

**SOPHIA COLLEGE FOR WOMEN (AUTONOMOUS)**  
**MINUTES OF THE ONLINE BOARD OF STUDIES (MICROBIOLOGY) MEETING**  
**HELD ON 8<sup>TH</sup> OCTOBER 2022.**

Platform- ZOOM

Zoom Meeting Link

<https://zoom.us/j/5943377453?pwd=RWM3ZUNhT0huRHdRelMrUThOa1BaZz09>

Meeting ID: 594 337 7453

Passcode: 123456

Time: 3.00 p.m. onwards

Board of Studies members-

| Sr no. | Name                     | Designation                                     |
|--------|--------------------------|---|
| 1.     | Dr Anuradha Pendse       | Vice Chancellor's nominee                       |
| 2.     | Dr. Vikrant Bhor         | Expert from non-parent University (ICMR- NIRRH) |
| 3.     | Dr. (Ms) Annamma Odaneth | Expert from non-parent University (ICT Matunga) |
| 4.     | Dr Girish Mahajan        | Industry expert (GRANTED LEAVE OF ABSENCE)      |
| 5.     | Ms. Martina Gomes        | Meritorious alumna                              |

Staff Members -

| Sr. No. | Name                           | Designation   |
|---------|--------------------------------|---|
| 1.      | Dr. (Ms) Arjumanara Surti      | Chairperson and Head, Department of Microbiology<br>Associate Professor |
| 2.      | Dr. (Ms) Rajbinder Kaur Dehiya | Associate Professor   |
| 3.      | Ms. Shraddha Prabhu            | Assistant Professor   |
| 4.      | Mr. Vijay Vig                  | Assistant Professor   |
| 5.      | Ms Ayesha Shaikh               | Assistant Professor   |
| 6.      | Ms Swamini Patade              | Assistant Professor   |
| 7.      | Ms Zainab Shahiwala            | Assistant Professor   |

AGENDA:

1. To read and pass the minutes of the previous BOS meeting.
2. To propose some changes in the TYBSc Core papers and Applied Component syllabus.
3. To inform about the examination pattern - IA, SEE and practicals.
4. To inform about the progress of the Add-on courses conducted by the department.
5. Any other matter with the permission of the chair.

Dr. A. Surti welcomed the BOS members

Agenda 1- Dr. A. Surti read out the minutes of the previous BOS meeting held on 16th April 2022. The minutes were passed by the BOS members.

Proposed by Ms Martina Gomes

Seconded by Dr. Vikrant Bhor

Dr Surti proceeded to present the proposed TY syllabus.

Paper 1- Dr. Bhor enquired the reason for the removal of Cairn's experiment and Theta replication. Mr. Vig clarified that it is overlapping and will get covered during the elongation step.

Dr. Bhor also enquired about details of intercalating agents and questioned the exclusion of base excision and alkylation damage repair mechanisms. Mr. Vig confirmed that mode of action will not be covered for intercalating agents as there are many mutagens in the unit making it vast. It was agreed on suggestions of Dr. Bhor that definition of intercalating agents will also be done along with examples as only examples will make it very vague. The department members agreed with Dr. Bhor, and decided that the alkylation damage and base excision repair mechanisms will be retained as they are important topics according to him and students should be aware of these.

Dr. Bhor suggested including history and Nobel prizes winning work of scientists alongside the topics being taught. Dr. Dehiya replied that the same is already done and also an assignment on the Nobel laureates has been included.

Dr. Vikrant Bhor said that paper 1 is fine.

Paper 2- Dr. Anuradha Pendse suggested retaining the topic Tuberculosis instead of directly shifting to drug resistant tuberculosis (XDR and MDR). In the list of emerging and reemerging infections, SARS - Covid and influenza viruses can also be included. It was decided that Common cold and Tuberculosis will be retained, emerging-reemerging infections such as Drug resistant tuberculosis and Campylobacteriosis will be removed as separate topics and Drug resistant tuberculosis will be covered along with TB only. Dr. Bhor suggested including co-infections. Dr. Pendse agreed with him. It was decided that co-infections will be covered. Dr. Bhor mentioned that if it is not possible to cover as a separate topic, students should be oriented that these infections occur as co-infections as well. He also suggested including type 3 and 4 secretion systems in bacteria (e.g. *Pseudomonas*) and polyclonal antibodies alongside monoclonal antibodies and enquired whether Toll like Receptors are included. Dr. Pendse replied that secretion systems are covered in MSc-I. Ms. Swamini Patade responded that polyclonal antibodies are taught, but will be included in the syllabus as well. Dr. Surti replied that we will include Toll like receptors in the M.Sc syllabus during next revision if it is not already there.

Paper 3 - Dr. Surti said that she has removed the following topics from the unit 2 - Oxalate formate exchange, End product efflux, Lactate efflux and Bacteriorhodopsin as the paper is very vast and some of these topics are there in MSc syllabus. She said that she has rearranged the number of lectures.

Dr Vikrant Bhor said that paper 3 is fine

Paper 4- Dr. Odaneth had several suggestions regarding this paper. She suggested rephrasing the Paper 4 unit 1 title to Selection, Strain Improvement and Preservation of industrial microorganisms or just Selection and Preservation of industrial microorganisms. It was agreed and the change was made. She further pointed out that unit 2 should include Media preparation, Sterilization and Inoculum preparation and that fermenter design is in unit 2 as well as unit 3. Mr. Vijay replied that media preparation is done in SY.

She was also of the opinion that although the mutations and the methods of strain improvement are well designed and it is in line with paper 1, preservation methods should be added after the strain improvement and suggested to elaborate and give importance to the preservation methods. These changes were made. She also advised that the feedback inhibition mechanism should be deleted from this unit as it is not relevant in this Bioprocess technology paper and instead should be included in Biochemistry paper. Mr. Vig replied that it becomes essential to cover basics of feedback inhibition mechanisms before teaching the actual strain improvement methods and also pointed out the same features in the Biochemistry paper (Paper 3) in semester VI. Furthermore, she suggested that, selection of strains, and microfluidics should be included as it is an advanced topic and also advised to use books other than the one authored by Peter Stanbury. Mr. Vig agreed to the inclusion of the topic 'selection of strains', however also pointed out that microfluidics will be a challenging topic to teach to undergraduate students. Dr. Odaneth offered to provide the details of the reference books. She also pointed out that the number of lectures assigned for this unit is not justified. Mr. Vig replied that since it is taught to undergraduate students with no prior knowledge of the topic, the number of lectures assigned are needed. At the same time, he also said that he will look into this. Dr. Bhor questioned the exclusion of the recombinant systems - protoplast fusion and parasexual cycle. Mr. Vig said that it becomes very challenging to teach this to undergraduate students. It was decided that the department will rework on this unit.

Dr. Odaneth suggested redesigning units II and III so that the topics are in a sequence. She pointed out that functions of the fermenter, laboratory and pilot scale fermenters in unit 2 cannot be taught without agitators, impellers, spargers, and other parts of the fermenter which are in unit 3. Mr. Vig justified that the topic 'fermenter design' was very vast so it was distributed between two units but at the same time agreed with the suggestions given by Dr. Odaneth. It was decided that these two units and the entire paper will be redesigned. Dr. Odaneth offered to help in redesigning the units.

Semester VI-

Paper 1

Dr. Bhor suggested that for the topic Unit 2.4 b Transcriptome and metabolomics, the tools used to study these should be included. Dr. Dehiya replied that she will work on the suggestions. He also enquired whether the topic metagenomics is included or not. Dr. Surti and Dr. Dehiya replied that the same is included in SYBSc and MSc.

Dr. Bhor questioned the exclusion of the topics Givuses, International Committee on Taxonomy of Viruses, Infectious center assay and measurement of viral enzyme activity and enquired about the depth in which these topics are covered. Mr. Vig replied that the topics were removed due to the limited number of lectures. He also said that there is very limited information on the infectious center assay and though related to virology, it does not measure the infectious viruses. Dr. Bhor

said that students should be made aware of viruses. It was agreed that the topic 'International Committee on Taxonomy of Viruses' will be removed as Dr. Bhor said that if time is limited, the same can be given as an assignment. Both Dr. Bhor and Dr. Pendse said that instead of segregating the assays under separate headings such as measurement of infectious viruses and total viruses, they should be clubbed under a single heading 'measurement and enumeration of virus particles'. Dr. Bhor enquired whether viral neutralization assays are included and suggested adding the same. It was agreed that viral neutralization assays will be added. Dr. Bhor questioned the exclusion of 'measurement of enzyme activity'. Mr. Vig replied that it is specific and only for retroviruses. Dr. Pendse inquired about haemagglutination assay and suggested reconsidering this topic. It was agreed that the topics will be reworked/redesigned.

## Paper 2

Dr. Pendse enquired whether the topic Malaria will be covered in detail. She suggested referring to parasitology books for the topic. She suggested listing out the subtopics of the topic 'mechanisms of drug resistance'. This was agreed upon.

She also suggested reconsidering the inclusion of the topic 3.5 Cancer Immunotherapy as it may be challenging for the undergraduate students. This was agreed upon too.

Paper 3 - Dr. Bhor said that paper 3 is fine. All members felt that it was fine.

Paper 4- Dr. Surti and Ms. Prabhu asked the details of the topic Streptomycin. Dr. Surti and some departmental members felt that the unit downstream processing is very vast. Ms. Patade and Mr. Vig replied that some subtopics are in detail whereas others are not and both methods and applications will be covered. Dr. Surti said that laminar air flow is already included in FYBSc and there is no need to include it in semester VI. Mr. Vig mentioned that it is relevant in this unit as it has importance in pharmaceutical Microbiology. Dr. Surti said that the department has laminar air flow and students can be trained to use the same in the practicals. Mr. Vig agreed.

Dr. Surti said that she will share the soft copy of this syllabus with all the BOS members and they can add their comments in the same. All BOS members agreed to this.

The meeting ended here. All points on the agenda could not be discussed. The proposed revision of TY Ac syllabus, the exam pattern and Add-on courses will be taken up in the next meeting of BOS members

Minutes prepared by - Dr. Rajbinder Kaur Dehiya and Mr. Vijay Vig

Edited by:


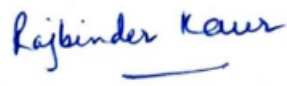



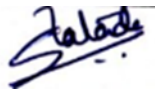
Dr Arjumanara Surti,  
Associate Professor and Head,  
Department of Microbiology,  
Sophia College for Women (Autonomous)

**DEPARTMENT OF MICROBIOLOGY  
SOPHIA COLLEGE FOR WOMEN (AUTONOMOUS) MUMBAI**

**Resolution: TYBSc all core paper's syllabus was discussed and modifications were suggested.**

**BOARD OF STUDIES**

**DEPARTMENT OF MICROBIOLOGY**

| <b>Representation</b>                          | <b>Name</b>                       | <b>Affiliation</b>  | <b>Signature</b>  |
|--|-----------------------------------|---|---|
| <b>Chairperson:<br/>Head of the Department</b> | Dr.(Ms).Arjumanara<br>Surti       | Associate<br>Professor and<br>Head, Chairperson<br>Sophia College |    |
| <b>Department faculty members</b>              | Dr. (Ms) Rajbinder Kaur<br>Dehiya | Associate<br>Professor, Sophia<br>College                         |  |
|  | Ms. Shraddha Prabhu               | Assistant<br>Professor, Sophia<br>College                         |  |
|  | Mr. Vijay Vig                     | Assistant<br>Professor, Sophia<br>College                         |  |
|  | Ms Ayesha Shaikh                  | Ad-hoc<br>appointment   |  |
|  | Ms. Swamini Patade                | Ad-hoc<br>appointment   |  |

|                                   |                          |   |   |
|-----------------------------------|--------------------------|---|---|
|                                   | Ms. Zainab Shaiwala      | Ad-hoc appointment  |    |
| Vice Chancellor's nominee         | Dr Anuradha Pendse       | Associate Professor and Head, Department of Microbiology, Wilson College.                     |    |
| Expert from non-parent University | Dr. Vikrant Bhor         | Scientist E and Head, Department of Molecular Immunology and Microbiology, ICMR- NIRRH.       |    |
| Expert from non-parent University | Dr. (Ms) Annamma Odaneth | Associate Professor, DBT-ICT Centre for Energy Biosciences. Institute of Chemical Technology. |  |
| Industry expert                   | Dr Girish Mahajan        | Vice President, HiMedia Private Limited.  | Granted leave of absence  |

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|--------------------|-------------------|---|---|
|                    |                   |   |   |
| Meritorious alumni | Ms. Martina Gomes | Head of<br>Regulatory<br>Affairs,<br>Bayer India. | <b>Approved by Martina</b><br><b>Approved</b> |