



ST. XAVIER'S COLLEGE

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❖ Minutes and/or Resolutions of Board of Studies meetings held in the last five years for:

• Department of Life Science and Biochemistry

Programme/s: Biochemistry courses of

1. BSc Life Science and Biochemistry,
2. BSc Microbiology and Biochemistry,
3. BSc Botany and Biochemistry &
4. BSc Zoology and Biochemistry

• Summary

Academic Year	Dates of BoS meetings	Revision in syllabus
2019-2020	29/02/2020	x
	21/09/2019	x
2018-2019	28/07/2018	✓
2017-2018	10/03/2018	✓
2015-2016	01/08/2015	x



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2019-2020

Dates of BOS

1. 21st September, 2019
2. 29th February, 2020



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DEPARTMENT OF LIFE SCIENCES AND BIOCHEMISTRY
ST. XAVIERS COLLEGE (AUTONOMOUS), MUMBAI- 400001
Board of studies meeting-Biochemistry

Date: 21/09/2019, 11.00 a.m.

Venue: Conference Room 3
XIMR, 3rd Floor

Agenda:

1. Introduction of new Board members.
2. Discussion on changes made in practical syllabi.
3. Evaluation tools used currently.
Display of question papers (End Semester Exam papers for Even Semester 2018-2019 & CIA-I & II papers for Odd Semester 2019-2020)
4. Student feedback questionnaire
5. Any other matter with permission of the chair.



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1_1_2 BoS Minutes - Biochemistry


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MINUTES OF THE BOARD OF STUDIES (BIOCHEMISTRY)

DATE: - 21st September 2019.

VENUE: - SEMINAR HALL 2 (XIMR BUILDING)

ST. XAVIER'S COLLEGE (AUTONOMOUS), MUMBAI.

Members who attended the meeting: -

1. Dr Seema Das [Chairperson, St. Xavier's College, (Autonomous), Mumbai]
2. Dr Aldon Fernandes (Bharat Serum)
3. Dr Alka Nerurkar (T.N. Medical College, Nair Hospital, Mumbai)
4. Dr Vainav Patel (NIRRH, Mumbai)
5. Dr Thangamani Marar (D.Y. Patil University)
6. Dr Nandita Mangalore
7. Dr Prashant S. Ratnaparkhi
8. Dr Priya Sundarrajan
9. Dr Sangeeta Shetty
10. Dr Bhaskar Saha
11. Dr Binoj Kutty
12. Dr Dwight Figueredo

The meeting began with Dr Seema Das thanking the members for attending the meeting. This was followed by a formal introduction of the members who attended the meeting.

The minutes of the previous meeting held on the 28th of July 2018 were visited then formally passed.

Dr Seema then initiated the discussions for the ensuing meeting.

The following were the proceedings of the meeting:

- Changes which were made in the experiments were discussed and justifications were given for the same.
- Dr Alka Nerurkar indicated that name of the methods used in the practical should be mentioned. She also asked whether the projects conducted in Biochemistry were related to the syllabi. To this, Dr Prashant replied that students were required to come up with feasible projects and present it to the Staff members. The projects which could be done without much dependencies would be done, within their regular semester.



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- Dr Aldon asked if students present papers. Dr Seema, Dr Sangeeta and Dr Bhaskar replied that the students actually report their findings in the form of a scientific paper. He then emphasized that students be led into reading of research papers.
- Dr Vainav and Dr Aldon suggested that students can be invited to try out alternative methods for certain experiments and get to learn innovative ideas.
- Dr Vainav asked if clinical biochemistry was done in the practicals. Dr Nandita replied that this was done only with the MSc students.
- Concern was raised regarding experiments related to column chromatography. Certain materials needed for these experiments were expensive and inability to conduct these experiments were thus brought out.
- To this, Dr Aldon suggested that students could be sent for an internship for 2/3 months. He also suggested that students could try out different methods of separations and compare their efficiencies.
- Dr Vainav added that he could unofficially allow the use of some column related materials. This facility can be then extended to a group of students who could come in his lab to perform some experiments. He also said that reagents pertaining to electrophoresis could be easily given by him, informally. He also asked why the horizontal agarose gel experiment was removed. Dr Nandita replied to this question by saying that this was a repeat, as all students do that experiment in their individual courses.
- Dr Aldon said that experiments which may require antibodies could be done after proper coordination. He also informed the members that as per a new government ruling, 2% of the profits can be formally given by any company to an educational institution. This should be used effectively.
- Dr Nandita informed the members that some experiments would be shifted from semester 6 to semester 5 so that the students get more time for their projects in semester 6.
- Dr Vainav, Dr Alka and Dr Aldon advocated that career counselling and similar workshops be organized for students so that they could make informed choices about the courses they choose, or careers they would like to pursue.
- Question was asked regarding the representation of students in the BOS meeting. To this, Dr Nandita replied that the formation of the BOS members was now according to the new diktat of the UGC.



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- Dr Alka Nerurkar asked if the students were shown papers after the assessment of their papers. To this, Dr Seema told her that it was the policy of the college and it was rigorously followed. Dr Nerurkar suggested that the students should be made to sign after they had seen their papers.
- Dr Vainav spoke about his experience with CBS classes. He spoke about self-driven project ideation which were done by these students. He recommended that a few students could be initiated to take up internships. This could help in building a continuity of scientific fever in the department.
- Dr Nandita emphasized that the projects conducted for students actually allowed them to identify their aptitude for research.
- Dr Vainav informed the members that the NIRRH conducted Faculty Development Programs, which the staff members could attend.
- The above discussions were passed after Dr Alka Nerurkar proposed them and Dr Aldon seconded them.
- Dr Seema then introduced the questionnaire which was developed for the assessment of all the courses. The following suggestions were given by the members to make the questionnaire effective:
 - ◆ Percent attendance of students to be added to the questionnaire, with a minimum of 75% attendance eligibility to be used for assessment.
 - ◆ Forms could be made specific to different years, as the experiences of students of 3 different years will be different.
 - ◆ Questions regarding Critical thinking need to be explained with a suitable example.
 - ◆ Questions which will identify the measurement of individual progress needs to be included with relevant examples.
 - ◆ Students of SYBSc and TYBSc could be asked questions about their future plans / course. Career counselling could be then directed on those lines.
 - ◆ Population across 3 years to be identified so that objectivity can be brought in for the assessment of student progression.
 - ◆ Questions which will assist in identifying the choices made by the students could be incorporated.





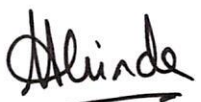
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- ◆ Dr Aldon suggested that a list of alumni could be made available to students so that they could be more specific in selecting their future course.
- ◆ He also suggested that abstracts of papers could be made available to the students so that they could identify the area that interests the most.
- ◆ Dr Thangamani asked if a similar questionnaire would be administered to the PG students.

The meeting was then concluded.



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DEPARTMENT OF LIFE SCIENCES AND BIOCHEMISTRY
ST. XAVIERS COLLEGE (AUTONOMOUS), MUMBAI- 400001
Board of Studies Meeting-Biochemistry

Date: 29-02-2020, 10.30 a.m.


Venue: Board Room
XIMR, 3rd Floor

Agenda

1. Passing the minutes of the previous meeting of the BOS, Biochemistry, held on 29th September, 2019
2. Action Taken Report
3. Examination of tools currently used for evaluation:
ESE papers (hard copy) on display for Odd Semester 2019-20 and Even Semester (CIA I) 2019-20
Various evaluation methods for CIA II
4. Any other matter, with the permission of the Chair.



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DEPARTMENT OF LIFE SCIENCE AND BIOCHEMISTRY
ST. XAVIERS COLLEGE (AUTONOMOUS), MUMBAI- 400001
Board of studies meeting-Biochemistry

Date: 29.02.2020, 10.30 a.m.

Venue: Board Room
XIMR, 3rd Floor
1st

Title	Board of Studies for Biochemistry	Signature
Chairperson	Dr. Seema Das Associate Professor & HOD, Department of Life Science & Biochemistry, St. Xavier's College	 29/02/2020
VC nominee	Dr. Geeta Ibrahim Principal, Nirmala Niketan College of Home Science, Marine Lines, Mumbai	
Co-opted expert from outside College	Dr. Chinmoyee Vatsayan HOD, Department of Biochemistry, Sophia College, Mumbai	Absent
Subject expert from other University	Dr. Thankamani Marar Prof & Dean, Faculty of Science Dr D.Y Patil University, Nerul, Navi Mumbai	Absent
Subject expert from other University	Dr. Alka Nerurkar Department of Biochemistry Nair Hospital, Mumbai	
Expert from industry	Dr. Aldon Fernandes Asst. Vice President - R & D Biologicals (Equine) Bharat Serums & Vaccines Ltd. Airoli, Navi Mumbai	
Meritorious alumnus	Dr. Vainav Patel Head, Dept. of Biochemistry and Virology NIRRH (ICMR), Mumbai 400012	Absent
Faculty member from the Department	Dr. Nandita Mangalore Associate Professor	 29/02/2020
Faculty member from the Department	Dr. Prashant Ratnaparkhi Associate Professor	



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Faculty member from the Department	Dr. Priya Sundarrajan Associate Professor	<i>Priya Sundarrajan</i> 29/2/2020
Faculty member from the Department	Dr. Sangeeta Shetty Associate Professor	<i>Sangeeta Shetty</i> 29/02/2020
Faculty member from the Department	Dr. Radhika Tendulkar Assistant Professor	<i>Radhika Tendulkar</i> 28/02/2020
Faculty member from the Department	Dr. Manasi Kanuga Assistant Professor	<i>Manasi Kanuga</i> 29/2/2020
Faculty member from the Department	Dr. Maya Murdeshwar Assistant Professor	<i>Maya Murdeshwar</i> 29/02/2020
Faculty member from the Department	Dr. Binoj Kutty Assistant Professor	<i>Binoj Kutty</i> 29/2/2020
Faculty member from the Department	Dr. Bhaskar Saha Assistant Professor	<i>Bhaskar Saha</i> 29/2/2020



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ACTION TAKEN REPORT (ATR)

for

Meeting: Board of Studies (Biochemistry) Meeting
Date Held: 21st September 2019
Venue: Conference Room 3 (XIMR Building, 3rd Floor)
St. Xavier's College (Autonomous), Mumbai

Agenda #2: Discussion on changes made in practical syllabi

1. Name of the methods used in the practical should be mentioned.
This will be added in the contents page from the next academic year 2020- 21 (starting June 2020).
2. Students be led into reading of research papers.
This is done in the mandatory Scientific Communications Skills course that students undertake in their 2nd year BSc.
3. Students can be invited to try out alternative methods for certain experiments and get to learn innovative ideas.
 - a. We are considering implementing them in regular practical sessions as a comparative study of different methods and their efficiencies (eg. Chromatographic separation of plant pigments using TLC versus Column chromatography)
 - b. Biochemistry Research projects students are encouraged to try alternative methods other than the standard ones studied in the practical session.
4. Students could be sent for an internship for 2/3 months.
Students, on their own, apply for and complete internships in research institutions/ companies during the vacation time. Sending them for internships during working months is not possible.
5. Experiments which may require antibodies could be done after proper coordination. As per a new government ruling, 2% of the profits can be formally given by any company to an educational institution. This can be used efficiently. This is being discussed in the department and will be implemented soon as the best approach is decided upon.
6. Some experiments would be shifted from semester 6 to semester 5 so that the students get more time for their Biochemistry Research Projects in semester 6. This was implemented in the current academic year 2019-20 as discussed in the previous BOS meeting.



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Agenda #3: Evaluation Tools used currently

1. Students should be made to sign after they had seen their assessed papers. This will be implemented from the next academic year 2020-21 (starting June 2020).

Agenda #4 Student Feedback Questionnaire

1. Suggestions on the questionnaire developed for the assessment of all the courses. Suggestions made were incorporated.
2. A similar questionnaire to be administered to the PG students. An online version of the questionnaire has been administered to all UG and PG students for the odd-semester courses. Feedback received is being analysed. The even semester course-wise feedback will be administered shortly.

Agenda #5 Any other matter with the permission of the chair

1. A list of alumni could be made available to students so that they could be more specific in selecting their future course. This is available with the staff in-charge of student track records for last few years, and is made available to students as required, and on their request.
2. Career counselling and similar workshops be organized for students so that they could make informed choices about the courses they choose, or careers they would like to pursue.
 - a. A 'Career Guidance' session was organized for students of SY and TYBSc and MSc I and II during the annual Khandala seminar on 17-18th Nov. 2019. Students were informed of the various career opportunities in science and non-science fields. The deadlines of various competitive exams were mentioned and specific queries were addressed by the department faculty.
 - b. 7 talks by department alumni were organized since Nov. 2019 till date. Alumni spoke about their subjects of study (Molecular Medicine and Genetics, Nutrition, Pharmacology etc.) and guided students about higher education opportunities in India and abroad.
 - c. A session with the NGO 'Teach For India' was organized for TYBSc and MSc students on 13th Feb. 2020 to inform them about teaching and career opportunities with the organization.



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BOARD OF STUDIES MEETING IN BIOCHEMISTRY

29TH FEBRUARY 2020, 10:30 am

XIMR BOARD ROOM

The following members were present for the meeting:

Dr Seema Das (Chairperson)

Dr Geeta Ibrahim

Dr Alka Nerurkar

Dr Aldon Fernandes

Dr Nandita Mangalore

Dr Prashant S. Ratnaparkhi

Dr Priya Sundarrajan

Dr Sangeeta Shetty

Dr Radhika Tendulkar

Dr Manasi Kanuga

Dr Maya Murdeshwar

Dr Bhakar Saha

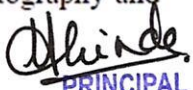
Dr Binoj Kutty

Dr Dwight Figureido

1. Dr Seema thanked the members for attending the BOS meeting.
2. The minutes of the previous BOS meeting held on 21st September, 2019 were revisited and were kept open for discussion.
3. These minutes were passed on being proposed by Dr Aldon and seconded by Dr Geeta.
4. After the minutes of the previous meeting were passed, Dr Seema presented the Action Taken Report (ATR) for the suggestion made by the members of the board during the last meeting. The following were the points regarding ATR:
 1. In response to the point of student involvement in projects, Dr Nandita clarified that students were made to read research papers and incorporate the concepts in the research projects conducted by students in groups. She also added that students were promoted to try out alternative methods in experimentation, especially in chromatography and different protocols used for estimation of biomolecules.



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2. In continuation to the above point, Dr Aldon suggested the incorporation of lipids and their significance in delivery systems be highlighted in theory. He also suggested setting up of an experiment to estimate free Polyethylene Glycol for dissociation studies.
3. On an enquiry regarding the application of students for internships, Dr Seema stated that students applied to such internships on their own. Dr Sangeeta also added that not all students applied for internships. Dr Aldon reiterated his offer on behalf of his company for internships, although no stipend was paid for such internship. The staff suggested Noel's name for internship.
4. As requested earlier, some experiments were shifted from even semester to odd semester to accommodate more time for group projects. Dr Nandita specified the modalities of the project, right from the inception of the idea, the discussions within groups, the presentation and mentoring and finally, the proceedings. She also explained the marking scheme for the project. Dr Aldon informed the members about Library Service Bureau which could be used by students for their literature surveys and other academic purposes.
 - a. As suggested in the last meeting, it was decided that students would be made to sign after they see their evaluated papers.
 - b. Dr Seema informed the members that a course-wise feedback form was developed by the college. The questions incorporated in the form were shown to the members. Dr Nandita added that students were asked to fill the form for each course.
 - c. Dr Geeta suggested that a similar form could be developed for employees. Dr Aldon added that he could give a template of such questions that could be incorporated in the questionnaire.
 - d. Dr Seema informed the members that the list of alumni was updated and was available to students. The alumni were very closely associated with the department activities. Dr Maya informed that many alumni gave lectures on topics of science and career options. The department also conducted a session where ambassadors from Teach For India (TFI) informed students of the career options which they could prospect with TFI.
 - e. Dr Maya informed that three students of the batch of 1994 spoke to the current students about careers which could be considered by them. The members were informed by Dr Nandita that many students opted for Law, Management and were also open to a variety of novel careers. She also highlighted that whenever alumni came to speak to the students, they emphasized the importance of values and ethics in any career.

Dr Bhaskar added that students generally made a choice if they got an opportunity to get some hands-on on the work.

- f. Finally, Dr Seema informed the members of the different modes used for Internal Assessment. Dr Nandita informed the members that Continuous Internal Assessment (CIA)-1 was a regular written exam. But CIA-2 exams were conducted using alternative methods. She elaborated the essay method for examination and the logistics involved in the conduct of this format of exams.
- g. On his query regarding conferences attended by students, Dr Aldon was informed that a few students attended conferences on their own. But, Biowaves, an annual event of the department allows the students to participate and even execute small organizational roles in this event. Dr Sangeeta added that students did participate in a variety of



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competitions held across different colleges in Mumbai. The "Wall of Fame" was explained to the members.

- h. Dr Aldon suggested that students should attend Nobel Lectures and a report on these could be prepared by the students as submissions.
5. There was an open discussion on Ph.D. recognition in Biochemistry. Dr Nerurkar said that she would propose to the BOS of Biochemistry in the University of Mumbai to allow PhD program in Biochemistry in all the departments of Biology.
6. Dr Aldon also asked whether the students were informed about ethics in publishing. Dr Radhika informed the members that the SYBSc students have a formal course on Scientific Communication Skills, where various aspects of reading scientific papers, writing skills, ethics and predatory journalism is elaborated.
7. Dr Nerurkar suggested that a Research Methodology Course be considered for students.
8. There was a question from Dr Aldon regarding funding sources for research. Dr Nandita explained that the funds are derived mostly from Star College Grant, DBT grant, College of Excellence grant, the Tata grant and grants from the RUSA.
9. The meeting thus concluded with Dr Seema thanking everyone for attending and giving their inputs.



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2018-2019



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**AGENDA FOR THE MEETING OF THE BOARD OF STUDIES FOR
BIOCHEMISTRY - 28th July 2018**

1. Introduction of the new Board members.
 2. Passing the minutes of the previous BOS (Biochemistry) meeting held on 10th Mar 2018.
 3. Syllabi modification :

TYBSc : Biochemistry - theory and practicals
 - a. Theory – Introduction of purine & pyrimidine metabolism.
 - b. Practicals – Discuss the plan circulated
T.Y.B.Sc. students' feedback.
 - c. Evaluation of project – 40marks or 50marks
 4. Examination of tools currently used for evaluation:
 - a. ESE papers (hard copy) on display for Even sem 2017-18 and Odd sem 2018 -19
 5. Any other matter, with the permission of the Chair.
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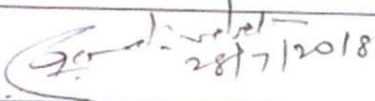
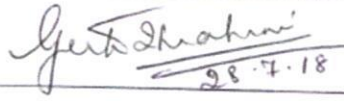
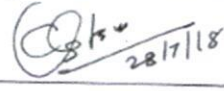

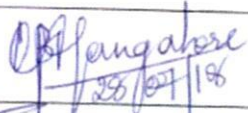
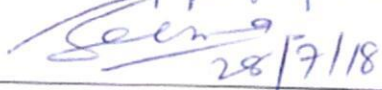
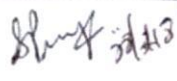

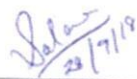
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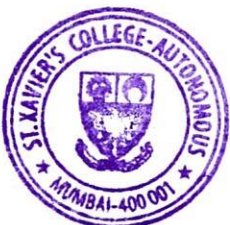
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Board of Studies Meeting - Biochemistry

28th July 2018

Attendance of Members

Board of Studies for Biochemistry	Signature
1. Dr. Atmaram Bandivdekar	 28/7/2018
2. Dr. Geeta Ibrahim	 28.7.18
3. Dr. Chinmoyee Vatsayan	 28/7/18
4. Dr. Debjani Dasgupta	
5. Dr. Laxmi Rao	
6. Dr. Kundan Sen	
7. Dr. Nandita Mangalore	 28/07/18
8. Dr. Seema Das	 28/7/18
9. Dr. Priya Sundarrajan	 28/7/18
10. Ms. Janvi Gandhi	 28/07/18
11. Ms. Umm-E-Salama Udaipurwala	 28/7/18



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Minutes of the Meeting of Board of Studies for Biochemistry

held on 28th July, 2018.

Venue : Board room, St. Xavier's College, Mumbai.

Members present : Dr. Nandita Mangalore
Dr. Seema Das
Dr. Priya Sundarrajan
Dr. Atmaram Bandivdekar
Dr. Geeta Ibrahim
Dr. Chinmoyee Vatsysyan

Students members : Ms. Janhavi Gandhi
Ms. Salama Udaipurwala

1. Dr. Nandita Mangalore (NM) initiated the meeting by introducing the students and Dr. Rao to the members of the Board. It was announced that Dr. D. Dasgupta- D.Y. Patil University, Dr. K. Sen - IISER, Pune and Dr. Laxmi Rao- US Vitamins were unable to attend due to unavoidable prior commitments.

2. Minutes of the BOS meeting held on 10.03.18 were presented with clarification of some salient issues. Dr. Geeta proposed that the minutes be passed and this proposal was seconded by Dr. Atmaram Bandivdekar.

3. Dr. Rao's queries about the lack of certain techniques in the UG programme (They were included in the PG course) and Dr. Bandivdekar's concern about lab safety were answered.

4. Syllabi Changes:

a) Theory: S.BCH.5.602

Introduction of Purine and Pyrimidine metabolism. (Basic concepts and significance to be discussed. No structures)

b) Practicals:

S.BCH.5.PR

Practicals removed

- i. Biuret method
- ii. Determination of the Optimum pH, and Km of an enzyme (α/β Amylase / Acid Phosphatase)
- iii. Extraction of DNA from plant/animal/microbial source. Qualitative test for DNA / test for purity (A260/A280)

Practicals added

- a. Estimation of Phosphorous
- b. Estimation of Iron
- Estimation of Calcium
- Ascorbic acid titration curve



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S.BCH.6.PR

Practicals removed

- Glucose Tolerance test(GOD-POD)
- Sucrose [monograph]
- Agarose gel electrophoresis of proteins/ nucleic acids
- Urine analysis : Specific gravity

Practicals added

- Optimum pH
- Kinetics: Km, Vmax (Michaelis-Menten, Lineweaver – Burk)
- Fractionation with ammonium sulphate (50% and 100%), Dialysis
- Determination of activity and specific activity
- Group research projects - marks increased to 50

(Marks for the scientific paper on the were project increased to 20 from 10 in the previous year following student feedback. This raised the marks for the project from 40 to 50)

c) **Board suggestions:** Dr. Chinmoyee suggested the use of self made dialysis paper made from Collodion-microcellulose, syrupy solution. It is not very costly and works well. Also, it can be made earlier and stored. Dr. CV also suggested that some activities could be performed in groups and the results pooled.

d) **Student feedback:**

- There is a repetition of experiments e.g. Casein from SYBSc LSc. - They were informed that SY practicals were qualitative not quantifiable, and LSc students form less than 30% of the TY class. Other departments do not have Casein extraction.
- Advanced techniques such as PCR should be introduced - either for performing/
demonstration
- Hardly any internships done so lack of awareness about advanced techniques

All the comments were addressed by NM and reasons for not complying with the requests clearly stated.

Dr. Rao added that all institutes will conduct their own training programmes anyway. The learning outcome needs to be examined and problem solving ability honed, whichever experiment is performed.

Question papers

The question papers of the End Semester examination of the academic year 2017-18 - October 2017 and Mar 2018 were made available for the perusal of the board members

Dr. Nandita announced that she would be stepping down from the headship from Nov 2018.

Dr. Seema Das would take over as the new HOD.



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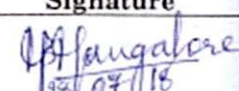
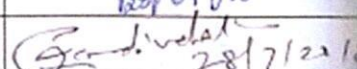
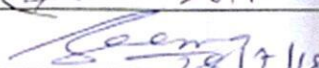
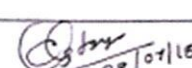
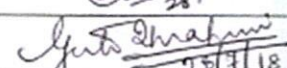

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RESOLUTION

"The Subject Board in BIOCHEMISTRY for St. Xavier's College (Autonomous), hereby approves the practical syllabus of the Third Year Course of studies for the Fifth and Sixth Semester, which is being implemented from the Academic Year 2018-19"

Name	Designation	Signature
Dr. Nandita Mangalore	Head, Department of Life Science and Biochemistry	 28/07/18
Dr. Atmaram Bandivdekar	University Representative	 28/7/2018
Dr. Seema Das	Senior Teacher	 28/7/18
Dr. Priya Sundarrajan	Senior Teacher	
Dr. Chinmoyee Vatsayan	Subject Expert	 28/07/18
Dr. Geeta Ibrahim	Subject Expert	 25/7/18
Dr. Debjani Dasgupta	Subject Expert	
Dr. Laxmi Rao	Industry Professional	 25/25/2018
Dr. Kundan Sen	Industry Professional	
Ms. Janvi Gandhi	Student Nominee	
Ms. Umm-E-Salama Udaipurwala	Student Nominee	



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AGENDA FOR THE MEETING OF THE BOARD OF STUDIES BIOCHEMISTRY
10TH March 2018


1. Introduction of the Board members.
2. Passing the minutes of the previous meeting of the BOS – Biochemistry held on 1st August 2015.
3. Syllabi modification at the UG – TYBSc level , Course 5.01 and Some minor changes to 6.01 & 6.02.

UG: Biochemistry theory

- a. T.Y.B.Sc. students' feedback.
 - b. Minor Modifications instituted by the teachers of **3 theory courses** (TY – Biomolecules, Analytical Biochemistry, Nutrition & metabolism).
 - c. CIA II - options
4. Examination of tools currently used for evaluation:
 - a. ESE papers (hard copy) on display for Even sem 2016-17 and Odd sem 2017-18
 - b. CIA -2 modalities shared on a slide.
 5. Any other matter, with the permission of the Chair.
-



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DEPARTMENT OF LIFE SCIENCE AND BIOCHEMISTRY
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Board of Studies Meeting - Biochemistry

10th March 2018

Attendance of Members

Board of Studies for Biochemistry	Signature
1. Dr. Atmaram Bandivdekar	
2. Dr. Geeta Ibrahim	 10.3.18
3. Dr. Chinmoyee Vatsayan	 10/3/18
4. Dr. Debjani Dasgupta	
5. Dr. Pallavi Karnik	
6. Dr. Kundan Sen	
7. Dr. Nandita Mangalore	 10/3/18
8. Dr. Priya Sundarrajan	
9. Dr. Radhika Tendulkar	
10. Ms. Jigyasa Dayal	
11. Mr. Tarun Iype	 10-3-18



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**Minutes of the Meeting of Board of Studies for Biochemistry
held on 10th March, 2018.**

Venue : Board Room, St. Xavier's College, Mumbai.

Members present : Dr. Nandita Mangalore
Dr. Priya Sunderrajan
Dr. Radhika Tendulkar
Dr. Atmaram Bandivdekar
Dr. Chinmoyee Vatsyayan
Dr. Geeta Ibrahim

Students members : Tarun Iype
Jigyasa Dalal

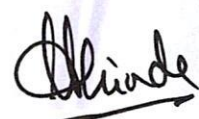
- Dr. Nandita Mangalore (NM) initiated the meeting by requesting the Members of the Board to introduce themselves, since a new Board has been constituted. This was followed by introduction of the Student members.
- The minutes of the last BOS meeting held on 1.8.2015 were displayed. The minutes were passed by all 3 members. i.e Dr. A. Bandivdekar (AB), Dr. Geeta Inbrahim (GI) and Dr. Chinmoyee Vatsyayan (CV).

Revisions in syllabi:

- The revised syllabi, based on previously received students' suggestions, was put forth to the Board members.
- BCH.5.01 - The revisions in Unit I were discussed. Inclusion of secondary metabolites in Unit I was appreciated by the members. CV suggested that Unit I could be titled 'Primary compounds in plants and animals'. Inclusion of Vitamins and Minerals in detail in Unit II was accepted. The title of the paper 'Molecules of biological Significance' was suggested by TI and approved by all.
- BCH.5.02 - Unit I - Nutrition was redesigned and presented. GI suggested introducing 'Food Psychology' as a topic. It was suggested that an introduction to Food processing and storage could be included as well.
- All 4 theory courses were approved by the BOS members.



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Suggestions for Practical Courses:

- The student members suggested introduction of Bioinformatics practicals, which was approved by the members. GI and CV suggested that the students could be asked to bring in their laptops, if needed, so that the session could be conducted in the lab. NM suggested that the Biotechnology lab could be used for this purpose.
- NM informed the members that the syllabus for Practical courses is currently being redesigned. The same will be presented to the members in the next meeting to be held in June 2018.

Students' input about syllabi:

- BCH.5.01 - Cell structure, membrane transport is repeated several times in 3 years. Impetus on structures needs to be reduced. Classification of amino acids could be given as essential reading to avoid repetition.
- BCH. 5.02 - Less time could be spent on Digestion and Nutrition. Instead regulation of metabolic pathways could be done in more detail.
- BCH.6.01 - pH and buffers could be given as essential reading since it is repeated several times in the course of 3 years. Mass Spec and NMR could be introduced in the syllabus.
- BCH.6.02 - No changes suggested.

Assessment modalities:

- End Semester Exam Question papers of previous semesters were displayed.
- The members also reviewed research papers written by the T.Y.B.Sc students based on their group research projects.
- The CIA-2 modalities were shared with the members through a slide display.
- The Experts as well as student members appreciated the CIA-2 modalities used in the current year, such as reviewing the work of Nobel laureates, or designing a research question and reviewing the literature available on it.





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RESOLUTION

"The Subject Board in BIOCHEMISTRY for St. Xavier's College (Autonomous), hereby approves the syllabus of the Third Year Course of studies for the Fifth Semester, which is being implemented from the Academic Year 2018-19"

Name	Designation	Signature
Dr. Nandita Mangalore	Head, Department of Life Science and Biochemistry	
Dr. Atmaram Bandivdekar	University Representative	
Dr. Priya Sundarrajan	Senior Teacher	
Dr. Radhika Tendulkar	Senior Teacher	
Dr. Chinmoyee Vatsayan	Subject Expert	
Dr. Geeta Ibrahim	Subject Expert	
Dr. Debjani Dasgupta	Subject Expert	
Dr. Pallavi Karnik	Industry Professional	
Dr. Kundan Sen	Industry Professional	
Ms. Jigyasa Dayal	Student Nominee	
Mr. Tarun Iype	Student Nominee	



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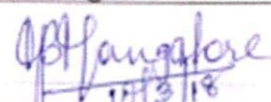
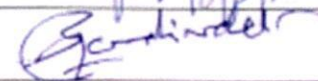
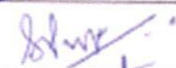
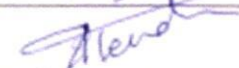
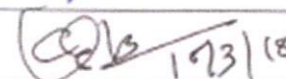
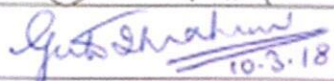
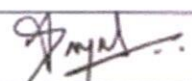

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RESOLUTION

The Subject Board in BIOCHEMISTRY for St. Xavier's College (Autonomous), hereby approves the syllabus of the Third Year Course of studies for the Sixth Semester, which is being implemented from the Academic Year 2018-19"

Name	Designation	Signature
Dr. Nandita Mangalore	Head, Department of Life Science and Biochemistry	
Dr. Atmaram Bandivdekar	University Representative	
Dr. Priya Sundarrajan	Senior Teacher	
Dr. Radhika Tendulkar	Senior Teacher	
Dr. Chinmoyee Vatsayan	Subject Expert	
Dr. Geeta Ibrahim	Subject Expert	
Dr. Debjani Dasgupta	Subject Expert	
Dr. Pallavi Karnik	Industry Professional	
Dr. Kundan Sen	Industry Professional	
Ms. Jigyasa Dayal	Student Nominee	
Mr. Tarun Iype	Student Nominee	



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Department of Life Science and Biochemistry St. Xavier's College (Autonomous)

The Principal, Dr. Agnelo Menezes had instructed Dr. Nandita Mangalore, Head, Department of Life Science and Biochemistry to hold the Board of Studies (BOS) meeting only if there were changes in the syllabus. As there were no changes in the syllabi, the BOS meetings were not held for either Life Science or Biochemistry in the academic year 2016-17.

N. Mangalore
22/04/17

Head and Associate Professor,
Department of Life Science and Biochemistry.



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DEPARTMENT OF LIFE SCIENCE AND BIOCHEMISTRY
ST. XAVIER'S COLLEGE (AUTONOMOUS), MUMBAI 400001

AGENDA FOR THE MEETING OF THE BOARD OF STUDIES FOR LIFE
SCIENCE AND BOARD OF STUDIES OF BIOCHEMISTRY

1st August 2015

1. Introduction of New members
2. Syllabii:
 - a. UG: change in marks distribution in S.LSC.6.04 practicals. Project = 30 marks End Semester (Earlier 15 marks)
 - b. PG:
 - Project over two semesters. Assessment in semester IV.
 - Discontinuation of Friday internship
3. Display of exam papers (End Semester March 2015 and 1st C.I.A. July 2015)
4. Student members' input



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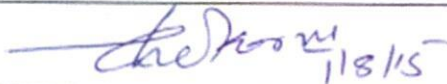
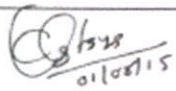

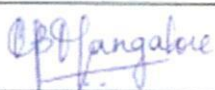
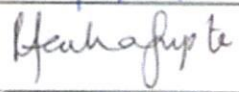



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DEPARTMENT OF LIFE SCIENCE AND BIOCHEMISTRY
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Board of Studies Meeting - Biochemistry

1st August, 2015

Attendance of Members

Board of Studies for Biochemistry	Signature
1. Dr. Anita Nadkarni	 11/8/15
2. Dr. Geeta Ibrahim	
3. Dr. Chinmoyee Vatsyayan	 01/08/15
4. Dr. Sumant Karnik	 11/8/15
5. Dr. Ajit Datar	ABSENT
6. Dr. Debjani Dasgupta	ABSENT
7. Dr. Nandita Mangalore	
8. Dr. Radiya Pacha Gupta	
9. Dr. Seema Das	
10. Shravan Ram	
11. Laxmi Hiranandani	



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Minutes of the BOS held on 1-08-2015

Dr. NM started the meeting by asking the student members to introduce themselves. The outside experts also introduced themselves. This was a joint meeting of both the Life Science and the Biochemistry board and the quorum was complete as there were seven members present in each of the boards. Minutes of the last BOS had already been circulated via email. The Life Science minutes were proposed by Dr. KI and Dr. ST and seconded by Dr. DM. The Biochemistry minutes were proposed by Dr. AN and seconded by Dr. CV.

The Life Science board passed the proposal of allocating 30 marks instead of 15 to the project in 6.04 practical paper. The external examiner will sit through the presentation and mark it.

Dr. ST opposed the 5 marks allocated for the journal and a discussion ensued on this. Drs. NM, SD & RPG said that they also felt the same but this was a college policy. ST suggested a reduction or minimization of these marks and asked as to how were the marks awarded. NM told her that attendance, quality of graphs and writing of results and interpretation were considered. KI told how marking of journals was done in his institute. For each lab turn that the students come for, they are given ten marks based on attendance, lab work and writing the expt. Then it is averaged out and converted to five marks, thus the year long performance is accounted for. The students also had an opinion on this—Shravan said that the 5M were important as these were given for the way they tabulate their results etc. Kaveri suggested reducing the marks to 2. Laxmi opined that the marks were important as the results have to be calculated and interpreted. Aditya also said that drawing a conclusion and inference was important.


ST asked as to what were the remaining practical marks for and she was informed of the same by NM.

The discontinuation of the Friday brigade was passed by the BOS after a discussion.

NM asked all present if there were any options for a 2month internship for students as it was not possible for them to do a 4-6 month project. Drs. ST, KI and DM said that this was difficult. KI said that he will check it out. Aditya said that the GPA score was considered everywhere for projects etc and NM said that our students lose out as their scores are not as high as most other universities. ST said that she doesn't look at GPA but at how well the student has written the SOP etc. She further added that work in her lab can't be short term and that she takes only those ones who are very interested. DM and ST explained how 2 months was a very short period for working in a lab. Aditya asked if the students could help in media preparation etc and was told by NM that this was not possible but the honours course gives them an opportunity to work. Also, the projects in both Life Science and Biochemistry develops a research culture and thinking ability. ST suggested that the students be asked to prepare media and then checking it out. RPG said that this was being done at the FY level and that the students were being continuously checked for techniques. KI said that they encourage their UGs to spend time in the



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labs during vacations and work with the Ph.D students. The UGs don't have an independent project but the guides might make them a part of the experiment and based on their work, even include their names in a publication. NM said that on RPG's idea, we are thinking of keeping the labs open during vacations for the PG students. ST suggested having a journal club where papers could be read with TIFR students—could be the same paper year after year. DM said that for an exam in DB at his institute, he had asked the students to write a review paper and then tried to publish it.

ST asked the students if they would like to write a review, Shraavan said that they were working on one such review on zebra fish. DM mentioned that most of the scientists are resistant to students as they need too much looking after. ST said that their primary aim was to take science forward and they could not dilute it with short term projects/work.

Student's input about syllabi

Shraavan said that the FY 1.02 paper on genetics and evolution was too simple and not challenging, he suggested including modern theories and taxonomy.

Laxmi said that they do taxonomy of microflora in 2nd sem, so why not other kingdoms also. Aditya supported her by saying that taxonomy helps to compare and would also help in comparative physiology. Shraavan said that physiology in the 3rd and 4th sem focused on human physiology and was not really comparative. He suggested either doing comparative in details or changing it to human only. Aditya said that as model organisms are non-human, more of comparative should be there. NM asked if doing human physio in one sem and comparative in the other help. Shraavan said that it won't really help as it will get too packed. Shraavan said that they had talked to all students and this was a consensus. He further added that at the end of comparative physio embryology was taught which was disconnected from other physio. Everything else was human but development was of frog. Suggestion from students- push the embryology to TY DB. ST suggested that the students read the book entitled "one gene per chromosome". Shraavan said that Gilbert's essays were being read in class. The students also said that very little of plant hormones was being done. They suggested either doing more or knocking it out altogether as it was left a little incomplete.

The students suggested that in the microbio paper 3.03, the public health aspect was a little too general and suggested pushing it to biostats and related problems be done there. They also said that there were no problems asked in microbio in the exams. ST suggested that the students could look up available hospital data and compare this. SK, KI and AN said that most hospitals and private labs do not share data. St suggested using RTI for getting data.

Shraavan said that the biostats course in SY was not very challenging, there were lots of formulae but applications not challenging enough. The students suggested having less focus on formulae, formulae sheets could be given in exams as they were spending more time on memorizing the formulae. NM said that some changes could be made. Aditya suggested bringing in some clinical



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application questions or case-based studies in exams. He further requested for not asking very descriptive questions in exams and not just book-questions.

The students felt that the applied component of environmental Science was not very engaging and was very dry. They suggested having bioinformatics atleast for one semester. ST suggested that the best way to teach bioinfo would be to teach the basics and then give a project. Shravan said that zoology had bioinfo and was told by RPG & SD that we also have it. Kaveri suggested having computational biology too. RPG suggested keeping these as life Science subjects and not applied component. ST and DM asked as to why ES was still there and they felt that bioinfo was very important because of its usage now.

Shravan said that the biochemistry taught in sem 3 & 5 was more or less the same though more detailed and that the basics were repeated. NM replied by saying that this was inevitable as the biochem course in TY is open to other depts. Like zoology, microbiology and botany also. The students suggested shrinking the biochem syllabus in SY to which NM said that as the TY 6 units do not study biochem, it has to be done in details at the SY level.

The students said that the microbio in 2.02 was too vast and suggested clubbing the taxonomy to classification of microbes. They suggested doing only modern theories of evolution.

ST remarked that she had never seen such a level of communication between teachers and students.

KI remarked that don't shift back and forth (based on the student's comments) but take bioinfo and suggestions regarding formulae in biostats.

ST suggested book readings in vacations.

NM said that we don't have trained teachers for bioinfo.

SK said that Haffkins biopharmacy was involved in making vaccines, sera etc and students could be shifted there for 1-2 weeks. NM said that she will contact him in April and asked if PG students could also join. ST said that as UGs appear to be better, they should not be held back.

It was suggested by ST, NM and KI to set questions at different levels of difficulty for exams and induce students to answer the difficult ones. KI suggested having bonus questions and transferring the marks anywhere else.

CV, ST, DM and KI suggested picking a mix of 'good' and 'not-so-good' students for the BOS.

AN suggested letting the class choose a class representative/s-then maybe the lower-grade students will always be there.



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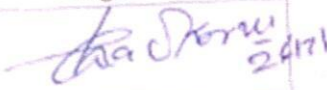
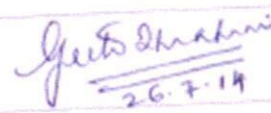
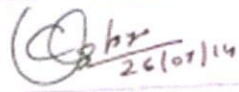
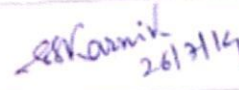

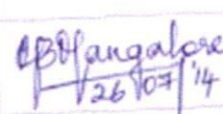
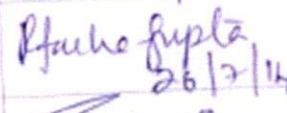
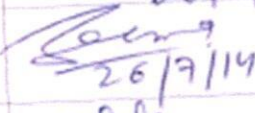
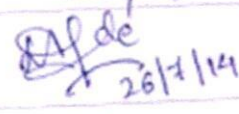
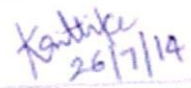
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DEPARTMENT OF LIFE SCIENCES AND BIOCHEMISTRY
ST. XAVIER'S COLLEGE (AUTONOMOUS), MUMBAI - 400001.

Board of Studies (Biochemistry) Meeting

26th July, 2014

Attendance of Members

Board of Studies for Biochemistry	Signature
1. Dr. Anita Nadkarni	 26/7/14
2. Dr. Geeta Ibrahim	 26.7.14
3. Dr. Chinmoyee Vatsyayan	 26/07/14
4. Dr. Sumant Karnik	 26/7/14
5. Dr. Ajit Datar	
6. Dr. Debjani Dasgupta	ABSENT
7. Dr. Nandita Mangalore	 26/07/14
8. Dr. Radiya Pacha Gupta	 26/7/14
9. Dr. Seema Das	 26/7/14
10. Mr. Devashish Pande	 26/7/14
11. Ms. Krittika	 26/7/14



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MINUTES OF THE BIOCHEMISTRY BOARD OF STUDIES (B.O.S.) MEETING
HELD ON 26/07/2014 at 11:00 am.

Attendees: Dr. A. Nadkarni, Dr. C. Vatsyayan, Dr. G. Ibrahim, Dr. A. Datar, Dr S. Karnik, Dr. R. Pacha-Gupta, Dr. S. Das, Dr. Nandita Mangalore, Mr. D. Pande and Ms. Krittika attended the meeting.

Dr. Debjani Dasgupta asked to be excused as she was ill.

1. Dr. Nandita Mangalore (NM):

- Introduced the members-(new student members: Mr .D.Pande and Ms Krittika) and explained the rationale behind the construction of the board.
- Read the minutes of the last B.O.S. held on 23/10/2013. The minutes were approved and passed. ✓

2. Review of the suggestions made and their implementation:

The following experiments were deleted from/modified in the syllabus based on suggestions made in the earlier BOS:

- Folin Wu, galactose GOD-POD deleted
- Demonstration of enzyme immobilization changed to a regular experiment. The two methods - glutacaldehyde/ Na alginate - may be compared.
- K_m as project - effect of inhibitors/ activators on K_m of an enzyme. Removed from practicals since it was not used last year.
- Specific gravity of urine - not done last year.
- Column chromatography with sephacryl - not done.
To be done with the help of M.Sc. students.
- Electrophoresis as demonstration - done.
- Projects - all done and best paper published in the department magazine.
- Presentation of project work not done elsewhere.

It was suggested that projects be done in the 5th semester, but NM explained that the students required to be trained in some additional techniques before they could do their projects. Some experiments from semester 6 have been deleted to give the students more time to work on their projects.

- Plans are on to subscribe to a journal and books
- The grant U.G.C. 12th plan still to come - Rs. 1 lakh kept aside for books/ journals.
- College offers Inlibnet which has a huge paper base, but several journals that the students require are not accessible.

3. Further Changes suggested in the syllabi of S.BCH courses and practicals over 5th and 6th semester were read out by NM:

- Demonstration of lipid profile shifted from practicals to theory.
- Ca/Mg/ Fe - all or one based on time to be introduced to Semester VI

4. Projects – The process of setting up the project was explained:

- 4 groups (6-8 students) 4-6 weeks to work on it.
- 4 weeks of bench work 2 weeks of finalizing.
- They formulate the problem - minimum 2 ideas - present it to the class - thrash it out and then only start. Look things up and decide strategies.
- They work out finances, reagents, etc. and then start work.
- They work more than their schedule, 2 days per week till 6 pm with one teacher.



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The BOS members were explained the process of evaluation of a student's project make a presentation for about 20-25min in a group.

About 3-4 minutes per student. Six chits are made as to what part of the presentation each has to present. All students were asked at least one question. There is a grid for presentation. So, verbal skills, PowerPoint making skills, comprehending questions skills, answering skills, all are checked. Projects available.

Dr. Chinmoyee Vatsyayan, who examined the papers in Mar 2014, shared her opinion of the projects "Projects were very good and papers were very well written especially for undergraduate level"

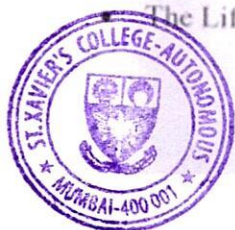
Geeta Ibrahim: For publication of posters, add a staff name and present.

Sumant Karnik: Based on availability of resources - projects were decided.

5. Questions papers and assignment/presentation grids of the last academic year were circulated and the grids were explained.
6. Internship possibilities for students Between S.Y. & T.Y. were discussed. Some have been going to Dr. Karnik in past during the summer vacation.

- Dr. Karnik said that there has been an improvement in the facilities and hence the kind of exposure the kids will get from now on. Along with blood bank, chromatography and plasma fractionation also there from this year. ELISA hands-on. Putting columns run them, etc. Fractionation tests. This year more avenues for the students.
- It was explained that the students had to complete 60 h of internship for 15 days. Hands-on/ observation.
- Dr. Ajit Datar felt 60 h very less for industry. Hands-on training possible. They take for 3 months - Khalsa and Ruia M.Sc. But UG not started yet.
- NM suggested that we explore the possibility of placing our MSc kids. Dr Datar promised to look at it, talk to people in office. Maybe Oct. - Nov. As April - June is already for 4 students for Ruia. Khalsa, but he will check. Maybe UG for ~ 15-20 days. Dr Datar felt it Might be difficult for M.Sc. Will try some other place also with Nitesh - He might have some good suggestions.
- Dr Geeta suggested BARC for 4 months
- Dr. Nadkarni added -For 4 months, give a small project with a publication.
- NM: Talked about the project for M.Sc. Life Science Work at TIFR & NIRRH for one day per week was explained. NM asked Dr. Datar to look for this kind of collaboration with any other institution. He agreed to check.
- Dr. Nadkarni also promised to ask in (her) NIIH institute- maybe try for 1 day/week for some students. They have students coming for 4 months. She'll let us know - maximum ~ 3 students.
- FMR is being tried out.
- NM explained about the process of evaluation of the internship.
- Dr Geeta wanted to know if students also have a project in addition to this going to a research lab.

The Life Science project and marking was explained.



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7. Student's feedback on courses:

No feedback from other students till now.

Devashish Pandey (DP): Life Science & Biochemistry - much repetition in the 5th semester.
Could go into details of some other new topics.

3 topics in details in 3rd semester

3 topics in details in 5th semester

Projects: There was a request from the students that less number of students be put in a group.
Dr Chinmoyee explained the need to learn team work to the students.

NM: explained how a team is created.

BOS suggestions:

SK & AN: Publish some project papers in some low impact papers. Help of autonomy.

CV: Each one gives a paper on his/ her own.

GI: Some pathological labs maybe for internships. Nicholas Piralal.



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