

**Vivekanand Education Society's College of Arts, Science and Commerce (Autonomous)**  
**Department of Biotechnology**

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**Minutes of BOS meeting on Feb 25, 2023 for Sem IV Autonomous Syllabus**

**Date:** February 25,2023

**Time:** 11 am

**Venue:** Board Room, VES College of Arts,Science and Commerce

**Agenda:**

1. Welcome and Introduction of all the BOS members.
2. To discuss and approve the Syllabus of Semester 4
3. AOB

**Attended by:**

**1.Chairperson:**

Ms. Vinaya Jategaonkar, Coordinator, Department of Biotechnology, V.E.S. College of Arts, Science and Commerce

**2. Department Members:**

Ms. Shmilona Jain, Ms. Geetanjali Harale, Ms. Ankita Jadhav

**3. External Subject Experts:**

- Dr. Ram Kulkarni, Associate Professor, Symbiosis School of Biological Sciences,Symbiosis International. (Joined online through google meet: <https://meet.google.com/qqa-otid-pyf>)
- Dr. Bhakti Mhatre, Assistant Professor, D.Y. Patil University. (Joined online through google meet: <https://meet.google.com/qqa-otid-pyf>)

**4. University Nominee:**

Dr. Sucheta Golwalkar, Head of Department, Biotechnology, Ramniranjan Jhunjunwala College, Ghatkopar

**5. Subject Expert (R&D/Industry):**

Mr. Virochan Chavan, Sr. Clinical Data Coordinator IQVIA

**6. PG Alumnus:**

Ms. Vishakha Mali,Genetic Counselor, Medgenome Laboratories

**Minutes:**

1. The meeting was convened by Ms. Vinaya Jategaonkar, who welcomed all the members present (online and offline) and gave a brief overview of the implementation of the suggestions of the board in the previous meeting about the Sem III syllabus.
2. The members of the department then went on to explain each proposed paper of semester IV in detail.

**Vivekanand Education Society's College of Arts, Science and Commerce (Autonomous)**  
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3. Ms. Ankita Jadhav presented the first paper, titled Medical Biotechnology. The paper is divided into three units, Virology, Chemotherapeutic Agents and Mycology and Parasitology. Ms Jadhav covered the content and ideology behind each unit in great detail. The board members found the paper to be too vast and expressed their concern about the ability of the teacher to finish the portion on time. They suggested removal of certain portions such as antiviral and anti-fungal drugs from unit II and restricting virology study to one virus only. Mr. Virochan Chavan suggested introduction of zoonotic viruses. He also suggested that topics like the role of viruses in cancer are too vast for the scope of the paper, and should be restricted to just introductions. Dr. Sucheta Golwalkar suggested inclusion of coronavirus as a topic of self study.
4. The second paper titled 'Cell biology and Cytogenetics' was presented by Ms. Vinaya Jategaonkar. She described all three units of the paper, which include, Cytoskeleton, Cell membrane and cytogenetics. The paper has been kept more or less unchanged from the previous version that is executed by Mumbai University. Ms. Vishakha Mali suggested inclusion of single nucleotide changes in unit III. However, that topic is included in the paper on Molecular Diagnostics. Ms. Bhakti Mhatre suggested inclusion signal transduction, lipid mobility and protein mobility in the unit of cell membrane. The other members, however, felt that these topics were beyond the scope of this syllabus and maybe included in the third year syllabus.
5. Paper III i.e. Applied Chemistry-II was presented by Ms. Shmilona Jain. She explained how the applied chemistry papers of semester III and IV had been reshuffled to include some important topics such as instrumentation and nanotechnology. The three units of this paper are Organic Synthesis, Natural product chemistry and green chemistry, and Nanotechnology. The paper was accepted as it is by the board. Few members felt that the characterization of nanoparticles in unit III was too vast, however, it was explained that the basic concepts of these topics had been introduced in the third semester (such as electron microscopy and spectroscopy) and in this unit they will be taught only from the point of view of characterization of nanoparticles.
6. The fourth paper of Biochemistry was presented by Ms. Shmilona Jain again. This paper has three units of Carbohydrate catabolism, Amino acid catabolism and neurotransmitter synthesis and lipid metabolism and nucleotide metabolism. The board agreed that this was a conventional Biochemistry paper which does not require any change. Dr. Ram Kulkarni had a few doubts regarding inclusion of breakdown of protein and fats during digestion of food. The board was informed that these topics are taught as introductions to the respective units.
7. Molecular diagnostics was the next paper presented by Ms. Geetanjali Harale. The paper has three units, Basics of Molecular Diagnostics, Nucleic acid amplification methods and Molecular biology related diagnostics. This paper was also kept as it is in the Mumbai university syllabus with minor changes, such as inclusion of Ligase chain reaction in unit II. The board was satisfied with the content of this paper.
8. Ms. Geetanjali Harale continued to present paper VI which is Bioinformatics and Biostatistics. The paper consists of two units of Bioinformatics and one unit of Biostatistics. The board agreed that Bioinformatics should be taught more from the practical point of view and less weightage should be given to theoretical lectures. Ms. Harale concurred that all the concepts taught in theory are replicated in the practical session. Dr. Bhakti Mhatre suggested inclusion of Uniprot in the Bioinformatics section and ANOVA in the Biostatistics section. It was decided that these topics can be included in the third year syllabus.
9. The last paper, entitled Research Methodology was presented by Ms. Ankita Jadhav. The paper is again being incorporated from the Mumbai University syllabus without much changes. Board members suggested using a research paper as a case study to explain the concepts discussed in the units. The assessment for the paper is writing an assignment on any research topic. Dr. Mhatre suggested that the assessment can be based on proposal writing for the research project the student wishes to take up at the third year level.

**Vivekanand Education Society's College of Arts, Science and Commerce (Autonomous)**  
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10. The practicals proposed for semester IV were presented by Ms. Vinaya Jategaonkar. The practicals of two theory papers are clubbed under one practical paper. The board members felt that the number of performing practicals that can be asked in the exam are less in Practical paper 401 which includes practicals of cell biology and medical biotechnology. The major and minor experiments from exam point of view need to be delineated. Dr. Kulkarni also mentioned that pedigree analysis can be taken as a tutorial. But if it is asked in practicals then it should not be asked in theory. Dr. Mhatre suggested the use of Trisol method for RNA extraction.
11. Ms. Vinaya Jategaonkar also presented the department's plan of action for implementation of NEP 2020 in the next academic year. Dr. Kulkarni suggested implementation of the plan at FY level only without disturbing the current students who are already comfortable with their pattern of lectures and practicals.
12. The semester IV syllabus was well received by the board with minor suggestions. The meeting was closed at 12.30 pm.

Ms. Vinaya Jategaonkar  
Coordinator  
Department of Biotechnology