



Anekant Education Society's

**Tuljaram Chaturchand College  
of Arts, Science, Commerce, Baramati  
(Autonomous)**

**DEPARTMENT OF MICROBIOLOGY**

(Faculty of Science and Technology)

**Minutes of Board of Studies Meeting No.1**

**Date of Meeting: 05/04/2019**

**Venue: Department of Microbiology**

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April, 2019

Anekant Education Society's  
Tuljaram Chaturchand College, Baramati  
Department of Microbiology

NOTICE

Date: - 22/03/2019

A meeting of BOS members of Microbiology is scheduled on 05<sup>th</sup> April 2019 at 11.30 onwards. All BOS members are requested to attend the meeting.

*The agenda of meeting is as follows.*

1. To design the academic framework for B.Sc. program (2019 Pattern) & the syllabus of F. Y. B. Sc. (2019 Pattern)
2. To design the academic framework M.Sc. program (2019 Pattern) & the syllabus of M. Sc. I Sem-I & II (2019 Pattern)
3. To design the syllabus of certificate course for undergraduate students.
4. To discuss and incorporate the relevant feedbacks of the stakeholders (Students, Teachers, Parents, alumni, and employers) in the curriculum.
5. Any other matter with the permission of the chairman

*Yours faithfully*

  
Chairman BOS in Microbiology.

Anekant Education Society's  
Tuljaram Chaturchand College, Baramati  
(Autonomous)

Department of Microbiology

**AGENDA OF THE MEETING**

The agenda of the meeting included the following subjects:

1. To design the academic framework for B.Sc. program (2019 Pattern) & the syllabus of F. Y. B. Sc. (2019 Pattern)
2. To design the academic framework M.Sc. program (2019 Pattern) & the syllabus of M. Sc. I Sem-I & II (2019 Pattern)
3. To design the syllabus of certificate course for undergraduate students.
4. To discuss and incorporate the relevant feedbacks of the stakeholders (Students, Teachers, Parents, alumni, and employers) in the curriculum.
5. Any other matter with the permission of the chairman

**List of Members Present for the BOS Meeting**

The following internal and external BOS members has attended the Board of Studies

Sr.No.	Name of Member	Designation
1.	<b>Dr. Shivaji Sathe</b> Head & Associate Professor, Department of Microbiology, T. C. College, Baramati.	Chairman
2.	<b>Dr. Sunil Pawar</b> Associate Professor, Department of Microbiology, T. C. College, Baramati.	Member
3.	<b>Dr. Milind Gajbhiye</b> Associate Professor, Department of Microbiology, T. C. College, Baramati.	Member
4.	<b>Dr. Mrs. Yogini Mulay</b> Associate Professor, Department of Microbiology, T. C. College, Baramati.	Member
5.	<b>Mr. Dhaval Doshi</b> Assistant Professor, Department of Microbiology, T. C. College, Baramati.	Member
6.	<b>Ms. Komal Jagtap</b> Assistant Professor, Department of Microbiology, T. C. College, Baramati.	Member
7.	<b>Ms. Sumaiya Mulani</b> Assistant Professor, Department of Microbiology, T. C. College, Baramati.	Member
8.	<b>Ms. Sheetal Owl</b> Assistant Professor, Department of Microbiology, T. C. College, Baramati.	Member
9.	<b>Mr. Avinash Kalumbe</b> Assistant Professor, Department of Microbiology, T. C. College, Baramati.	Member
10.	<b>Dr. Rajashree Patwardhan</b> Associate Professor, HV Desai College, Pune	Expert from SPPU. Pune
11.	<b>Mr. Vipul Nilkanth</b> Research Student, NCCS, Pune	Meritorious Alumni

(Microbiology) meeting held on 5<sup>th</sup> April, 2019.

## **MINUTES OF THE MEETING**

Concerning the Notice dated 22/03/2019, issued by the college, the meeting of Board of Studies in Microbiology was held on 5<sup>th</sup> April, 2019 at 11:30 am in the Department of Microbiology, T. C. College, Baramati. The meeting was conducted adhering to the guidelines and protocols set by the college. Dr. Shivaji Sathe, Chairman of the BoS in Microbiology, welcomed all the members followed by introductory words considering the objectives of the meeting.

The issues concerning the agenda of the meeting were discussed considering the suggestions received through online mode from Dr. Pravin Puranik (Professor, School of Life Sciences, North Maharashtra University, Jalgaon; Expert from other University), Dr. Dilip Kadam (Asso. Professor, Dayanand College, Solapur; Expert from other University) and Dr. Himanshu Gadgil (Industry expert, Enzene Biotech Ltd, Bhosari, Pune). The details of agenda-wise discussion of the meeting are shown below.

### **1. To design the academic framework of B.Sc. programme and syllabus for F. Y. B. Sc. Sem-I&II (2019 Pattern).**

The preliminary draft of the syllabus of FYBSc Paper I and Paper II (2019 Pattern) was prepared by Dr. Milind Gajbhiye and Dr. S. J. Sathe, respectively, and presented before the members. This syllabus was sent by E-mail to all the members of BoS, fifteen days before the scheduled BoS meeting.

During the discussion, Dr. Patwardhan suggested the following additions in the Paper I syllabus of F.Y.B.Sc.:

1. Scope of space microbiology to be included.
2. The content of History of Microbiology is to be kept as it is.
3. Inclusion of contributions of scientists in molecular biology and biotechnology.
4. Concept of molarity and normality.

Mr. Vipul Nilkanth had following suggestions in the Paper I & II syllabus of F.Y.B.Sc.:

1. Inclusion of advanced microscopic techniques in the syllabus of F.Y. B.Sc. Paper II.
2. Information of magnetosomes to be included in Paper I F. Y. syllabus.

The academic framework of BSc program with the following courses was finalized as shown below:

**Course structure for F.Y.B.Sc. Microbiology (w.e.f. April 2019)**

Class	Pattern	Semester	Course Code	Course Title	Course Type	Number of Credits
F.Y.B.Sc	2019	I	MICRO1101	Introduction to Microbiology	Theory	2
F.Y.B.Sc	2019	I	MICRO1102	Basic Techniques in Microbiology	Theory	2
F.Y.B.Sc	2019	I	MICRO1103	Practical's based on theory	Practical	2
F.Y.B.Sc	2019	II	MICRO1201	Introduction to Microbiology	Theory	2
F.Y.B.Sc	2019	II	MICRO1202	Basic Techniques in Microbiology	Theory	2
F.Y.B.Sc	2019	II	MICRO1203	Practical's based on theory	Practical	2
						Total = 12

**Course structure for S.Y.B.Sc. Microbiology (w.e.f. April 2019)**

S.Y.B.Sc.	2019	III	MICRO2301	Bacterial Systematics and Physiology	Theory	2
S.Y.B.Sc.	2019	III	MICRO2302	Industrial and Soil Microbiology	Theory	2
S.Y.B.Sc.	2019	III	MICRO2303	Practical course	Practical	2
S.Y.B.Sc.	2019	III	CC0027	Quality control techniques in food dairy and pharma industry	Practical & Theory	2
S.Y.B.Sc.	2019	IV	MICRO2401	Air and Water Microbiology	Theory	2
S.Y.B.Sc.	2019	IV	MICRO2402	Bacterial Genetics	Theory	2
S.Y.B.Sc.	2019	IV	MICRO2403	Practical course	Practical	2
S.Y.B.Sc.	2019	IV	CC0028	Basic Microbiological techniques	Practical & Theory	2
						Total = 12

**Course structure for T.Y.B.Sc. Microbiology (w.e.f. April 2019)**

T.Y.B.Sc.	2019	V	MICRO3501	Medical Microbiology I	Theory	3
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T.Y.B.Sc.	2019	V	MICRO3502	Genetics and Molecular Biology I	Theory	3
T.Y.B.Sc.	2019	V	MICRO3503	Enzymology	Theory	3
T.Y.B.Sc.	2019	V	MICRO 3504	Immunology-I	Theory	3
T.Y.B.Sc.	2019	V	MICRO3505	Fermentation Technology-I	Theory	3
T.Y.B.Sc.	2019	V	MICRO3506	Food and Dairy Microbiology and	Theory	3
T.Y.B.Sc.	2019	V	MICRO3507	Applied Microbiology	Practical	2
T.Y.B.Sc.	2019	V	MICRO3508	Biochemistry	Practical	2
T.Y.B.Sc.	2019	V	MICRO3509	Clinical Microbiology	Practical	2
T.Y.B.Sc.	2019	V	Certificate course			2
						Total = 26
T.Y.B.Sc.	2019	VI	MICRO3601	Medical Microbiology II	Theory	3
T.Y.B.Sc.	2019	VI	MICRO3602	Genetics and Molecular Biology II	Theory	3
T.Y.B.Sc.	2019	VI	MICRO3603	Metabolism	Theory	3
T.Y.B.Sc.	2019	VI	MICRO 3604	Immunology-II	Theory	3
T.Y.B.Sc.	2019	VI	MICRO3605	Fermentation Technology-II	Theory	3
T.Y.B.Sc.	2019	VI	MICRO3606	Agricultural and Environmental Microbiology	Theory	3
T.Y.B.Sc.	2019	VI	MICRO3607	Biochemistry and Molecular Biology	Practical	2
T.Y.B.Sc.	2019	VI	MICRO3608	Haematology and Diagnostic Immunology	Practical	2
T.Y.B.Sc.	2019	VI	MICRO3609	Project	Project	2
						Total = 24
						Grand total = 50

The syllabus of FYBSc of following courses was discussed meticulously and finalized as shown below.

Class	Pattern	Semester	Course Code	Course Title	Course Type	Number of Credits
F.Y.B.Sc	2019	I	MICRO1101	Introduction to Microb	Theory	2

				iology		
F.Y.BSc	2019	I	MICRO1102	Basic Techniques In Microbiology	Theory	2
F.Y.BSc	2019	I	MICRO1103	Practical's based on theory	Practical	2
F.Y.BSc	2019	II	MICRO1201	Introduction to Microbiology	Theory	2
F.Y.BSc	2019	II	MICRO1202	Basic Techniques In Microbiology	Theory	2
F.Y.BSc	2019	II	MICRO1203	Practical's based on theory	Practical	2
						Total = 12

The student's feedback was collected from the alumni and students were incorporated in the syllabus.

**Resolution No. 1:** The academic framework of B.Sc. and syllabus of F.Y.B.Sc. Paper I & II (2019 Pattern) has been unanimously approved by all members of the BOS.

**2. To design the academic framework of M.Sc. program and syllabus of M. Sc. Part I (2019 Pattern).**

The preliminary draft of the academic framework was presented in front of all the members. Also the syllabus of courses of M.Sc. I (2019 Pattern) was prepared by Mr. Dhawal Doshi, Mr. Summaiya Mulani, Mr. Avinash Kalubme and Ms Komal Jagtap, and presented before the members. This syllabus was sent by E-mail to all the members of BoS, fifteen days before the scheduled BoS meeting.

During the discussion, Dr. Patwardhan suggested the following additions in the M.Sc. I syllabus:

1. Regarding M. Sc. I, inclusion of bioinformatics was suggested, however, this part was already included in M. Sc. II syllabus.
2. No repetitions in relation to few topics such as aerobic and anaerobic bacterial respiration process.
3. Revise the syllabus of enzyme kinetics.

Mr. Vipul Nilkanth had following suggestions in the M.Sc. I syllabus:

1. For M. Sc. I, there must be inclusion of recent disease outbreaks such as swine flu, SARS, Ebola etc.

The academic framework of MSc program was discussed meticulously and finalized as shown below.



Course structure for M.Sc.Microbiology (w.e.f. April 2019)

Class	Pattern	Semester	Course Code	Course Title	Course Type	No. of Credits
M.Sc.	2019	I	MICRO4101	Microbial Systematics and Diversity	Theory	4
M.Sc.	2019	I	MICRO4102	Quantitative Biology	Theory	4
M.Sc.	2019	I	MICRO4103	Biochemistry	Theory	4
M.Sc.	2019	I	MICRO4104	Cell Biology	Theory	4
M.Sc.	2019	I	MICRO4105	Practical Course: Microbial Systematics	Practical	4
M.Sc.	2019	I	MICRO4106	Practical Course: Cell biology and Biochemistry	Practical	4
M.Sc.	2019	II	MICRO4201	Virology	Theory	4
M.Sc.	2019	II	MICRO4202	Instrumentation	Theory	4
M.Sc.	2019	II	MICRO4203	Metabolism	Theory	4
M.Sc.	2019	II	MICRO4204	Evolution and Ecology	Theory	4
M.Sc.	2019	II	MICRO4205	Practical Course: Biophysics & Virology	Practical	4
M.Sc.	2019	II	MICRO4206	Practical Course: Enzymology & Microbial Metabolism	Practical	4
						Total =48

Course structure for M.Sc. II Microbiology (w.e.f. April 2019)

Class	Pattern	Semester	Course Code	Course Title	Course Type	No. of Credits
M.Sc.	2019	III	MICRO5301	Immunology	Theory	4
M.Sc.	2019	III	MICRO5302	Molecular Biology I	Theory	4
M.Sc.	2019	III	MICRO5303	Industrial Waste Water Treatment	Theory	4
M.Sc.	2019	III	MICRO5304	Biophysical Techniques	Theory	4
M.Sc.	2019	III	MICRO5305	Practical Course: Practical course based on Immunology, Pharmaceutical Microbiology and Industrial waste water treatment	Practical	4
M.Sc.	2019	III	MICRO5306	Practical Course: Practical	Practical	4

				course based on Molecular Biology (I and II) and Microbial Technology		
M.Sc.	2019	III	CC029	Certificate Course:		2
M.Sc.	2019	III	SD23	Research Methodology		2
M.Sc.	2019	IV	MICRO5401	Skill Development: Spectroscopic Techniques		
				Pharmaceutical Microbiology	Theory	4
M.Sc.	2019	IV	MICRO5402	Molecular Biology II	Theory	4
M.Sc.	2019	IV	MICRO5403	Microbial Technology	Theory	4
M.Sc.	2019	IV	MICRO5404	Medical Microbiology	Theory	4
M.Sc.	2019	IV	MICRO5405	Dissertation I	Project	4
M.Sc.	2019	IV	MICRO5406	Dissertation II	Project	4
M.Sc.	2019	IV	SD24	Skill Development: Chromatographic Techniques		2
						Total = 54

The syllabus of courses of MSc I was discussed meticulously and finalized as shown below:

Class	Pattern	Semester	Course Code	Course Title	Course Type	No. of Credits
M.Sc.	2019	I	MICRO4101	Microbial Systematics and Diversity	Theory	4
M.Sc.	2019	I	MICRO4102	Quantitative Biology	Theory	4
M.Sc.	2019	I	MICRO4103	Biochemistry	Theory	4
M.Sc.	2019	I	MICRO4104	Cell Biology	Theory	4
M.Sc.	2019	I	MICRO4105	Practical Course: Microbial Systematics	Practical	4
M.Sc.	2019	I	MICRO4106	Practical Course: Cell biology and Biochemistry	Practical	4
M.Sc.	2019	II	MICRO4201	Virology	Theory	4
M.Sc.	2019	II	MICRO4202	Instrumentation	Theory	4
M.Sc.	2019	II	MICRO4203	Metabolism	Theory	4
M.Sc.	2019	II	MICRO4204	Evolution and Ecology	Theory	4
M.Sc.	2019	II	MICRO4205	Practical	Practical	4

				Course: Biophysics & Virology		
M.Sc.	2019	II	MICRO4206	Practical Course: Enzymology & Microbial Metabolism	Practical	4
						Total = 48

The student's feedback was collected from the alumni and students were incorporated in the syllabus.

**Resolution No. 2:** The framework of MSc program and syllabus of M.Sc.-I (2019 pattern) has been unanimously approved by all members of the BOS.

**3. To design the syllabus of certificate course for undergraduate students.**

The syllabus of credit course entitled 'Quality control techniques in food dairy and pharma industry' and 'Basic Microbiological Techniques' for UG students was presented by Ms.PritiBhosale and discussed among BoS members. The syllabus was discussed and finalized for the course as shown below:

Class	Pattern	Semester	Course Code	Course Title	Course Type	No. of Credits
S.Y.B.Sc.	2019	III	CC0027	Quality control techniques in food dairy and pharma industry	Practical & Theory	2
S.Y.B.Sc.	2019	IV	CC0028	Basic Microbiological techniques	Practical & Theory	2

**Resolution No. 3:** The syllabus of credit course has been unanimously approved by all members of the BOS.

4. To discuss and incorporate the relevant feedbacks of the stakeholders (Students, Teachers, Parents, alumni, and employers) in the curriculum.

➤ **Feedback received for Course structure for F.Y.B.Sc. Microbiology:**

**From Students:** The syllabus covers a wide range of microbiological topics, allowing students to explore various subfields. Practical courses are well-integrated, providing hands-on experience crucial for understanding theoretical concepts.

**From Teachers:** The syllabus is well-organized, with a logical progression of topics, enabling effective teaching planning. Courses like "Quality control techniques in food dairy and pharma industry" make the curriculum relevant to industry needs.

**From Parents:** The emphasis on practical courses is likely to appeal to parents, as it indicates a focus on real-world applications. Courses such as "Fermentation Technology" and "Quality control techniques" demonstrate practical applicability and potential employability.

**From Alumni:** The syllabus covers a broad spectrum of microbiological topics, likely providing a solid foundation for various career paths. Including a project in the final year allows students to apply their knowledge in a practical setting, enhancing their preparedness for the workforce.

**From Employers:** The inclusion of courses like "Fermentation Technology" and "Clinical Microbiology" suggests that graduates will possess skills relevant to industry needs. The final-year project offers students the chance to apply their skills in a practical setting, potentially making them more job-ready.

➤ **Feedback received for Course structure for M.Sc. Microbiology:**

**From Students:** The syllabus covers a wide range of microbiological topics, allowing students to specialize in areas such as virology, immunology, and molecular biology. The inclusion of practical courses throughout the program ensures that students gain hands-on experience, enhancing their skills and employability.

**From Teachers:** The courses are logically organized, allowing for a smooth progression from foundational concepts to specialized areas. The incorporation of skill development courses (SD23 and SD24) aligns with the emphasis on practical skills.

**From Parents:** Parents appreciated the emphasis on practical courses, seeing them as opportunities for their children to gain hands-on experience and practical skills. The inclusion of dissertation projects in the final year may be viewed positively by parents, as it indicates a focus on research and the application of knowledge.

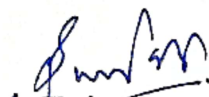
**From Alumni:** The dissertation projects provide a platform for alumni to gain research experience, potentially enhancing their competitiveness in the job market. The balanced combination of theory, practical, and skill development courses contributes to a holistic educational experience.

**From Employers:** Graduates are likely to possess specialized knowledge in areas such as virology, immunology, and molecular biology, making them valuable to employers. The emphasis on practical courses and skill development aligns with industry needs, providing graduates with a practical skill set.

- **Feedback received for syllabus of certificate course for undergraduate students:**
  - From Students:** The combination of theory and practical components offers a well-rounded learning experience. Courses seem designed to equip students with skills applicable to real-world scenarios.
  - From Teachers:** Teachers appreciated the practical nature of the courses, which could facilitate effective teaching methods. Courses align with practical industry needs, making it easier for teachers to relate concepts to real-world applications.
  - From Parents:** Parents valued the focus on practical skills, seeing it as valuable for their child's future. Courses like Quality Control Techniques indicate that their child is being prepared for practical applications in industries.
  - From Alumni:** Alumni appreciated the practical skills gained, which could have prepared them well for their careers. Courses like Basic Microbiological Techniques might resonate with alumni who found these skills directly applicable in their work.
  - From Employers:** Employers valued the practical skills gained through these courses, making graduates potentially more job-ready. Courses align with industry needs, indicating that graduates may possess skills directly applicable to their work.

**Resolution No. 4:** Feedback was collected by the entire stakeholder & was incorporated in the syllabus.

The meeting of BOS concluded with the vote of thanks by Prof. M. H. Gajbhiye.

  
Chairman  
Board of Studies

HEAD  
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