Vivekanand Education Society's College of Arts, Science & Commerce (Autonomous)

Minutes of the Sixth BOS meeting in the subject of Microbiology

Date : 30th Sep. 2024

Time : 11.00am - 2.00pm

Mode: Blended (Online for BOS external members and Offline for BOS in-house staff members)

Google Meeting Link and ID: : https://meet.google.com/kyr-tcrn-zhd

Agenda for the Meeting:

1. Welcome to all the BOS members.
2. To discuss the Syllabus and Scheme of Evaluation of the following courses
    a. S.Y.B.Sc.(Sem IV) Microbiology course under NEP for the academic year 2024-25
    b. M.Sc. (Part - II- SEM IV) Microbiology course under NEP for the academic year 2024-25
    c. TYBSc (Sem VI) Microbiology course (non-NEP) under Autonomy for the academic year 2024-25
3. Any other matter with the permission of the chair

Members:

1. Dr. Dona J. Joseph. (**Chairperson & HOD)**
2. Dr. Malay Shah, Dr. (Mrs.) Shweta A. Patil, Mr. Suman P. Ganger, Dr. Mugdha Apte, Dr. Pradnya Gogte, Dr. Sumana Sanigrahi and Ms. Malavika Pillai **(Members, Faculty at the Department of Microbiology, VESASC)**
3. Dr. Lolly Jain **(University Nominee)**
4. Dr. Debjani Dasgupta **(External Subject Expert Member)**
5. Dr. Purvi Bhatt **(External Subject Expert Member)**
6. Dr. Subhojit Sen **(PG Alumnus)**

All the above members were present for the meeting in online or offline mode as mentioned above.

7. Dr. Girish Mahajan **(External Subject Expert Member- Industry Representative)- Absent due to audit**

Agenda 1: Welcome to the members and briefing the agenda

Dr. Dona J. Joseph welcomed all the members to the **Sixth BOS** meeting in Microbiology. She further briefed the external members about the contents of the NEP 2020 structure for the First Year Undergraduate Program as a reminder for continuity as passed in the fifth BOS meeting . The modified SY (Sem IV) and MSc (Sem IV) NEP syllabus would be mailed to all BOS members along with the minutes of this meeting. In continuation she stated that under NEP 2020, the following syllabi being offered **by the department** would only be presented for review and discussion in this meeting ,which includes :

1. UG Semester IV for Major courses (for Microbiology students)
2. Minor courses being offered by the department for other science students
3. MSc Part II Sem IV syllabus .

Agenda 2: Finalize the Syllabus and Scheme of Evaluation of:

A. S.Y.B.Sc. Microbiology course under NEP for the academic year 2024-25

SEMESTER IV UG IN MICROBIOLOGY AS PER NEP 2020

1. Microbiology Major paper (Theory and Practicals)

Major Microbiology

Microbiology Major Paper 1: The draft syllabus was presented by Dr. Dona Joseph Dr, Subhojit Sen suggested to reduce basic history and talk about recent developments and include eukaryotic genetics.

Microbiology Major Paper 2: Introduction to Food and Medical Microbiology- was discussed by Mr. Ganger. In this paper the students will also be introduced to the basics of food microbiology with respect to the significance of microorganisms in fermentation and spoilage . In Medical microbiology , they will be introduced to the infectious process and first line of host defense mechanisms . Dr, Subhojit Sen suggested that an overview of all the lines of defense be included . Also it was suggested that in Food microbiology, the guidelines for food analysis and lateral flow assay be discussed.

2. Courses offered by the department for other science department students

i)MINOR COURSE (For non-Microbiology Science students)

The Minor course is continued in this semester for the non-Microbiology science students (Chemistry, Physics and Math) entitled **Essential Techniques in Microbiology** (Theory and Practical)**.** The syllabus was discussed by Dr.Dona Joseph , who stressed on the importance of

basic techniques in Microbiology in the industries like Pharmaceutical and Food where Science students are likely to be employed.These suggestions were taken note of and would be deliberated by the faculty members if possible.

B. M.Sc. (Part - II Sem IV) Microbiology course under NEP for the academic year 2024-25

SEMESTER IV M.Sc. (Part - II) MICROBIOLOGY COURSE UNDER NEP for the academic year 2024-25

Dr. Mugdha Apte briefed the external members about the semester-wise paper distribution as per NEP structure.

MSc Part 2 (MA):

Dr. Apte then discussed the **Major Mandatory Paper 1 (Applied Biochemistry)**. Dr. Sumana discussed **Major Mandatory Paper 2 (**Microbiology in sustainable development).

Dr. Apte discussed the **Major Mandatory Practical (4 credits) syllabus**. It was suggested to include pot assays for the effect of biofertilizers along with their preparation. Also, quantitative estimations of growth stimulators such as IAA or other stimulants to be included in the practical course.

The members suggested that the students should go out for Research projects (6 credits) for a period of 3 months

Major Elective papers to be offered were discussed.Dr. Apte informed that out of the four papers offered the students had selected Cell Biology for Sem III. Therefore, the students will now select one paper out of the following three.

1. Public Health Microbiology And Clinical Research
2. Genetics Of Eukaryotes
3. Advances In Biotechnology.

C. TYBSC MICROBIOLOGY COURSE SEM VI (NON-NEP) UNDER AUTONOMY FOR THE ACADEMIC YEAR 2024-25

Dr. Dona gave an overview of the autonomous syllabus. She further discussed **Paper 1 (BACTERIAL GENETICS AND VIROLOGY)** . It was suggested that we include sequencing of viral nucleic acids in identification of viruses. The Paper 2 (**MEDICAL MICROBIOLOGY & IMMUNOLOGY:**) was discussed by Suman Ganger and he mentioned that there are no changes

with the syllabus. Dr. Shweta Patil discussed **Paper 3 (ESSENTIALS OF PROKARYOTIC BIOCHEMISTRY)** and mentioned that we have retained the University syllabus. Dr. Malay Shah read the syllabus for **Paper 4 CONCEPTS IN FERMENTATION TECHNOLOGY AND INDUSTRIAL FERMENTATIONS** and mentioned that changes were made to suit the industry demands. . The members suggested immobilization in theory, fermentation economics-give case studies as assignment.

With respect to Practicals TY Practicals : for Semester 6,it was decided to shift the practical of immobilization from Paper 5 to Paper 4 and to remove the practical on isolation of *B.thuringiensis*. More practicals to be added to Paper 5 if needed.

The TY Autonomy practicals were also systematically organized. Mr. Suman Ganger discussed **Paper 5 (Applied component - Applications of Biotechnology)**. This paper will be a continuation of Molecular biology and Biotechnology which was taught in Sem V.

Agenda 4: Any other matter with the permission of the chair

No other major queries were raised and the syllabus discussed was approved by all the members. Dr.Dona Joseph informed the members that the tenure of this BOS has ended. She thanked all the members for their contribution . The meeting ended on a positive note with the chairperson thanking all the members for their valuable inputs and suggestions.

Dr. Dona Joseph

Chairperson & HOD


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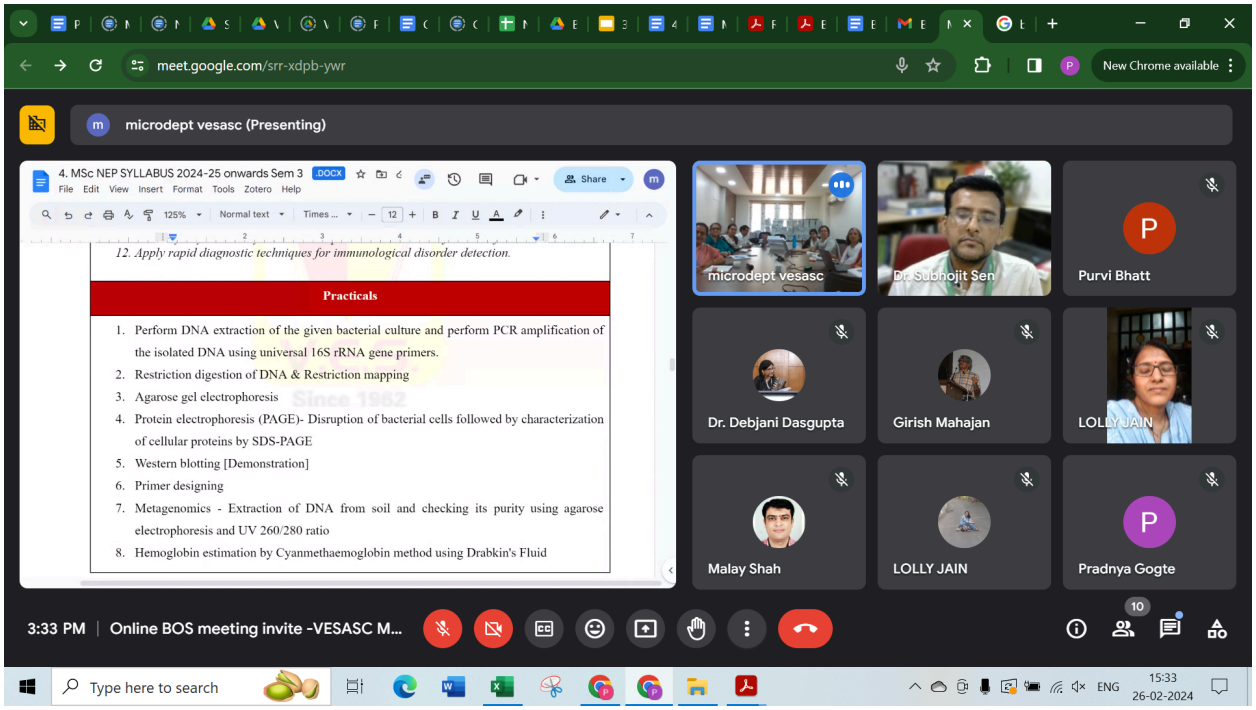
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12. Apply rapid diagnostic techniques for immunological disorder detection.
Practicals
1. Perform DNA extraction of the given bacterial culture and perform PCR amplification of the isolated DNA using universal 16S rRNA gene primers.
2. Restriction digestion of DNA & Restriction mapping
3. Agarose gel electrophoresis
4. Protein electrophoresis (PAGE)- Disruption of bacterial cells followed by characterization of cellular proteins by SDS-PAGE
5. Western blotting [Demonstration]
6. Primer designing
7. Metagenomics - Extraction of DNA from soil and checking its purity using agarose electrophoresis and UV 260/280 ratio
8. Hemoglobin estimation by Cyanmethaemoglobin method using Drabkin's Fluid
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