Ramniranjan Jhunjhunwala College
(Autonomous)
Ghatkopar, Mumbai-400086

Department of Physics

Minutes of BOS Meeting

A meeting of members of BOS in Physics was held on Thursday, 10th February 2022 at 3.00 pm in blended mode (online on Zoom platform and in-person).
Members of the Board of Studies:

#	Category	Name of the Members
1.	Head of the Department (Chairperson)	**Dr. Neeta B Srivastava**
2.	All Faculty Members of the Physics Dept.	1. **Dr. Devraj Pawar**
		2. **Dr. Kiran Kolwankar**
		3. **Mr. Sandip Hinge**
		4. **Dr. Vaishali Raikwar**
		5. **Mr. Ashish Yadav**
		6. **Mr. Jagdish Hande**
		7. **Ms. Rani Shaikh**
		8. **Mr. Adwait Kulkarni**
		9. Mr. Rohit Chaudhary
		10. Ms. Kirti Om Prakash
3.	Two Subject Experts from Outside the Parent University	1. **Dr. Shriganesh Prabhu** Tata Institute of Fundamental Research, Mumbai
		2. **Dr. Umesh Shinde** K J Somaiya Institute of Engineering & Information Technology, Sion, Mumbai
4.	One Expert Nominated by the Vice Chancellor from a Panel of Six Recommended by the College Principal	**Dr. Vidya Hiren Patil** Associate Professor, Dept. of Physics Ruparel College, Mumbai
5.	One Representative from Industry / Corporate Sector Allied Area Relating to the Placement	**Dr. Vinay Hasabnis** Chief Technology Officer, Energy & Resources, Pune
6.	One Postgraduate Illustrious Alumni Nominated by the Principal	**Dr. Bharati Kakad** Associate Professor, Indian Institute of Geomagnetism, Navi Mumbai

All the members attended the meeting.

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Agenda:

- Introduction of new member Dr Vidya Hiren Patil, (VC nominee) of Board of Studies
- Minutes of the last meeting.
- Department Updates.
- Modification in some parts of FYBSc syllabus.
- Syllabus: Proposal of change in SYBSc syllabus Academic Year 2022-2023.
- MSc Experimental Physics (Change of a unit, Data Science is replaced by Advance optical device)
- Direct admission to Second Year MSc Physics

Minutes of BOS meeting 10/02/2022

Following topics were discussed in the meeting:

1. Dr. Neeta Srivastava, Head Department of Physics, welcomed the newly formed BOS committee members.
2. Dr. Neeta B Srivastava read the minutes of the last BOS meeting.
3. Syllabus: Since there was no proposed change in the TYBSc syllabus (at UG level) as all the changes suggested earlier by the members were already incorporated in the syllabus, no discussion was there.
4. Inclusion of AC circuits in FY BSC Syllabus proposed
5. The draft syllabus of S Y B Sc SEM III and SEM IV for the academic year 2022-23 was displayed and explained by the Head of the Department, Dr. Neeta B Srivastava.
6. In PG section MSc Experimental Physics (Change of a unit, Data Science is replaced by Advance optical device**)**
7. Direct admission to Second Year MSc Physics was proposed

The following suggestions were given by the various BOS members

(i) Dr. Madhavi Thakurdesai said that the syllabus is extensive though the topics chosen are good (it should be reduced by 25 to 30%) and one should have sufficient time to finish the topics. She also told us to decide about the syllabus looking into the capacity of the students.

(ii) Dr. Neeta Srivastava then explained to her that many topics students have covered in previous classes hence will be taken as review on which Dr. Madhavi agreed but suggested that it should be mentioned in the syllabus.

(iii) Dr. Vidya H Patil dittoed the opinion of Dr. Madhavi. Dr Patil also gave emphasis on using softwares like Excel to solve mathematical problems. She suggested that a part of the syllabus can be done as an extra course. Dr. Prabhu showed his inclination towards giving rigorous training to interested students (for research and higher studies) in solving difficult mathematical problems.

(iv) Dr. Kiran Kolwankar thanked them for their suggestions and also mentioned extra problem solving sessions that interested students do. He also agreed on a vast syllabus and said that it can be reduced if during real teaching it appears to be lengthy.

(v) Dr. Bharati Kakad appreciated the content of the syllabus. She found it simpler

and based on lots of fundamental concepts.

(vi) Dr. Madhavi Thakurdesai expressed her views about the practical. She suggested not to keep all electronics experiments in fourth semester but to keep some of them in third semester too so that there should be enough required apparatus in the laboratory and can have a good blend of easy, difficult, small and lengthy experiments in both semesters. Dr. Neeta Srivastava appreciated this suggestion and agreed to implement it. Dr. Vidya Patil too agreed on Dr. Madhavi's suggestion.

(vii) Dr. Vidya Patil suggested to change the reference book for Digital and Analog electronics. She suggested few names which were accepted and included as the main reference books. She also suggested using Griffiths for the whole "Magnetostatics and "Electrostatics" portion. This point was noted.

(viii) Dr. Umesh Shinde asked about the duration of the BSc course, which was answered by Dr. Neeta Srivastava.

(ix) Dr. Umesh Shinde enquired about the LASER course. Mr. Sandip Hinge informed him about the various topics covered at various levels.

(x) Dr. Prabhu enquired about the mathematical part of the Quantum Mechanics paper. Dr. Neeta Srivastava and Dr. Kiran Kolwankar explained to him that the mathematical part that is needed to teach quantum mechanics and solve problems is covered in that section. Dr. Vidya Patil agreed with Dr. Kolwankar and endorsed the idea to teach Mathematical Physics only at those places where they are needed. Dr. Prabhu then agreed too and appreciated the idea of teaching Mathematics only at those places where they are needed. Dr. Neeta Srivastava added that in the Quantum Mechanics paper in the first unit students learn about operators and apply them in the topics of unit two and three. Dr. Neeta Srivastava then completed the discussion on SYBSc syllabus and assured all Board of Studies members that all suggestions will be incorporated.

(xi) Dr. Neeta Srivastava then moved on to the next agenda in which Modification in FYBSc SEM-II, paper –II unit–III was presented, discussed and approved. Here "Alternating Current" was added in the syllabus because this topic finds an application in SYBSc.

(xii) Modification in the MSc syllabus was presented in which SEM IV-part –II Experimental Physics unit –I "Data Analysis" was replaced by "Optical Devices". Data Analysis is now decided to be taken in lab courses in part one. Dr. Vidya Patil appreciated the move.

(xiii) The last agenda, 'direct admission to the second year of MSc course' was presented. This was for those students who come from other universities. The agenda was presented by Dr. Kolwankar. Dr. Bharati Kakad enquired about the number of students that could be taken. She said that there could be a quota for each year and that could exceed if students are taken directly in MSc part II. Dr. Neeta Srivastava cleared the query that admission is only possible if seats are available. Dr. Bharati Kakad suggested a written examination for such candidates. Dr. Prabhu enquired about interviewing students before admission. Dr. Prabhu also enquired about whether the students are from outside universities or from Mumbai University. Dr. Neeta Srivastava replied that outside universities are appreciated but students from Mumbai University will not be

encouraged. Dr. Prabhu then suggested that a migration certificate would be required. Dr. Vidya Patil suggested that transcripts of such students can be demanded where previous marks and the details of the courses of students would also be known. Dr. Vidya Patil suggested that the criterion of selection of such students should be mentioned clearly. She appreciated this move of the Physics department of taking students at second year MSc directly. She also added that if seats are available then it is good to fill them in the second year of MSc. Dr. Kiran Kolwankar then clarified that students can be taken on a case by case basis. Dr. Prabhu enquired about whether Numerical Analysis is taught at MSc level. Dr. Kolwankar explained that at MSc level Numerical Analysis is taught by two methods, by C++ and Python. Dr. Prabhu then enquired whether the topic is taken in Third Year of BSc. Dr. Kiran informed him that Sci-Lab and some part of Numerical Analysis are taught during the Third Year of BSc. Students use this knowledge during their project work. Dr. Prabhu continued his query and asked about the resources like laptops, PCs and softwares used. Dr. Kiran told him that softwares used is free, some are available on Google co-labs. Laptops and PCs are available in the department. Dr. Prabhu suggested an 'honors course' for Physics students. Dr. Kiran informed him that students do courses on 'Coursera' and 'Swayam' which gives them extra credit and are visible on their mark sheet. Dr. Prabhu then enquired about 'Machine Learning or AI'. He also told the importance of these subjects. He told the department about the designing of the materials in material science using AI. Dr. Prabhu was informed that in future the department might take these subjects as part of curriculum or honors subjects. Dr. Prabhu was given assurance of starting AI and Machine learning at MSc level first then slowly bringing it down to Third year.

Dr. Prabhu appreciated the 'Optics' course and congratulated the selection of topics. Dr. Bharati Kakad admired the student who was working with her in the MSc project and praised the department.

Dr. Neeta Srivastava assured all members of the Board of Studies that the department will progress and with time it will become better.

The meeting ended with the vote of thanks by Dr. Neeta Srivastava, Head of the Department. She thanked all the members for actively participating and giving their valuable inputs and insights. She thanked her staff members and non-teaching staff. She also thanked the Principal and the Director of the institution. Meeting then ended.