicals in Microbiology
- Conducted lectures for the Post Graduate Diploma course - Industrial Biotechnology and Enterprise offered by the college which leads to a Masters Degree from the University of Bath, U.K.

Department Co-curricular Activities:
Coordinator
- Palindrome – the Biotech intercollegiate festival
- One day workshop in collaboration with OPPI - ACADEMIA Programme on “Careers in the Pharma Industry for PG Bioscience students” on May 22nd, 2009
- Khandala seminar, Palindrome magazine, workshops, lectures etc.

At the College level:
- Associate Prof. - Head of the Dept. of Microbiology
- Coordinator/ Head of the M.Sc. Biotechnology Course
- Vice Principal – Academic Improvement of the college in this capacity:
  - Co-ordinator of the Introduction of Autonomy in the college
  - Co-ordinator of the Honour’s Programme of the college
  - Convenor of IQAC
  - Member of the Council for International Programmes
  - Member of the Purchase Committee of the college
- Co-ordinated several staff workshops/ seminars
- Orientation Programme for new Teaching faculty – 16th & 17th June 2009
- Workshop on ‘Lecturing and Assessments for Large Group Teaching’: Dr. (Ms.) Momna Hejmadi, University of Bath, U.K June, 2009
- Alternatives in Continuous Internal Assessments – November 2009
- Semester System, Credits and Syllabi under the autonomy system December 2009
- Assessment of Practicals – December 2009
- Service Learning – January 2010
- Faculty Research Presentations – February 2010
- Faculty Seminar May 2010
• Made presentations at the
  Orientation Programme for new Teaching faculty
  Alternatives in Continuous Internal Assessments – November 2009
  Semester System, Credits and Syllabi under the autonomy system – December 2009
  Assessment of Practicals – December 2009
  Service Learning – January 2010
  Faculty Seminar May 2010
• Helped organise the Alumni Dinner on 3rd January 2010 to mark the end of the 140 years celebration of the college
• 2010 -Interacted with the Eureka Forbes Institute of Environment which guided students who carried out the environment audit of the college.
• Co-ordinated Environment day celebrations of the college on 14th January, 2010. This included an exhibition in which students displayed their environment related initiatives and a talk by Sir Robert Swan, titled Walk the Talk (organised in collaboration with Sanctuary Asia)
• Member of The Institutional Biosafety Committee – Caius Research Laboratory

At the University of Mumbai level
• Member of the Board of Studies – Microbiology, University of Mumbai
• Member of the Faculty of Science, University of Mumbai
• Member of the Syllabus Committee for Microbiology
• Chairperson of the Examination Committee for M.Sc Microbiology I
• Member of the Committee as Subject Expert in Microbiology for recommending University Minor Research Grants for Science Faculty
• Appointed member of the Local Inquiry Committee:
  ➢ Karmaveer Bhaurao Patil College, Vashi Navi Mumbai - July 2009
  - Continuation of recognition to enroll students for M.Sc (by research) degree
  ➢ CHM College - Continuation of recognition to enroll students for M.Sc (by research) and PhD degree
• Vice Chancellor nominee for selection of teacher for Teacher Fellowship Scheme - XI Plan RKT College – May 2009
• Subject Expert (Microbiology) on Interview Panel for selecting candidates for the award of the Teacher Fellowship Scheme - XI Plan Period – 30th June, 2009, Sophia College.
• Lecturer in Senior Grade – 24th September, 2009, Wilson college
• Subject Expert (Biotechnology) on Interview Panel for selecting candidates for the Lecturer’s post – 4th September, 2009, K.C. College.
• Gave the Inaugural Address at the National Seminar on Expanding Panorama of Microbiology – Changu Kana Thakur College, New Panvel 26th February 2010
• Judge at the poster presentation at the Research Scholar’s Meet 2009-10 Institute of Science 11th Feb 2010
• Judge at the debate competition at the annual Biotechnology festival at Jai Hind College - 12th September

Other Universities
• Invited Member of the QAC of Dr. Bhanuben Mahendra Nanavati College of Home Science affiliated to S.N.D.T. University
• Appointed as Examiner for a Ph. D. thesis, Pune University, October 2009
• Subject Expert (Microbiology) on Interview Panel for selecting candidates for Assistant professor - 20th March, 2010, Technical Education Sanchalaya, Government of Maharashtra

International level
• Participated in the International Conference – ‘Shaping the future’ Networking Jesuit Higher Education for a Globalizing World 21 – 25th April,2010 at Universidad Iberoamericana, Mexico
• Conducted a summer Teaching and Learning Project -‘Global Health Crisis: Environmental Factors and Emerging Drug – Resistant Infections ,Emphasis on : Tuberculosis and HIV/ AIDS’ in collaboration with Dr. Ruth A. Gyure , Western Connecticut State University (WCSU) in Danbury, CT, USA. 2010

Research Related
Oral Presentations:
• ‘Continuous Assessment – A Quality Strategy?’ At the conference on Examination Reforms in Higher Education for Universities and Colleges held in Christ University, Bangalore- December 2010

Poster Presentations
• “International Pairing of Two Student Populations Studying the Same Global Health Issues: Mumbai, India and Danbury, Connecticut, U.S.A.” At the ASM Conference for Undergraduate Educators in San Diego, California U.S.A. May 2010: Ruth Gyure (Connecticut State University U.S.A) & Dr. Ms. Vivien Amonkar

Projects
• Minor Research Project from the University of Mumbai – “Assessment of drinking water quality in slums– source and storage waters” : 2009-10

Continuous Professional Development
Conferences, Seminars, Workshops Attended
• International Conference -ASM 16th Annual Conference for Undergraduate Educators and a pre-meeting workshop May 28- 31, 2009 at Colorado State University, Colorado USA
• International Conference – ‘Shaping the future’ Networking Jesuit Higher Education for a Globalizing World 21 – 25th April,2010 at Universidad Iberoamericana, Mexico
• National Level Conference on ‘ Academic Staff Development : Strengthening Institutional Links’ February 5-7, 2009 at Christ University, Bangalore
• Workshop on Revised TYBSc University Syllabus in Microbiology -April 29th, 2010. at Wilson College (Resource Person)
• Workshop on ‘Lecturing and Assessments for Large Group Teaching’: Dr. (Ms.) Momna Hejmadi, University of Bath, U.K June, 2009 at St. Xavier’s College
• Faculty Seminars at St. Xavier’s College
Alternatives in Continuous Internal Assessments – November 2009
Semester System, Credits and Syllabi under the autonomy system – December 2009
Assessment of Practicals – December 2009
Service Learning – January 2010
Faculty Seminar May 2010

2010-11

Academic activities:
• Conducted lectures for PG Biotechnology
• Conducted B. Sc lectures and practicals in Microbiology
• Conducted M.Sc practicals in Microbiology
• Conducted lectures for the Post Graduate Diploma course - Industrial Biotechnology and Enterprise offered by the college which leads to a Masters Degree from the University of Bath, U.K
• Chairperson of Board of Studies of Microbiology, St. Xavier’s College, Autonomous

Department Cocurricular Activities:
Coordinator
• Palindrome – the Biotech intercollegiate festival
• Khandala seminar, Palindrome magazine, workshops, lectures etc.
• One day seminar ‘Infectious diseases: Staying Ahead’.

At the College level
• Associate Prof. - Head of the Dept. of Microbiology
• Head of the M.Sc. Biotechnology Course
• Vice Principal – Academic Improvement of the college In this capacity:
  ➢ Co-ordinator of the Introduction of Autonomy in the college
  ➢ Co-ordinator of the Honour’s Programme of the college
  ➢ Convenor of IQAC
  ➢ Member of the Council for International Programmes
  ➢ Member of the Purchase Committee
• Co-ordinated several staff workshops/ seminars
• Orientation Programme for new Teaching faculty – 30th June & 1st July, 2010
• Workshop - ‘Criteria for Continuous Assessment’ – 7th July 2010
• Workshop – Reviewing Autonomy Systems – 18th August, 2010
• Seminar in Khandala: Organisational behaviour team building and teacher leader - 7th to 9th October 2010
• Faculty Research Presentations – February 2011
• Faculty Seminar – April 2011
• Made a presentation at
• Orientation Programme for new Teaching faculty – 30th June & 1st July, 2010
• Workshop - ‘Criteria for Continuous Assessment’ – 7th July 2010
- Member of the Management Board, Academic Board and Examination Committee of St. Xavier’s College – autonomous
- Organised ‘College Environment Day’ which involved an exhibition and a talk by Sir Robert Swan, the first person to walk to both Poles.

**At the University of Mumbai level**
- Member of the Board of Studies – Microbiology, University of Mumbai up to 31st August 2010.
- Member of the Faculty of Science, University of Mumbai, up to 31st August 2010.
- Member of the Syllabus Committee for Microbiology
- Chairperson of the Examination Committee for M.Sc Microbiology I
- Member of the Committee as Subject Expert in Microbiology for recommending University Minor Research Grants for Science Faculty
- Subject Expert for selection of teacher for Teacher Fellowship Scheme - XI Plan Jai Hind College– December 2010
- Subject Expert (Microbiology) on Interview Panel for Assistant Professor – 10th July, 2010, Wilson college

**Other Universities**
- Invited as subject expert for Unitization of the UG Syllabus of Sikkim University in the subjects of Microbiology and Environmental Studies June 2010
- Invited Member of the QAC of Dr. Bhanuben Mahendra Nanavati College of Home Science affiliated to S.N.D.T. University

**International level**
- Selected by the college to participate in a faculty visit to the University of Bath, UK which was partially sponsored by British Council. May 2011

**Research**
- **M.Sc Projects guided (Papers students)**
  - Synthesis and Characterization of Silver Nanoparticles from Biological Sources.
  - Six month DBT-ICT-Centre for Energy Biosciences project, “Characterization of cellulases produced by *Trichoderma reesei* and *Aspergillus niger*” in 2010-11
- **Oral Presentations:**
  - ‘Continuous Assessment – A Quality Strategy?’ At the conference on Examination Reforms in Higher Education for Universities and Colleges held in Christ University, Bangalore- December 2010
  - ‘Academic Autonomy: Curriculum Development & Continuous Assessment’ At the seminar of the Teacher’s Academic Forum of Jai Hind College titled ‘Teaching Gen X and Beyond’ February, 2011
  - ‘Autonomy to Colleges’ At the 2 day workshop on ‘Autonomy to Colleges in Maharashtra State ‘ at Birla College, Kalyan , April, 2011 with Dr. Frazer Mascarenhas, SJ
‘Honour’s Programme at St. Xavier’s College’ At the Innovations in Learning and Teaching Swap Shop –University of Bath Innovation Day, May 2011

Poster Presentations
- Was involved in an International Presentation as a collaborator- ‘Engaging international students in biotechnology and enterprise’ at the ‘Effective Learning in the Biosciences Conference 2011, University of Edinburgh. Dr. Momna Hejmadi, Dr. Madhuri Hambarde & Dr. Ms. Vivien Amonkar.

Published Research
- Aakanksha Ghatpande, Dr. Ms. Vivien Amonkar Solid state fermentation for degradation of fruit and vegetable waste and production of significant enzymes XPLORE, Xavier’s research journal, Vol. 2, Issue 1, December 2011

Projects
- DBT-ICT-Centre for Energy Biosciences project
  “Characterization of cellulase produced by micro-organisms growing on specific cellulose substrates”: 2010-11

Continuous Professional Development
Conferences, Seminars, Workshops Attended
- Conference on Examination Reforms in Higher Education for Universities and Colleges held in Christ University, Bangalore - December 2010
- The Innovations in Learning and Teaching Swap Shop –University of Bath Innovation Day, May 2011
- Several staff workshops/ seminars
  - Workshop - ‘Criteria for Continuous Assessment’ – 7th July 2010
  - Workshop – Reviewing Autonomy Systems – 18th August, 2010
  - Seminar in Khandala: Organizational behavior team building and teacher leader- 7th to 9th October, 2010
  - Faculty Research Presentations – February 2011
  - Faculty Seminar – April 2011
- Participated in a faculty visit to the University of Bath, UK which was partially sponsored by British Council. May 2011

2011-12
Academic activities
- Conducted lectures for PG Biotechnology
- Conducted B. Sc lectures and practicals in Microbiology
- Conducted M.Sc practicals in Microbiology
- Conducted lectures for the Post Graduate Diploma course - Industrial Biotechnology and Enterprise offered by the college which leads to a Masters Degree from the University of Bath, U.K
- Chairperson of Board of Studies of Microbiology, St. Xavier’s College, Autonomous
Department Cocurricular Activities
Coordinator

- Palindrome – the Biotech intercollegiate festival
- Khandala seminar, Palindrome magazine, workshops, lectures etc.
- Environment Day Seminar on 14th January 2011

At the College level:
- Associate Prof. - Head of the Dept. of Microbiology
- Head of the M.Sc. Biotechnology Course
- Member of the Management Board, Academic Board and Examination Committee of St. Xavier’s College – autonomous
- Member of the Custodian Committee
- Made a presentation on Grids for Group Presentations

At the University of Mumbai level
- Member of the Syllabus Committee for Microbiology
- Chairperson of the Examination Committee for M.Sc Microbiology I up to October 2011
- Member of the Examination Committee for M.Sc Microbiology II

International level
- Member of the ASM Journal of Microbiology & Biology Education (JMBE) Editorial Board as reviewer
- Selected by the college to participate in a faculty visit to the University of Bath, UK which was partially sponsored by British Council. May 2011
- Member of a St. Xavier’s college team which collaborated with Fairfield University Connecticut, USA and Loyola college, Chennai on a joint research project 2011-12
- Organized and coordinated a Faculty Development Programme – a British Council sponsored Knowledge Economy Partnerships 2011 Programme – in which St. Xavier’s College partnered with two UK universities – University of Bath and Liverpool Hope University. Visited several UK universities as part of this program to study teaching learning practices, May, 2012
- Coordinated the Collaboration between St. Xavier’s College and the University of Bath UK which involved a Summer Exposure Program in which eleven Bioscience students of St. Xavier’s College spent three weeks of lectures, practicals and exposure to research labs at the University of Bath.

Research Related
Oral Presentations:
- ‘The Xavier’s Experience of turning Autonomous’ at the Professional Development Programme organized at St. Xavier’s College by the Academic Staff College for academic administrators and principals of colleges in Maharashtra: Feb, 2012
- Plenary Session ‘Approaches to Teaching and Learning – an Indian Perspective’ at the conference ‘Enhancing the International Student
Learning Experience in the Biosciences’ organized by the Higher Education Academy STEM Biosciences and the Dept. of Biology & Biochemistry, University of Bath, UK: May, 2012

- **Projects**
  - Minor Research Project from UGC “Microbial Synthesis and characterization of silver nanoparticles.”: 2011
  - DBT-ICT-Centre for Energy Biosciences project- Studying soil community DNA (metagenomics) for endo – GH’s and cellulose binding”: 2011-12
  - Industrial Project with Swati Spentose Pvt. Ltd. ‘Dextran Fermentation’: 2011- ongoing

**Continuous Professional Development**

**Attended**

- Conference ‘Enhancing the International Student Learning Experience in the Biosciences’ organised by the Higher Education Academy STEM Biosciences and the Dept. of Biology & Biochemistry, University of Bath, UK: May, 2012
- Visited several UK universities to study teaching learning practices, May, 2012 as part of a Faculty Development Programme – a British Council sponsored Knowledge Economy Partnerships 2011 Programme – in which St. Xavier’s College partnered with two UK universities – University of Bath and Liverpool Hope University.
- A 3 day workshop on animal tissue culture and gas chromatography in June conducted in the college
- A workshop on Bioinformatics in College- June.
- Seminar on “Scientific Communication Skills” – April 16th, 2012

**Name of the Faculty: Norine D’Souza**

**Academic involvement:**

- Conducted lectures and practicals for Msc part I and Part II students
- Participated in the designing the autonomous syllabus

**College and Departmental committees**

- Member of UGC committee (2011-2012 and 2012-2013)

**University work:**

- MSc II Practical examination evaluation (2009- onwards)
- MSc. II theory paper evaluation (2009 – onwards)
- University examination paper setting (March –April 2012 session and October session 2012)
- University paper moderation (March –April 2012 session and October session 2012)

**Research Profile:**

- In house project on characterisation of cellar spider silk
- Role of ion channels in glioma and their exploitation as drug targets (PhD project)
- Therapeutic potential of arthropodal extracts.

**Academic Development:** Seminars, workshops and certificate courses:

a) **Conducted by the college**

2008-2009
1. Two day staff seminar on “systems in autonomy – Credits and syllabi” conducted by St. Xavier’s College, Mumbai 2008

2. Four day seminar cum workshop on “The Ignatian Pedagogical Paradigm and social action” conducted by St. Xavier’s Institute of Education in collaboration with St. Xavier’s College Mumbai, 2009

3. Two day workshop Lady Tata workshop on “Techniques in Molecular Biology” organised by Department of Life science and Caius research Laboratory, TS. Xavier’s College, 2009

2010-11

1. One day Faculty seminar on “organizational behaviour and Team building” conducted by St. Xavier’s College HRD centre at Khandala, 2010

2011-12

1. Two day Lecture workshop on “Techniques in animal tissue culture and gas chromatography” organised by Department of Life science, Department of Biotechnology and CIF, June 2011

2. Resource Person for Bioinformatics workshop conducted by the Department Of Biotechnology for faculties of Biotechnology and Microbiology, June 2011

2012-13

1. One day faculty workshop on “Publishing Academic research” conducted by St. Xavier’s College, Mumbai, 2012

2. Two day faculty development seminar at St. Xavier’s College HRD centre Khandala, 30th Sep- 1st Oct, 2012

b) Conducted by the other institutions / colleges:

2008-2009

1. One day workshop on M.Sc. I (revised) paper I practicals and theory, conducted by Department of Biotechnology, Ramaniranjan Jhunhunwala college, Mumbai, 2008

2. One day workshop on M.Sc. I (revised) paper IV practicals and theory, conducted by Department of Biotechnology, G.N. Khalsa College, Mumbai, 2008

3. One day workshop on M.Sc. Part I, paper II practicals, conducted by Department of Biotechnology, CKT college, New Panvel, 2008

4. Four day seminar cum workshop on “The Ignatian Pedagogical Paradigm and social action” conducted by St. Xavier’s Institute of Education, Bandra in collaboration with St. Xavier’s College Mumbai, 2009

2009-2010

1. One day seminar on theoretical and practical aspects of Bioinformatics and Biostatistics held at Department of Biotechnology, University of Mumbai, 2009

2. One day workshop for revised MSc. Part II Biotechnology curriculum on conducted by Department of Biotechnology, G.N. Khalsa college, 2009

3. One day workshop for revised MSc. Part II Biotechnology curriculum on conducted by Department of Biotechnology, Ramaniranjan Jhunhunwala college, 2009

2010-11
1. One month certificate course in bioinformatics from Rishi Biotech, Thana, 2010
2. Twelve day hands on workshop spectroscopy and chromatography conducted by GNARD Khalsa college, 2010
3. Two day workshop on “Clinical proteomics: Teaching and beyond” conducted by Lady memorial and DBT at ACTREC, 2010
4. Two day symposium on Laboratory animals for experimental research conducted by ACTREC, 2010
5. Two day DBT workshop on “Applications in Biotechnology” organised by Tata memorial Centre, ACTREC, 2011

2011-12
1. Three day Lady Tata Memorial trust workshop on “Expression, purification and structural analysis of proteins organised by SIES college of Arts, Science and Commerce, 2012

2012-13
1. One day workshop on “Credit based semester system for M.Sc. I Biotechnology organised by Ramanirjan Jhunjunwala college on 23rd June 2012

Name of the Faculty: Dr. Shiney Peter

Academic involvement:
- Conducted lectures and practicals for Msc part I and Part II students
- Participated in the designing the autonomous syllabus

College and Departmental committees
- Member of UGC committee (2011-2012)
- Member of placement cell (2012-2013)
- Member of science fest organization committee (2012-2013)

University work:
- MSc I Practical examination evaluation (2011)
- MSc. II theory paper evaluation (2011 – onwards)

Academic Development: Seminars, workshops and certificate courses:

a) Conducted by the college

2011-12
1. Resource person for animal tissue culture at the two day Lecture workshop on “Techniques in animal tissue culture and gas chromatography” organised by Department of Life science, Department of Biotechnology and CIF, June 2011
2. Four day workshop on Bioinformatics conducted by Department of Biotechnology, June 2011.
3. Resource person for Honour’s Programme conducted by Department of Microbiology in Animal Tissue Culture, 2012

2012-13
1. One day faculty workshop on “Publishing Academic research” conducted by St. Xavier’s College, Mumbai, 2012
2. Two day faculty development seminar at St. Xavier’s College HRD centre Khandala, 30th Sep- 1st Oct, 2012

b.) Conducted by the other institutions / colleges:

2008-2010
- Workshop on Immunoassays for screening natural products for their immunomodulatory activity organized by D. G. Ruparel College in Collaboration with Immunology Department, ACTREC, Navi Mumbai, 2009
- Actively involved in setting up Animal cell culture laboratory at KET’s V G Vaze College, Mulund and training research students and faculty in animal cell culture techniques- 2005-2009

2010-2011
- Attended a workshop on Clinical Proteomics at ACTREC, Navi Mumbai in 2010

2011-12
- LTMT workshop on Expression, purification and Structural analysis of Proteins at SIES College, 2012
- DBT workshop on Applications in Bioinformatics at ACTREC, 2012
- International symposium on Stem Cells Biology at ACTREC, 2012
- Flow cytometry workshop at ACTREC, Kharghar, Navi Mumbai, June 2011

2012-13
- Attended a three week Biosciences Summer School At University Of Bath, UK in May, 2012
- Attended the Plenary Session ‘Approaches to Teaching and Learning – an Indian Perspective’ at the conference ‘Enhancing the International Student Learning Experience in the Biosciences’ organised by the Higher Education Academy STEM Biosciences and the Dept. of Biology & Biochemistry, University of Bath, UK: May, 2012

Name of the faculty: Dr. Biswa Prasun Chatterjee

Academic involvement:
- Conducted lectures and practicals for Msc part I and Part II students
- Participated in the designing the autonomous syllabus

College and Departmental committees
- Member of palindrome organizing committee (2012-2013)

Academic Development: Seminars, workshops and certificate courses

2007-09
- Poster presented on “Antiproliferative mechanism of action of 10-(3-hydroxy-4-methoxy-benzylidene)-9(10H)-anthracenone, a new class of anti-tumor agent” in 77th Annual Meeting of Society of Biological Chemists, India in IIT Madras, 18-20 December, 2008
- Poster presented on “10-(3-hydroxy-4-methoxy-benzylidene)-9(10H)-anthracenone binds to tubulin at the colchicine site, inhibits microtubule
assembly and inhibits cancer cell proliferation at mitosis” in **VIII European Symposium of American Protein Society in Zurich, Switzerland** during June 14-18, 2009

**Name of the Faculty: Ms. Varnica Khetrapal**
**Academic involvement:**
- Conducted lectures and practicals for Msc part I and Part II students
- Participated in the designing the autonomous syllabus

**College and Departmental committees**
- Member of placement cell (2011-2012)
- Member of infrastructure committee (2011-2012)
University work:
- MSc I Practical examination evaluation (2009-2012)
- MSc. II theory paper evaluation (2010-2012)

Research Profile:
- ICT-DBT funded project on characterisation of cellulases produced by Trichoderma reesei and Aspergillus niger
- UGC minor project on characterisation of Ag nanoparticles

Academic Development: Seminars, workshops and certificate courses:

a) Conducted by the college

2010-11
1. One day Faculty seminar on “Organizational Behaviour and Team Building” conducted by St. Xavier’s College HRD centre at Khandala, 2010

2011-12
1. Two day Lecture workshop on “Techniques in animal tissue culture and gas chromatography” organised by Department of Life science, Department of Biotechnology and CIF, 2011

b.) Conducted by the other institutions / colleges:

2011-12
- International workshop on antimicrobial resistance at Haffkine’s institute, Mumbai, 2011
- Seminar on structural biology and bioinformatics conducted by the Department of Biophysics, University of Mumbai, February 2012

2010-11
- Science Academics refresher course in Advances in Biotechnology, conducted by Indian academy of Sciences (IAS) and NIRMH, Parel, Mumbai from 1st March 2011 – 16th March 2011.

2009-10
- One day workshop on Tissue culture practicals – Paper VI, conducted by V.G Vaze College, Mumbai, December 2009.

Name of the faculty: Mr. Melwin Sequiera

Academic involvement:
b) Conducted lectures and practicals for Msc part I and Part II students
c) Participated in the designing the autonomous syllabus

Academic Development: Seminars, workshops and certificate courses:
a. Conducted by the college: Nil
b. Conducted by the other institutions / colleges:
- Three day workshop in Bioinformatics conducted by R. Ruia college, Mumbai, September 2009
- One day workshop on Bioinformatics – Paper V practical discussion conducted by Department of Biotechnology, University of Mumbai, September 2009.
- One day workshop on Tissue culture practicals – Paper VI, conducted by V.G Vaze College, Mumbai, December 2009.
# ANNEXURE 2

## STUDENTS RESEARCH PROJECTS

**BATCH 2007-2009**

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Name</th>
<th>Title</th>
<th>Institution/ company</th>
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<tbody>
<tr>
<td>1.</td>
<td>Annes P. Sebastian</td>
<td>Immobilization Of DNA Probe</td>
<td>BARC, Mumbai.</td>
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<td>3.</td>
<td>Namratha</td>
<td>Developing whole blood TSH estimation protocol using serum TSH-IRMA kits – for screening of neonates for Congenital hypothyroidism</td>
<td>Bhabha Atomic Research Centre</td>
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<td>4.</td>
<td>Aliya Bari</td>
<td>Screening of <em>flavobacterium</em> species &amp; its immobilization</td>
<td>Bhabha Atomic Research Centre Mumbai</td>
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<td>5.</td>
<td>Aastha Sinha</td>
<td>A study on The diversity of methane producing bacteria in the rumen sample using molecular techniques</td>
<td>R.M.C., Parel</td>
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<td>6.</td>
<td>Ms. Akshada Sawant</td>
<td>Implementation of Stable and Non-competitive DNA Internal Control for Routine Clinical Qualitative PCR for HBV Diagnosis</td>
<td>Super Religare Laboratories (SRL Ranbaxy LTD)</td>
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<td>7.</td>
<td>Chetan Ramesh Patil</td>
<td>In-vitro screening of Synthetic compound for Anti-cancer activity and elucidating their possible mechanisms of Action</td>
<td>Nicholas Piramal Research Centre.</td>
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<td>8.</td>
<td>Thekkevilayil Melvin Mathew</td>
<td>Study on Radioprotection By Baicalein on Normal and Cancer cells</td>
<td>Bhabha Atomic Research Centre, Mumbai</td>
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<td>9.</td>
<td>Veena D’souza</td>
<td>Biotransformation of canrenone to 11-hydroxy canrenone using <em>Aspergillus ochraceus</em></td>
<td>IPA Laboratories Ltd.</td>
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<td>10.</td>
<td>Abhirami K.Iyer</td>
<td>Role of Microenvironment in DNA Damage Response of Tumor Cells</td>
<td>Bhabha Atomic Research Centre, Mumbai</td>
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<td>11.</td>
<td>Abhishek Bansod</td>
<td>Mapping Of Polymorphism In The Coding Region Of Il-10 In Immune Response Against Plasmodium Parasitic Infection</td>
<td>St. Xavier’s College Mumbai</td>
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<td>12.</td>
<td>Sujay Gaikwad</td>
<td>Generation of a GST-Desmoplakin fusion protein to develop monoclonal antibodies against desmoplakin</td>
<td>(ACTREC)</td>
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<td>16.</td>
<td>Karyn Fernandes</td>
<td>PCR Optimization for production of the $V_{H}$ gene from $Camelus domedarius$</td>
<td>Radiation Medicine Centre, Bhabha Atomic Research Centre, Mumbai</td>
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<td>17.</td>
<td>Rohan Patil</td>
<td>To assess the Single Nucleotide Polymorphism (SNP) in the Coding region of TGF â 1 in a Malaria endemic region of Orissa</td>
<td>Tata Institute of Fundamental research, Mumbai</td>
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<td>18.</td>
<td>Kay Sharon Sebastian</td>
<td>Studies on anticancer properties of $Bacterioruberin$ and its mode of action on MCF-7 breast cancer cells</td>
<td>Radiation Biology &amp; Health Science Division BARC, Mumbai</td>
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<td>19.</td>
<td>Susha Kutteyil</td>
<td>Standardization of Quantitative Real Time PCR using different cell concentrations of $Mycobacterium tuberculosis$</td>
<td>Radiation Medicine Centre Bhabha Atomic Research Centre, Mumbai</td>
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<td>20.</td>
<td>Akanksha Bafna</td>
<td>A Multicentre, Randomized, Double blind, Placebo controlled, Parallel arm study of effect of intravenous VEGF Trap in advanced Ovarian Cancer patients</td>
<td>Bhagwan Mahaveer Cancer Hospital and Research Centre, Jaipur</td>
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<td>2.</td>
<td>Ashrita Bhelwa</td>
<td>Use Of Reverse Blot DNA Hybridization Technique For Prenatal Diagnosis Of Sickle Cell Aneamia</td>
<td>Pregene” Preventive Genetics Diagnostic Nagpur –</td>
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<td>3.</td>
<td>Crismita C. D’mello</td>
<td>Molecular Cloning Of Housekeeping Gene Glyceraldehyde Phosphate Dehydrogenase (Gapdh) For Applications In Real-Time Per</td>
<td>RMC, BARC</td>
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<td>4.</td>
<td>Anne Jacob</td>
<td>Study Of Novel Binding Partners Of 14-3-3γ</td>
<td>Sorab Lab, ACTREC.</td>
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<td>5.</td>
<td>John Joel Selvaraj</td>
<td>In vitro evaluation of Antioxidant, Antimicrobial and Larvicidal activities of Flower extract of Plumeria acuminata.</td>
<td>Haffkine Institute, Mumbai</td>
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<td>7.</td>
<td>Liselle Pereira</td>
<td>Screening Of Marine Bacteria And Sequencing Of Dna Extracted from Hemicellulose And Cellulose Degrading Bacteria</td>
<td>National Institute of Oceanography, Goa</td>
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<td>8.</td>
<td>Maneka</td>
<td>Effect of growth temperature on Escherichia coli survival on exposure to hydrogen peroxide</td>
<td>Bhabha Atomic Research Center</td>
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<td>9.</td>
<td>Neethu Thomas</td>
<td>Studies on the immunomodulatory effects of 1,4-naphthoquinone and g1-4a in Murine and human lymphocytes</td>
<td>Bhabha Atomic Research Centre (BARC) Mumbai</td>
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<td>10.</td>
<td>Prathiba Gaikwad</td>
<td>Characterization of mutants and recombinant inbred lines of groundnut (arachis hypogaea l.) Using ssr and issr markers</td>
<td>BARC</td>
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<td>11.</td>
<td>Mansi Kamat</td>
<td>A novel concept of biomilling to make iron oxide nanoparticles and synthesis of drug functionalised gold nanoparticles using cefaclor (antibiotic)</td>
<td>National Chemical Laboratory(NCL), Pune</td>
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<td>12.</td>
<td>Ambika Natarajan</td>
<td>Electroantennogram responses of wild-type and klp64d mutant phenotypes of drosophila melanogaster</td>
<td>Tata Institute of Fundamental Research, Mumbai</td>
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<td>13.</td>
<td>Ria Jacob</td>
<td>Affinity Purification Of Human Recombinant G-CSF And Its Refolding Analysis Using HPLC</td>
<td>BIOGENOMICS PVT.LTD</td>
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<td>14.</td>
<td>Sarina D’Mello</td>
<td>Identification And Screening Of Novel Mutations In Exon 2 , 11b And 11 D Of</td>
<td>Jaslok Hospital and Research Centre</td>
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<td>Brca1 And Exon 11e Of Brca2 Genes In Familial/Sporadic Breast And Ovarian Cancer In Indian Population</td>
<td>Mithila Prabhu</td>
<td>ACTREC</td>
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<td>16</td>
<td>Enhancing Factor: Validation Of Microarray Data Using RT-PCR</td>
<td>Sheetal Kote</td>
<td>Bhabha Atomic Research Centre(BARC), Trombay, Mumbai</td>
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<td>17</td>
<td>Identification and Molecular Characterization of Mosquitocidal Bacillus species</td>
<td>Shwetha Pereira</td>
<td>Radiation Medicine Centre BARC</td>
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<td>18</td>
<td>Quantitation Of Thyroid Specific Messenger RNA In Peripheral Blood Of Healthy Controls Using Real-Time PCR</td>
<td>Sushma Rokade</td>
<td>Bhabha Atomic Research Center,</td>
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<td>19</td>
<td>Studies On The Effect Of Density Of A549 Cells On The Survival Of Mycobacterium tuberculosis</td>
<td>Sushmita Gosh</td>
<td>Glenmark Pharmaceutical Ltd</td>
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<td>Development Of A Stability Indicating Analytical Method For The Estimation Of Related Substances In The API Rizatriptan Benzoate By RP-HPLC</td>
<td>Krutika Patil</td>
<td>Bhabha Atomic Research Centre</td>
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<td>22</td>
<td>Efficacy Of Disinfectants Against Airborne Microbes</td>
<td>Antara Banerjee</td>
<td>ACTREC, Navi Mumbai</td>
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<td>Method Development for the Separation of Related substances and Quantification of the API Prasugrel Hydrochlorie by Reverse phase HPLC</td>
<td>Tina Lucas</td>
<td>Glenmark Pharmaceuticals Pvt Ltd</td>
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<td>Association of auto antibodies against oxidized Low Density Lipoprotein with C-reactive protein levels and its relation with cardiovascular diseases in Rheumatoid Arthritis</td>
<td>Veena Gonela</td>
<td>Sir Hurkisondas Hospital</td>
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<td>Preeti Admane</td>
<td>PCR-RFLP of mitochondrial 12S rRNA gene for meat speciation</td>
<td>Bombay Veterinary college Parel</td>
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<td>Pearl Braganza</td>
<td>Effect of Histone deacetylase inhibitors on connexin expression level in foetal buccal mucosal cell line</td>
<td>ACTREC, Khraghar</td>
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<td>Rohit Bhat</td>
<td>Screening and isolation of secondary metabolites from fungal cultures</td>
<td>Indian Institute of Integrated Medicine, CSIR</td>
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<td>Martin Snehal</td>
<td>Estimation of DR-70 (FDP) Tumor marker in suspected cancer patients</td>
<td>Super Religare Laboratories, Mumbai</td>
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<td>Romila Remos</td>
<td>Study of effect of plant extracts as an immunomodulator on Jurkat cell lines</td>
<td>Institute of Chemical technology, Matunga, Mumbai</td>
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<td>Lucas D’Souza</td>
<td>Cloning and expression of the immunogenic regions of <em>Drosophila melanogaster</em> Sirtuins</td>
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<td>Mansi Joshi</td>
<td>Isolation of secondary metabolites and assessment of antimicrobial activity of sponge derived marine bacteria</td>
<td>National Institute of Oceanography, Goa</td>
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<td>Patkar Bhagyashree</td>
<td>Polymorphism in Peroxisome Activated Receptor gamma gene association</td>
<td>NIRRH, Parel</td>
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<td>Periera Swidle</td>
<td>Determination of Polyphenolic content and antioxidant activity in an essential oil of an indigenous herb</td>
<td>Institute of Chemical technology, Matunga, Mumbai</td>
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<td>Richard Noronha</td>
<td>Isolation and screening for 1-amino cyclopropane -1-carboxylate deaminase producing bacteria from Rhizosphere soil</td>
<td>Indian Council of agricultural research Goa</td>
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<td>Rinta Paul</td>
<td>Co-expression of recombinant subunits of Kinasin -2 in <em>Drosophila melanogaster</em> in vitro</td>
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<td>Shradha Rupavate</td>
<td>Evaluation of cystatin-C based equation as accurate illustrations of Renal Function</td>
<td>P.D. Hinduja Hospital and Medical Research centre</td>
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<td>Sneha Sansare</td>
<td>Creation of a novel lentiviral expression vector</td>
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<td>Kathleen Sequiera</td>
<td>Diversity of Ralstonia solanacerium from a single habitat and study on non EPS producing Ralstonia solanacerium isolates</td>
<td>Indian Council of agricultural research Goa</td>
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<td>Sapana Sangare</td>
<td>Detection of water borne pathogens using gold nano probes</td>
<td>N. Shankaran Nair Research centre for Nanotechnology and Bio nanotechnology, Ambernath</td>
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<td>Diana Rodrigues</td>
<td>Role of Cullins in Spermatogenesis and Oogenesis in <em>Drosophila melanogaster</em></td>
<td>TIFR, Mumbai</td>
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<td>Jinal Shah</td>
<td>The incidence of hepatitis –B surface antigen in pregnant women</td>
<td>T.N. Medical college, Nair Hospital</td>
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<td>19</td>
<td>Lucy Nainan</td>
<td>Studying adaptability of <em>Helicoverpa armigera</em> with emphasis on defense elicitors from insect oral secretions and insect gut protease diversity</td>
<td>NCL, Pune</td>
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<td>Varda Podar</td>
<td>Effect of sequential treatment of Histone d-acetylases einhibitor, Trochostatic A And Adreamycin in acute myeloid leukemia – a pilot study</td>
<td>ACTREC, Kharghar</td>
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<td>Megha</td>
<td>Purification of Plasmodium Falciparum inolase and delta -5, Plasmodium falciparum inolase and determine the potenatil of the deleted penta peptide region as an immunogen</td>
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<td>Khyati Shah</td>
<td>To evaluate the diagnostic specificity of modified WIDAL test for recent infection in comparison with conventional WIDAL test</td>
<td>T.N. Medical college, Nair Hospital</td>
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<td>Sharon Mary John</td>
<td>The effect of dietary restriction on <em>Drosophila melanogaster</em></td>
<td>TIFR, Mumbai</td>
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<td>24</td>
<td>Geetanjali Patak</td>
<td>Potential biomarkers for the diagnosis of Cardiac and vascular dysfunction identified in the subsisting population of Bhopal Industrial Holocaust</td>
<td>BMHRC, Bhopal</td>
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<td>25</td>
<td>Basil D’Mello</td>
<td>Characterization of cellulases produced by <em>Trichoderma reesei</em> and <em>Aspergillus niger</em></td>
<td>ICT and St. Xavier’s college Mumbai</td>
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<td>26</td>
<td>Charutha Godbole</td>
<td>A novel concept of Bio-milling to make iron oxide and zinc oxide nano particle and imaging of effect of lysozyme on Gram positive and gram negative bacteria using Atomic Force Microscopy</td>
<td>NCL, Pune</td>
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<td>Priynaka Ghorpade</td>
<td>Molecular biology approach to study human follicle stimulating hormone receptors at gene and protein level</td>
<td>NIRRH, Mumbai</td>
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<td>Isha Sundesh</td>
<td>Mesenchymal Stem Cells</td>
<td>Jaslok Hospital, Mumbai</td>
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<td>1.</td>
<td>Almeida Neha Vijay</td>
<td>Towards studying the interactions of stress-inducible gene <em>bola</em> in green alga <em>Chlamydomonas reinhardtii</em></td>
<td>UM-DAE-CBS</td>
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<td>2.</td>
<td>Asapur Prithvi Chidanand</td>
<td>Attachment of haloperdol to gold nanoparticle</td>
<td>N. Shankaran Nair Research Centre for Nanotechnology and Biotechnology, Ambernath</td>
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<td>Bhandari Ankita</td>
<td>Differential susceptibility of bacterial cell towards ZnO nanoparticles</td>
<td>NCL, Pune</td>
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<td>Bhujbalrao Ruchika Narendra</td>
<td>Characterisation of ftsz assembly and modulation ftsz polymerisation by l-menthol</td>
<td>IIT Mumbai</td>
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<td>5.</td>
<td>Bilimoria Khushnam Darius</td>
<td>Molecular characterisation of staphylococcus aureus strains from bovine mastitis by clfa and nuc gene polymerase chain reaction (PCR) assays.</td>
<td>Bombay Veterinary college Parel</td>
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<td>In-situ synthesis and coating of nanoparticles on various surfaces and antibacterial activity of silver nanoparticles</td>
<td>BARC, Mumbai</td>
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<td>Cyrill Samantha Allan</td>
<td>Determination of Drug Susceptibility Profiles of Mycobacterium tuberculosis by Phenotypic and Genotypic Assays.</td>
<td>The Foundation for Medical Research, Mumbai</td>
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<td>8.</td>
<td>D’souza Marsha Chiquitta</td>
<td>Effect of Rab Coupling Protein (RCP) on Trafficking of cell adhesion molecules.</td>
<td>National Institute of Research in Reproductive Health, Parel</td>
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<td>9.</td>
<td>Dmello Divya Dulcina</td>
<td>Standardization of anti-inflammation assay and isolation of bioactive molecules from natural products</td>
<td>Piramal Lifesciences Ltd., Mumbai</td>
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<td>10.</td>
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<td>Study of bioactivity of Mangroves and their associated actinomycetes for anti-infective drugs</td>
<td>National Institute of Oceanography, Goa</td>
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<td>11.</td>
<td>D’souza Wilfred Gerald</td>
<td>Preliminary chemical and biological characterization of cellar spider silk (cob web silk)</td>
<td>St. Xavier’s College, Mumbai</td>
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<td>12.</td>
<td>Fernandes Donella Anthony</td>
<td>Biotransformation of an active anti-cancer pharmaceutical intermediate</td>
<td>Piramal Lifesciences Ltd., Mumbai</td>
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<td>13.</td>
<td>Fernandes Edcina Doreen</td>
<td>16 s r RNA based identification and characterization of vibrio from marine environments</td>
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<td>Fernandes Evelyn Theodore</td>
<td>Estimation of heavy metals and pesticide levels in commercial milk brands in Mumbai</td>
<td>BARC, Mumbai</td>
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<td>15.</td>
<td>Fernandes Jocelyn Victoria</td>
<td>Molecular Characterisation and Remediation Potential of Lac-cases from a Marine-derived Fungus</td>
<td>National Institute of Oceanography, Goa</td>
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<td>16.</td>
<td>Gupta Shefali</td>
<td>Mutational analysis of chôtmpig-L</td>
<td>JNU, Delhi</td>
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<td>Jain Anushi Vikram</td>
<td>Establishment of reference ranges for thyroid hormones in healthy Indian adults</td>
<td>Super Religare Laboratories</td>
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<td>18.</td>
<td>K. Sharon Rajan</td>
<td>Status of fe and mg in coastal ecosystems and oysters of karwar, central west coast of India</td>
<td>Dept. Of Marine Biology, Karwar</td>
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<td>19.</td>
<td>Kamath swati Sudhakar</td>
<td>Molecular phylogeny of parainfluenza virus (hpiv 1, 3, 4)</td>
<td>National Institute of Virology, Pune</td>
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<td>20.</td>
<td>Kanhekar Riya Rajan</td>
<td>Assessment of oxidative stress parameters in murine model of rabies</td>
<td>Haffkine Institute of Training and Research</td>
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<td>21.</td>
<td>Mane Mandar Manohar</td>
<td>Isolation of Xanthomonas campestris from insect infected Solanum lycopersicum and the production of Xanthan gum</td>
<td>Mitcon Bio-Pharma centre, Pune</td>
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<td>22.</td>
<td>Mitra Sumitra</td>
<td>Understanding the role of novel genes in the PHO pathway in yeast</td>
<td>TIFR, Mumbai</td>
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<td>23.</td>
<td>Pednekar Reshmi Ramesh</td>
<td>Impact of antifouling biocides on biofilm development of bacteria and diatom</td>
<td>National Institute of Oceanography, Goa</td>
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<td>24.</td>
<td>S.P. Poornima Rao</td>
<td>Expression, Purification and Structural Characterization of BRCA1 Transactivation domain (1560-1859)</td>
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<td>25.</td>
<td>Shrivtarkar Harshala Ramesh</td>
<td>Study of neutrophil phagocytic activity using different assays</td>
<td>T.N. Medical college, Nair Hospital, Mumbai</td>
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<td>Singh Ankita</td>
<td>Assessment of oxidative stress parameters in murine model of rabies</td>
<td>Biocon, Bangalore</td>
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## ANNEXURE 3

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<td>3.</td>
<td>Environmental Science and Biotechnology theory and techniques</td>
<td>A.G. Murageson, C. Rajkumar</td>
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<td>MJP publishers Chennai</td>
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<td>4.</td>
<td>Endocrinology Hormones and Human Health</td>
<td>Prakash S Lohar</td>
<td>-</td>
<td>MJP publishers Chennai</td>
</tr>
<tr>
<td>5.</td>
<td>Biophysics principles and techniques</td>
<td>M.A. Subramanian</td>
<td></td>
<td>MJP publishers Chennai</td>
</tr>
<tr>
<td>6.</td>
<td>Nanotechnology principles and practices</td>
<td>Sulabha Kulkarni</td>
<td></td>
<td>Capital publishing company</td>
</tr>
<tr>
<td>8.</td>
<td>Molecular cell biology</td>
<td>Lodish, Berk,</td>
<td>6th</td>
<td>Freemann and company</td>
</tr>
<tr>
<td>9.</td>
<td>Immunology</td>
<td>Janis Kuby</td>
<td>5th</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Advanced Dictionary of Nanoscience and Nanotechnology</td>
<td>Dr. Rajeev Verma</td>
<td>1st,2010</td>
<td>A.I.T.B.S. publishers India</td>
</tr>
<tr>
<td>16.</td>
<td>Basic statistical methods</td>
<td>NM Downie</td>
<td>3rd,1970</td>
<td>-</td>
</tr>
<tr>
<td>20.</td>
<td>Laboratory Manual : plant and microbial physiology and Biochemistry</td>
<td></td>
<td>1970</td>
<td>Dept of Biological Sciences Madhurai University</td>
</tr>
<tr>
<td></td>
<td>Title</td>
<td>Authors</td>
<td>Edition</td>
<td>Publisher</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------</td>
<td>---------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>22</td>
<td>Cell structure and Function</td>
<td>Ariel G. Loewy</td>
<td>2nd, 1969</td>
<td>Library congress Catalog</td>
</tr>
<tr>
<td>23</td>
<td>General microbiology</td>
<td>Hans Schlegel G. Schlegel</td>
<td>1st, 2002</td>
<td>Cambridge University Press</td>
</tr>
<tr>
<td>24</td>
<td>Environmental biotechnology</td>
<td>Alan Scragg</td>
<td>2nd, 2010</td>
<td>Oxford University Press</td>
</tr>
<tr>
<td>26</td>
<td>Introduction to Bioinformatics</td>
<td>Arthur Lesk</td>
<td>3rd</td>
<td>Oxford University Press</td>
</tr>
<tr>
<td>27</td>
<td>Introduction to Proteins, structure, Function and Motion</td>
<td>Amit Kessel and Nir Ben Tal</td>
<td>2011</td>
<td>Taylor and Francis group (CRC Press)</td>
</tr>
<tr>
<td>29</td>
<td>Genome 3</td>
<td>T.A. Brown</td>
<td>3rd, 2007</td>
<td>Garland Science</td>
</tr>
<tr>
<td>30</td>
<td>Human embryology</td>
<td>Inderbir Singh and G.P. Pal</td>
<td>8th, 2012</td>
<td>Macmillan Publishers India Ltd</td>
</tr>
<tr>
<td>32</td>
<td>Molecular techniques in Biochemistry and Biotechnology</td>
<td>S. Shrivastava</td>
<td>1st, 2010</td>
<td>New Central Book Agency (P) Ltd</td>
</tr>
<tr>
<td>33</td>
<td>JAneways Immuno Biology</td>
<td>Kenneth Murphy, Paul Travers and Mark Walport</td>
<td>7th, 2008</td>
<td>Taylor and Francis</td>
</tr>
<tr>
<td>34</td>
<td>Henry’s Clinical diagnostics and management by Laboratory methods</td>
<td>Richard A. McPherson and Matthew R. Pincus</td>
<td>21st</td>
<td>Elsevier Publishers</td>
</tr>
<tr>
<td>35</td>
<td>Introduction to Plant tissue culture</td>
<td>M.K. Razdhan</td>
<td>2nd, 2002</td>
<td>Oxford and IBH publishers</td>
</tr>
<tr>
<td>36</td>
<td>Culture of animal cell</td>
<td>Ian Freshney</td>
<td>6th, 2010</td>
<td>Wiley Blackwell publication</td>
</tr>
<tr>
<td>37</td>
<td>Life sciences, Fundamental and practices</td>
<td>Pranav Kumar Usha Meena</td>
<td>2011</td>
<td>Pathfinder Academy, 2011</td>
</tr>
</tbody>
</table>
Department of Information Technology

1. **Name of the Department & its year of establishment**
   Department of Information Technology, 2007

2. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D.,
   Integrated Masters; Integrated Ph.D., etc.)**
   UG- BScIT

3. **Interdisciplinary courses and departments involved**
   - Cross Faculty Course: web designing offered to students of the Arts faculty and BMM & BMS.

4. **Annual/ semester/choice based credit system**
   Semester based credit system

5. **Participation of the department in the courses offered by other
departments**
   - Cross Faculty Course: Web Designing
   - BMS: Introduction to Computers, Computer Applications in Business.

6. **Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)**

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate Professors</td>
<td></td>
<td>1 ( Co-ordinator of the Dept.)</td>
</tr>
<tr>
<td>Asst. Professors</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

7. **Faculty profile with name, qualification, designation, specialisation (D.Sc./D.Litt./ Ph.D./M.Phil., etc.)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialization</th>
<th>No. of Years of Experience</th>
<th>No. of Ph.D. students guided in the last 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Jyoti Singh</td>
<td>Ph. D</td>
<td>Associate Professor</td>
<td>Electronics</td>
<td>17</td>
<td>-</td>
</tr>
<tr>
<td>Subhash Kumar</td>
<td>M.C.A., M. Phil</td>
<td>Asst. Professor</td>
<td>Computer App. Computer Sc.</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>Roy Thomas</td>
<td>M.C.A, B.Ed.</td>
<td>Asst. Professor</td>
<td>Computer Applications</td>
<td>7</td>
<td>-</td>
</tr>
<tr>
<td>Shivarajini Gudibanda</td>
<td>M.Sc., B.Ed.</td>
<td>Asst. Professor</td>
<td>Computer Science</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>Lydia Fernandes</td>
<td>M.Sc.</td>
<td>Asst. Professor</td>
<td>Computer Science</td>
<td>4</td>
<td>-</td>
</tr>
</tbody>
</table>
8. **Percentage of classes taken by temporary faculty – programme-wise information**
   - Even Semesters: 25%
   - Odd Semesters: 30%
   - Total: 27.5%

9. **Programme-wise Student Teacher Ratio**
   - 45:1 (+ visiting faculty)

10. **Number of academic support staff (technical) and administrative staff:**
    - sanctioned and filled
    - Administrative Staff: 1 clerk + 1 peon
    - Academic Staff:
      - Academic: Co-ordinator
      - Technical: 2 Computer Engineers in the Lab.

11. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.**
    - Nil

12. **Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received**
    - Nil

13. **Research facility / centre with N.A.**
    - state recognition
    - national recognition
    - international recognition

14. **Publications:** Nil
    - number of papers published in peer reviewed journals (national / international)
    - Monographs
    - Chapter(s) in Books
    - Editing Books
    - Books with ISBN numbers with details of publishers
    - number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
    - Citation Index – range / average
    - SNIP
    - SJR
    - Impact factor – range / average
    - h-index
15. Details of patents and income generated
   Nil

16. Areas of consultancy and income generated
   Nil

17. Faculty recharging strategies
   - Workshops and seminars organized by College and other colleges affiliated to Mumbai University.

18. Student projects
   - percentage of students who have done in-house projects including inter-departmental
     o 60%
   - percentage of students doing projects in collaboration with industries / institutes
     o 40%
   (Please refer Annexure I)

19. Awards / recognitions received at the national and international level by
   - Faculty
   - Doctoral / post doctoral fellows
   - Students:
     o Mr. Rahul Bohra, Brand Student Ambassador for "knowafest.com", National Level

20. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.
   Nil

21. Student profile course-wise:

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>Applications received</th>
<th>Selected Male</th>
<th>Female</th>
<th>Pass percentage Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSc - IT</td>
<td>700</td>
<td>180</td>
<td></td>
<td>FY: 80</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SY: 85</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TY: 77</td>
<td></td>
</tr>
</tbody>
</table>

22. Diversity of students

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>% of students from the College</th>
<th>% of students from the State</th>
<th>% of students from other States</th>
<th>% of students from other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departmental data not available</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?
Pursuing

24. Student progression

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Percentage against enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG to PG</td>
<td>20%</td>
</tr>
<tr>
<td>PG to M.Phil.</td>
<td>-</td>
</tr>
<tr>
<td>PG to Ph.D.</td>
<td>-</td>
</tr>
<tr>
<td>Ph.D. to Post-Doctoral</td>
<td>-</td>
</tr>
<tr>
<td>Employed</td>
<td></td>
</tr>
<tr>
<td>• Campus selection</td>
<td>60%</td>
</tr>
<tr>
<td>• Other than campus recruitment</td>
<td>10%</td>
</tr>
<tr>
<td>Entrepreneurs</td>
<td>10%</td>
</tr>
</tbody>
</table>

25. Diversity of staff

<table>
<thead>
<tr>
<th>Percentage of faculty who are graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>of the same parent university</td>
</tr>
<tr>
<td>from other universities within the State</td>
</tr>
<tr>
<td>from other universities from other States</td>
</tr>
</tbody>
</table>

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.
Nil

27. Present details about infrastructural facilities

a) Library:
   • All the required text-books (multiple copies) and reference books in each and every branch of Information Technology are available to students and staff.
   • Journals and magazines related to IT field, DVDs and internet facility is available.

b) Internet facilities for staff and students
   • Unique username and password for access via wifi, cyberlab throughout the college.
   • Internet Data card – dongle facility also available for the department staff.

c) Total number of class rooms
   Three

d) Class rooms with ICT facility
   All

e) Students’ laboratories
   • Xavier’s Knowledge center is equipped with 3 computer labs having 30 desktops each, with projectors, printers and internet connections. One of the labs also has video conferencing facility.
   • Electronics laboratory for carrying out the hardware practicals.
f) Research laboratories -

28. Number of students of the department getting financial assistance from College.

Students with Xavier’s Aid for Academics:
The following students have been offered SBF facilities:

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>SY</th>
<th>TY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2008-09</td>
<td>2</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>2009-10</td>
<td>2</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>2010-11</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2011-12</td>
<td>6</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2012-13</td>
<td>1</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

29. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.

- Autonomous System developed by the college.
- Syllabus is set by a Board of Studies (BOS) comprising of experts from the industry, head of the department of the university, faculty of other colleges, internal faculty of St. Xavier’s college and student representatives. This body deliberated on the present day needs and challenges of the IT industry and updated the syllabus accordingly. A review of the syllabus as well as the assessment process is undertaken by the BOS committee in each semester.

30. Does the department obtain feedback from

j. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?

- Suggestions are provided by the coordinator after she judges the teaching through sit-ins in the lectures as well as informal feedback from students. There is a healthy interaction among faculty members and ideas about teaching methods and evaluation process are exchanged. The department follows Bloom’s Taxonomy for its evaluation process, especially the setting of the question papers for written exams.

k. students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?

STAFF: A formal feedback is taken from the students through a Teacher’s Assessment Questionnaire (TAQ) and the results are discussed by the authorities with the concerned teachers.

CURRICULUM: Student representatives are selected and are made part of the BOS, so they too may have a say on the curriculum being devised.

l. Alumni and employers on the programmes and what is the response of the department to the same?

- Alumni give informal feedback and suggestions on new programs which are considered by the department while making future plans. For example students have been suggesting that we should introduce a Masters Course in IT at St. Xavier’s College and we are considering the possibility.
31. List the distinguished alumni of the department (maximum 10)

<table>
<thead>
<tr>
<th>Name of Student</th>
<th>Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Karen Mathias</td>
<td>2nd rank, Mumbai University 2010, Software Engineer at Google.</td>
</tr>
<tr>
<td>Ms. Linu Matthew</td>
<td>Software Engineer at Cap Gemini</td>
</tr>
<tr>
<td>Mr. Darel D’souza</td>
<td>Software Engineer at Google</td>
</tr>
<tr>
<td>Mr. Zinge Prasad</td>
<td>Software Engineer at Accenture, Bangalore</td>
</tr>
<tr>
<td>Ms. Ria Parekh</td>
<td>Management consultant at J. P. Morgan, U.S.A</td>
</tr>
<tr>
<td>Mr. Ameya Bhangle</td>
<td>Management consultant at Dalberg</td>
</tr>
<tr>
<td>Ms. Anouksha Narayanan</td>
<td>University Topper 2012, pursuing M. Sc.</td>
</tr>
<tr>
<td>Mr. Akshay Ranjan</td>
<td>Working for Teach India Program</td>
</tr>
<tr>
<td>Mr. Muffaddal Barwaniwala</td>
<td>Entrepreneur: Web Developer &amp; Digital Marketeer, Al Majd Hardware Trading LLC, Sharjah, UAE</td>
</tr>
</tbody>
</table>

32. Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.

- Language lab:
  First year students lacking in language skills are sent to the language lab.
- Industrial visits are organized every year for th BScIT students.
- Tech Fest “XENITH” was initiated in the year 2011-12. In 2012-13, it was merged with the Science Fest “PARADIGM”.
- Summer Internships for SYBSc.IT students.
- Honours programme:

<table>
<thead>
<tr>
<th>Year</th>
<th>No. Of Students</th>
<th>No. Of Credits</th>
<th>Program</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
<td>32</td>
<td>2</td>
<td>Oracle Workshop</td>
<td>Prof. Roy Thomas</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>1</td>
<td>Computer Assembly</td>
<td>Prof. Yuvaraj Waugh</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>1</td>
<td>Communication devices</td>
<td>Prof. J.B. Mistry</td>
</tr>
<tr>
<td>2008-09</td>
<td>18</td>
<td>1</td>
<td>PL/SQL</td>
<td>Prof. Roy Thomas</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>2</td>
<td>VB.Net</td>
<td>Prof. Remya Panicker</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>UML</td>
<td>Prof. Karen Mansukhani</td>
</tr>
<tr>
<td>2009-10</td>
<td>18</td>
<td>1</td>
<td>Struts2</td>
<td>Prof. Subhash Kumar</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>1</td>
<td>Mobile Computing</td>
<td>Prof. Shivaranjani Gudibanda</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>Crystal Reports</td>
<td>Prof. Roy Thomas</td>
</tr>
<tr>
<td>2010-11</td>
<td>16</td>
<td>1</td>
<td>VB6</td>
<td>Prof. Lydia Fernandes</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>1</td>
<td>Computer Architecture</td>
<td>Prof. Rama Vishwananath</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>1</td>
<td>Matlab</td>
<td>Prof. Aman Chaddha</td>
</tr>
</tbody>
</table>
• Preplacement lectures:
  Various industry representatives conduct pre-placement talks every year. On an average 60% of the graduating batch get placed successfully.

33. List the teaching methods adopted by the faculty for different programmes.
  • ICT facilities are used by all professors.
  • Use of the internet facility for lectures.
  • CDs and DVDs on various topics related to the subject are used as teaching aid.
  • Problem Solving, both at the individual level and in groups is encouraged.
  • Students are encouraged to share their views on various topics related to the lecture.
  • Assignments on varied array of topics, both a part of the syllabus as well as outside the syllabus are carried out under the guidance of the faculty.

34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?
   TAQ, evaluation of Student Results

35. Highlight the participation of students and faculty in extension activities.
   • Creation of Software on automation of Exam System for College (Please refer Annexure II)
   • ECC Credits
   • Honors
   • Placement website [in progress]
   • Events organized by College (Student festivals such as Paradigm, Xenith, Malhar)

36. Give details of “beyond syllabus scholarly activities” of the department.
   • Student Participation in events held on campus (Paradigm, Xenith IT, Malhar) as well as those organized by other colleges outside campus.

37. State whether the programme/department is accredited/graded by other agencies. Give details.
   Nil

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

   Strengths:
   • Compatibility,
   • Unity,
   • Problem Solving ability,
   • Updation of Syllabus through BOS,
   • Knowledge skill upgradation by faculty,
   • Sensitivity to students who are weak and need special attention
   • Co-curricular activities
Weaknesses:
- The laboratory facility could be extended in order to accommodate newer courses.
- We would like to give knowledge to our students of the latest software technology, but some of the software are too expensive and if some concession to educational institutes be given, it will benefit the students.

Opportunities:
- Contribution towards automation of several legacy systems in college.
- Participation in inter-disciplinary Research activities.
- If professors attend workshops or training on the latest trends in the industry, they will be able to share their knowledge with the students.

Challenges:
- There is a constant need to upgrade IT skills in order to keep abreast with the industry and deliver knowledge to the students.
- Constantly trying to bridge the gap between slow learners and above average students.

39. Future plans of the department.
   MSc. IT
   Research
Caius Research Laboratory

1. **Name of the Department & its year of establishment**: Caius Research Laboratory, 1947

2. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):** MSc by Research, PhD, industry collaborative projects in Biological sciences.

3. **Interdisciplinary courses and departments involved:** All Biology departments

4. **Annual/ semester/choice based credit system**

5. **Participation of the department in the courses offered by other departments**

6. **Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)**

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate Professors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asst. Professors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. **Faculty profile with name, qualification, designation, specialisation (D.Sc./D.Litt./Ph.D./M.Phil., etc.)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialization</th>
<th>No. of Years of Experience</th>
<th>No. of Ph.D. students guided in the last 4 years</th>
</tr>
</thead>
</table>

8. **Percentage of classes taken by temporary faculty – programme-wise information**

9. **Programme-wise Student Teacher Ratio**

10. **Number of academic support staff (technical) and administrative staff: sanctioned and filled**

11. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.**

   1) Dr. S.U. Donde - Awarded a UGC Major Research Project Grant of INRs.3.4 lakhs for a project entitled “Cloning of Cellulase genes from Rumen organisms.” for the period June 2003 to May 2005
2) Dr. S.U. Donde - Awarded a DAE-BRNS Govt. Of India Research Grant of INRs.19.8 lakhs for a project entitled ‘Cloning and expression of cellulase genes in Deinococcus radiodurans.’ For the period Dec. 2006 – March 2011.

3) For the first time, the Caius Research Laboratory, undertook a collaborative project with Industry. The College has given the permission and space for undertaking a research project with Lignoil Technologies Pvt. Ltd. for the conversion of cellulosic bagasse into biofuel. Total value of the project was approximately 15 lakhs. 2008-2009.

4) Industry consultative project on “DNA fingerprinting of Mahseer Fish from Walvan lake” with TATA power, Fund amount Rs. 9 lakhs. Dec 2011-April 2013.

5) Prof. Sangeeta Shetty : Department of LifeSciences and Biochemistry received a UGC minor research grant of Rs. 2 lakhs for the period 2012-2014. Research topic on “Isolation of novel cellulases from extremophiles and other sources.”

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received

13. Research facility / centre with

- state recognition:
- national recognition: CRL is a DSIR-recognized laboratory
- international recognition:

14. Publications:

- number of papers published in peer reviewed journals (national / international)
- Monographs
- Chapter(s) in Books
- Editing Books
- Books with ISBN numbers with details of publishers
- number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
- Citation Index – range / average
- SNIP
- SJR
- Impact factor – range / average
- h-index

Conferences attended and posters presented:
The following posters were presented in International conferences-

1. Dr. Sheela Donde gave a poster presentation entitled “Cloning of endoglucanase gene from Bacillus pumilis and its expression in Deinococcus radiodurans” at the XXXI Annual conference of Society of Toxicology, India, and International Symposium on “Current Trends in Environmental Toxicology,” held between 2nd to 24th December, 2011 at Jaipur.
2. Dr. Sheela Donde gave a poster presentation on “Development of a recombinant *Deinococcus radiodurans* strain expressing *Bacillus pumilis* endoglucanase enzyme” at the UGC-sponsored International Symposium on “Current Trends in Life Sciences,” on 9th March, 2012 at the University of Mumbai.

15. **Details of patents and income generated**

16. **Areas of consultancy and income generated**
   
a. The laboratory has undertaken a research project with Lignoil Technologies Pvt. Ltd. for the conversion of cellulosic bagasse into biofuel. Total value of the project was approximately 15 lakhs. 2008-2009.
   
b. Currently undertaken an Industry consultative project on “DNA fingerprinting of Mahseer Fish from Walvan lake” with TATA power, Fund amount Rs. 9 lakhs. Dec2011-April 2013.

17. **Faculty recharging strategies**

18. **Student projects**
   
   - percentage of students who have done in-house projects including inter-departmental
   
   - percentage of students doing projects in collaboration with industries / institutes

19. **Awards / recognitions received at the national and international level by**
   
   - Faculty
   
   - Doctoral / post doctoral fellows
   
   - Students

20. **Seminars/Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.**
   
   1. Workshop on “Molecular Techniques” organized in collaboration with St. Xavier’s College Ahmedabad, in February 2006
   
   2. Workshop on ‘Research Techniques in Biology’ was held in the CIF from 22nd Nov – 24th Nov 2007, where 26 post-graduate students of all the Biological sciences participated. The hands-on training included experiments in Molecular Biology, Cell Biology, Animal and Plant Tissue Culture, Analytical Instrumentation, were some of the areas covered.
   
   3. Organized and conducted a Lady Tata Memorial Trust-sponsored, 2-Day Workshop for College Teachers, on ‘Techniques in Molecular Biology’ in the Central Instrumentation Facility, on 2nd and 3rd March, 2009, for twenty-five College and University teachers. 16 Colleges and 6 Biology disciplines were represented. Through this Workshop grant an ELISA reader was obtained, which is currently placed in the CIF for use by faculty and students.
4. Lecture-cum hands-on workshop for in-house faculty in Animal Tissue Culture and Gas Chromatography was held between 16 – 18 June, 2011. Faculty (25) from seven departments (Biotechnology, Botany, Chemistry, Life Science and Biochemistry, Microbiology, Zoology and Junior College – Biology) participated in the workshop. Hands–on training was given in Animal Tissue Culture, Gas Chromatography and preservation of cultures by Lyophilization.

21. Student profile course-wise:

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>Applications received</th>
<th>Selected Male</th>
<th>Female</th>
<th>Pass percentage Male</th>
<th>Female</th>
</tr>
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</tbody>
</table>

22. Diversity of students

<table>
<thead>
<tr>
<th>Name of the Course (refer question no. 2)</th>
<th>% of students from the College</th>
<th>% of students from the State</th>
<th>% of students from other States</th>
<th>% of students from other countries</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?

24. Student progression

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Percentage against enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG to PG</td>
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<tr>
<td>PG to M.Phil.</td>
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<tr>
<td>PG to Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Ph.D. to Post-Doctoral</td>
<td>1</td>
</tr>
<tr>
<td>Employed</td>
<td></td>
</tr>
<tr>
<td>• Campus selection</td>
<td></td>
</tr>
<tr>
<td>• Other than campus recruitment</td>
<td></td>
</tr>
<tr>
<td>Entrepreneurs</td>
<td></td>
</tr>
</tbody>
</table>
25. **Diversity of staff**

| Percentage of faculty who are graduates of the same parent university |  
|---|---|
| from other universities within the State |  
| from other universities from other States |  

26. **Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.**

27. **Present details about infrastructural facilities**

a) Library  
b) Internet facilities for staff and students  
c) Total number of class rooms  
d) Class rooms with ICT facility  
e) Students’ laboratories  
f) Research laboratories:  
   The College has the Caius Research Laboratory which is an interdisciplinary research laboratory carrying out work leading to Master's and Doctoral degrees in Science. The Caius Research Laboratory is presently situated in approximately 180 m² (1800 sq. ft.). It also has a common instrumentation facility that has instruments like UV-Vis spectrophotometer, Gel Documentation System, a gradient PCR machine besides standard equipments such as shakers, incubators and centrifuges. The laboratory has a laminar flow and a segregated area for setting up PCR in addition to Autoclaves and ovens for sterilization of platicware and media. There is also an Animal Tissue Culture facility available to carry out animal tissue culture research using cell lines and cell strains. The common instrumentation facility is used for experiments and research carried out by students and faculty (bachelor's, master's,honors program and doctoral degree) of the science departments.

28. **Number of students of the department getting financial assistance from College.**

29. **Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.**

30. **Does the department obtain feedback from**

   a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?  
   b. students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?  
   c. alumni and employers on the programmes and what is the response of the department to the same?
31. List the distinguished alumni of the department (maximum 10)
1. Dr. Ms. Vivien Amonkar (Associate Professor); Head, Departments of Microbiology & Post-Graduate Department of Biotechnology
2. Dr. M.P.J. Sujaya Kumari, Former head, Department of LifeSciences and Biochemistry.
3. Dr. Clotilda D'Souza, Canada.
4. Dr. Suresh Narayan Owner Biosource, Cultures and Flavors Inc. US
5. Dr. Tapashi Dasgupta, QA Regulator, Nordion, Canada
6. Dr. Bosco Henriques, Director Techno Source
7. Dr. Sachin Telang – currently a post doc at NIRRH.

32. Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.

33. List the teaching methods adopted by the faculty for different programmes.

34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?

35. Highlight the participation of students and faculty in extension activities.

36. Give details of “beyond syllabus scholarly activities” of the department.

37. State whether the programme/ department is accredited/ graded by other agencies. Give details.

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

39. Future plans of the department:
For faculty and students:
   a. Arrange for Hands–on training in recent developments in Biology that would help to ensure better teaching to the students.
   b. Faculty improvement through emphasis on research and research development by undertaking research projects – major, minor, industry collaboration and interdepartmental collaboration.
   c. Hands on training programs for students.

Students awarded Msc research/Doctoral degree:
1. Dr. S. U. Donde’s Student Ms. Chaitali Mandal was awarded MSc by research in LifeSciences on 25th April 2005.
2. Mr. Sachin Telang, working on the DAE- BRNS project has been registered as a PhD student of the University of Mumbai, under the guidance of Dr. Sheela Donde in the year 2008. His doctoral thesis evaluation is completed and has been awarded doctoral degree in October 2012.
3. The Caius Research Laboratory undertook summer training, for the research project of Mr. Abhay Srivastava, an MSc Biotechnology student of
Mumbai University, for 6 months. The research project was on ‘Isolation and purification of cellulases from cellulolytic organisms’. This project report was submitted as a dissertation in partial fulfillment of his MSc degree.

Faculty currently working in the lab towards their doctoral degree and their area of research:
1. Prof. Sangeeta Chavan : Associate Professor, Department of Microbiology.
   Effects of silver, zinc oxide and titania nanoparticles on nitrogen fixing, phosphate solubilizing and biofilm forming bacteria found in soil ecosystems.

2. Prof. Karuna Gokarn : Associate Professor, Department of Microbiology
   Isolation and evaluation of *Mycobacterium smegmatis* siderophores as novel therapeutic agents.

3. Prof. Prashant Ratnaparkhi : Assistant Professor, Department of LifeSciences and Biochemistry. : Correlation of CYBA gene polymorphism and reactive oxygen species mediated biomolecules in increasing the susceptibility of Western Indian Type 2 Diabetes population for atherogenesis.

4. Prof. Sangeeta Shetty : Assistant Professor, Department of LifeSciences and Biochemistry. 
   Isolation of novel cellulases from extremophiles and other sources.

5. Prof. Norine D’Souza: Assistant Professor, Department of Biotechnology.
   Role of Ion channels in glioma and their use in therapeutics.

6. Prof. Conrad Cabral : Assistant Professor, Department of Zoology. 
   Regulation of var gene in *Plasmodium falciparum*.

Institutional Biosafety Committee of The College:
As per the Govt. of India regulations, organizations handling genetically modified organisms (GMOS) and recombinant DNA materials for research or production should constitute an IBSC with the DBT approval. In the regulatory framework, IBSC is one of the statutory body which operates directly from the premises of the institution and is responsible for proper implementation of biosafety rules, regulations and guidelines. The college has an IBSC constituted in 2003 with the approval of the DBT, Govt. of India, and since then convenes regular meetings to monitor the GMO and recombinant activities of the various ongoing research projects.
List of Equipment currently in the Caius Research Laboratory:

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Equipment</th>
<th>Make</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Autoclave (large)</td>
<td>Equitron</td>
</tr>
<tr>
<td>2</td>
<td>Microfuge RM12C</td>
<td>REMI</td>
</tr>
<tr>
<td>3</td>
<td>Analytical balance</td>
<td>AND</td>
</tr>
<tr>
<td>4</td>
<td>Autoclave (small)</td>
<td>Equitron</td>
</tr>
<tr>
<td>5</td>
<td>Dri-Bath (2 nos)</td>
<td>Spectralab</td>
</tr>
<tr>
<td>6</td>
<td>Electrophoresis equipment - DNA</td>
<td>TechnoSource</td>
</tr>
<tr>
<td>7</td>
<td>Electrophoresis equipment - Protein</td>
<td>TechnoSource</td>
</tr>
<tr>
<td>8</td>
<td>Freezer -20°C</td>
<td>VestFrost</td>
</tr>
<tr>
<td>9</td>
<td>Gradient thermal cycler</td>
<td>Eppendorf</td>
</tr>
<tr>
<td>10</td>
<td>Microfuge</td>
<td>Eppendorf</td>
</tr>
<tr>
<td>11</td>
<td>Refrigerated centrifuge</td>
<td>Plastocraft</td>
</tr>
<tr>
<td>12</td>
<td>Refrigerator 2</td>
<td>Whirlpool</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LG</td>
</tr>
<tr>
<td>13</td>
<td>UV Trans-illuminator</td>
<td>TechnoSource</td>
</tr>
<tr>
<td>14</td>
<td>UV-VIS Spectrophotometer</td>
<td>Thermo</td>
</tr>
<tr>
<td>15</td>
<td>Laminar air-flow</td>
<td>Micro-Filt</td>
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<tr>
<td>16</td>
<td>Glass distillation unit</td>
<td>D. Shah</td>
</tr>
<tr>
<td>17</td>
<td>Oven (250°C)</td>
<td>Jagnani</td>
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<tr>
<td>18</td>
<td>Shaker incubator</td>
<td>REMI</td>
</tr>
<tr>
<td>20</td>
<td>Autoclave (medium)</td>
<td>Equitron</td>
</tr>
<tr>
<td>21</td>
<td>Digital balance</td>
<td>Contech</td>
</tr>
<tr>
<td>22</td>
<td>Incubator</td>
<td>Gallenkamp</td>
</tr>
<tr>
<td>23</td>
<td>Microscope</td>
<td>Spencer</td>
</tr>
<tr>
<td>24</td>
<td>Microwave oven</td>
<td>LG</td>
</tr>
<tr>
<td>25</td>
<td>pH meter</td>
<td>Equiptronics</td>
</tr>
<tr>
<td>26</td>
<td>Water-bath</td>
<td>Trishul</td>
</tr>
<tr>
<td>Sr. No.</td>
<td>Instrument</td>
<td>Source</td>
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</tr>
<tr>
<td>1</td>
<td>Gel Documentation System</td>
<td>DST-FIST</td>
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<tr>
<td>2</td>
<td>Shimadzu UV–Visible Spectrophotometer</td>
<td>“</td>
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<tr>
<td>3</td>
<td>Thermal Cycler</td>
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<tr>
<td>4</td>
<td>Gas Chromatogram</td>
<td>“</td>
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<td>5</td>
<td>HPTLC</td>
<td>“</td>
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<tr>
<td>6</td>
<td>Electroporator</td>
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<tr>
<td>7</td>
<td>Ultrasonicator</td>
<td>“</td>
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<tr>
<td>8</td>
<td>Lyophiliser</td>
<td>“</td>
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<tr>
<td>9</td>
<td>2 Dimensional Electrophoresis</td>
<td>“</td>
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<tr>
<td>10</td>
<td>cooling/heating (BOD) Incubator</td>
<td>“</td>
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<td>11</td>
<td>CO2 Incubator</td>
<td>“</td>
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<tr>
<td>12</td>
<td>Laminar Flow</td>
<td>“</td>
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<tr>
<td>13</td>
<td>Refrigerated Centrifuge</td>
<td>UGC</td>
</tr>
<tr>
<td>14</td>
<td>UV-Visible Spectrophotometer</td>
<td>UGC</td>
</tr>
<tr>
<td>15</td>
<td>Water bath shaker</td>
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<tr>
<td>16</td>
<td>Eliza plate reader</td>
<td>Lady Tata Foundation</td>
</tr>
<tr>
<td>17</td>
<td>Inverted microscope</td>
<td>Dept. of Biotechnology, St. Xavier’s College</td>
</tr>
<tr>
<td>18</td>
<td>Laser Printer</td>
<td>St. Xavier’s College</td>
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</tbody>
</table>