

## DEPARTMENT OF LIFE SCIENCE

### Sophia College (Autonomous)

#### 10th BoS Meeting Minutes

**Date:** 2nd May 2023

**Members:**

<b>Name</b>	<b>Designation</b>
Dr. Sree Nair	<b>Chairperson:</b> Assistant Professor and Head, Department of Life Sciences, Sophia College (Autonomous), Mumbai
Dr. Priya Sundarrajan	<b>Vice Chancellor's Nominee:</b> Associate Professor, Department of Life Sciences and Biochemistry, St. Xavier's College (Autonomous), Mumbai
Dr. Indu Anna George	<b>Subject Expert:</b> Associate Professor and Head, Department of Life Sciences, University of Mumbai
Dr. Krishanu Ray	<b>Subject Expert</b> (from outside the parent university): Professor and Chairperson, Department of Biological Sciences, TIFR, Mumbai.
Dr. Swati Patankar	<b>Subject Expert</b> (from outside the parent university): Professor, Department of Biosciences and Bioengineering IIT-Mumbai.
Dr. Aditee Ghate	<b>Representative from the Industry or the Corporate Sector/ Allied Area:</b> General Manager -Compliance and Commercial Excellence Integrate Health
Dr. Radhika Tendulkar	<b>Post-Graduate Meritorious Alumnus</b> Assistant Professor, Department of Life Sciences and Biochemistry, St. Xavier's College (Autonomous), Mumbai

#### **Minutes of the meeting:**

To discuss changes and suggest further improvisations/any editing required in the approved syllabi for implementation in the academic year 2023-2024.

1. The chairperson welcomed and introduced all members attending the BOS meeting.
2. Following members were present for the virtual meeting: Dr. Sree Nair (Chairperson), Dr. Priya Sundarrajan, Dr. Swati Patankar, Dr. Radhika Tendulkar, ,Dr. Krishanu Ray, Dr.Tressa Jacob, Dr Geetanjali Ganguli, Ms Kajal Sankhala, Mr Mayur Gaikwad .

3. The meeting commenced at 10.00 am as per the agenda scheduled for the meeting.

**Agenda 1:** To pass the minutes of the ninth BOS meeting held on **10<sup>th</sup>Oct , 2022**

The minutes of the 9th BOS was proposed by Dr. Priya Sundarajan and seconded by Dr. Radhika Tendulkar

**Agenda 2: FYBSc Life Sciences Courses:** To discuss and approve Syllabus introduced for FYBSc Life Sciences Courses of studies under NEP, for the First and Second Semesters, for the Academic Year 2023-2024.T

**Member suggestions to Agenda 2: For Paper II**

The members suggested moving macromolecular synthesis to the next unit and introducing DNA in unit 1.

Further Dr. Sundarajan suggested introducing bonds before water and incorporating the basics of all the topics in paper 2 unit 2. Towards changes in the title of practical paper I, Dr Swati Patankar suggested incorporating changes in the title for a few practicals like analytic techniques or “Good lab practices and safety” in practical paper I. Dr Sundarajan also suggested giving a context for dialysis before teaching them those techniques.Hence the FY syllabus was ratified with the changes suggested by the BoS members

**Agenda 3: SYBSc Life Sciences Courses:** To discuss the existing approved Syllabus introduced for SYBSc Life Sciences Courses of studies, for the Third and Fourth Semesters, for the Academic Year 2023-2024. To recommend changes if any required.

**Member suggestions to Agenda 3:** None

**Agenda 4: TYBSc Life Sciences Courses:** To discuss the existing approved Syllabus for TYBSc Life Sciences Courses of studies, for the Fifth and Sixth Semesters, for the Academic Year 2023-2024.To recommend changes if any required.

**Member suggestions to agenda 4:** None

**Agenda 5: M.Sc Life Sciences Courses:** To discuss the existing approved Syllabus for M.Sc Life Sciences Courses of studies, for the First, Second, Third and Fourth Semesters, for 2023-2024.To recommend changes if any required.

**Member suggestions to agenda 5:** Dr Patankar suggested incorporating more practical experiments and less problem solving in MSc I practicals. Dr Priya Sundarajan also suggested excluding MCQs as a way to assess students. IA could be done in other ways. Dr Sundarajan suggested keeping only one practical paper of 2 credits.Practicals to be more skill based. Dr Sundaragan suggested to Introduce some topics plant cell structure

The meeting ended at 11.00am with Dr Sree Nair thanking the Board of studies members for their suggestions and discussions.

### **Report after discussion and further amendments in NEP syllabus**

In continuation with the 10 th BoS meeting ratification of NEP syllabus by BoS members via email was done. The following are the points discussed.

### **Suggestions by Dr Priya Sundarajan on the revised syllabus under NEP**

Paper1.

Macromolecules I

i. Cell Biochemistry - Can be cellular Biochemistry

2. Transcription • in prokaryotes (Lac and trp operon) - the operons are an explanation of regulation of gene expression rather than process of transcription. It can be mentioned accordingly. A few eukaryotic operons like the Gal operon in yeast can be also included.

3. There is no mention of translation hence in point 4. Macromolecules II - Translation can be included especially eukaryotic.

The Practical component of the paper seems to be simple colorimetric estimations which the students might have done in UG.

Since The paper is cell biology and biomolecules suggestion is to include- protein purification methods, Native and SDS PAGE (can be removed from elective), Cell culture methods, MTT assays. Etc.

Paper 2:

Point 4. Techniques in systems biology I

1. Physiology I

a) Kidney function tests – BUN, creatinine (range, basic interpretation/biological significance)

b) Cardiac function tests – Troponin, creatinine kinase (range, basic interpretation/biological significance)

2. Techniques in immunology

a) Immunoelectrophoresis

b) ELISA, Western blot,

The above mentioned can be done in practicals completely instead of theory. These don't seem to reflect in practicals.

instead can be replaced in the theory by maybe other systems ,like neuroendocrine system, or other aspects of host parasite relations/epidemiology

Elective paper seems fine.

The Research methodology paper syllabus does not seem to be here - have I missed it?

The IKS paper - seems nicely done - only one suggestion if possible to give a connect to life science somewhere.

### **Suggestions by Dr Radhika Tendulkar on the revised syllabus under NEP**

The following are my comments/Suggestions.

1. I personally liked the theme of the IKS course. The syllabus is well done and sounds interesting. I agree with Dr Priya that a connection with Life Sciences can be drawn. A few suggestions for topics could be case studies in India wrt i) BT Cotton, BT Brinjal crop; ii) soil remediation methods, iii) changes in soil microbiome/pest profiles due to pesticides/fertilizers/crop rotation methods/BT crops.
2. In Elective Course (page no. 4 of the file, the table mentions Bioethics as the topic of Unit 1. However on page 12, the detailed content of that Unit involves Biostatistics and Bioinformatics. I am not clear why and how 'Bioethics' features as a title. In the same unit on page 12, lecture distribution for Unit 1 has not been given. I hope 15 lectures would be sufficient for both Bioinformatics and Biostatistics together. For the same course the practicals too are quite a few, you may want to shift some to the Major courses. Rest all seems fine to me.

### **Responses to Dr Sundarajan and Dr Tendulkar's comments**

Dear Priya Ma'am and Radhika

Thank you very much for your suggestions

1. " Cellular Biochemistry" and "Regulation of gene expression" incorporated
2. Gal operon added under eukaryotic gene expression
3. Eukaryotic translation topic added
4. MTT and Cell culture based assays are already included in the Sem4 syllabus

Other suggestions regarding practicals were considered and discussed in detail. We strongly feel that these practicals should be retained in the electives itself.

5. IKS: We have extensively studied and referred to the UGC guidelines w.r.t IKS design, as per guideline no.4 pg 6 "The continuity of the Indian Knowledge Traditions from ancient times up to the relatively recent period of the eighteenth or nineteenth century must be emphasized in the design of the course content".

6. We regret the typo error of Bioethics

Please find the attached revised proposed syllabus and UGC guidelines for IKS for your reference.

Thanks and regards,

Sree

### **Suggestions by Dr. Indu Anna George on the revised syllabus under NEP**

Dr George indicated some of her suggestions as a attached document.

Additionally, Dr George found the IKS curriculum designed by the department interesting.

1. "Not sure if this term is accurate. Misfolded, non-functional proteins come to mind. Please confirm."
2. "would you like to include the basics of plant disease resistance here?"

## Responses to Dr Indu Anna George comments

1. "Not sure if this term is accurate. Misfolded, non-functional proteins come to mind. Please confirm.": the word aberrant proteins has been revised as misfolded/unfolded proteins in the revised file (attached with the mail), Page 4

2. "would you like to include the basics of plant disease resistance here?" The faculty in charge of teaching introduces the students to basic disease resistance in plants and then talks about the production of disease-free plants, Page 11

All the suggestions and queries raised by the member of BoS were addressed. Dr. Priya Sundarajan, BoS expert ratified the syllabus (proof the mail has been attached below for reference)

On Mon, Jul 3, 2023 at 1:01 PM Priya Sundarajan <[priya.s@xaviers.edu](mailto:priya.s@xaviers.edu)> wrote:

Dear Sree

As the changes suggested by BOS experts have been incorporated, the syllabus can be considered ratified by the BOS and can be implemented.

Are there any signatures required? You can pass around a sheet for signatures if required

Thanks

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Dr. Priya Sundarajan  
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