



# SRI SANKARA ARTS AND SCIENCE COLLEGE

Autonomous

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06/01/2022

## MINUTES OF MEETING OF THE BOARD OF STUDIES

- Department** : Microbiology  
**Venue** : Board Room  
**Date** : 6<sup>th</sup> January, 2022  
**Agenda** : To evaluate the current syllabus of B.Sc., Microbiology, M.Sc., Applied Microbiology courses (took effect from the academic year 2020-2021) for employability/ entrepreneurship/ skill development.

**The following members were present in the meeting:**

1. Prof. M. Elanchezhian, M.Sc., Ph.D., Professor and Head, Department of Microbiology, Dr. ALM PGIBMS, Taramani Campus, University of Madras, Chennai – 600113 – Member – VC Nominee
2. Dr. S. Valli, M.Sc., Ph.D., Assistant Professor, Department of Microbiology, Mohamed Sathak College of Arts & Science, No. 13 Road, Sholinganallur, Medavakkam Main Rd, Chennai, Tamil Nadu - 600119 – Subject Expert from outside the college
3. Dr. Mohan Pandi, M.Sc., Ph.D., Assistant Professor, Department of Molecular Microbiology, School of Biotechnology, Madurai Kamaraj University, Madurai, India – Member – Subject Expert from outside the college
4. Dr. G. Suresh, M.Sc., Ph.D., Assistant Professor and Head, Department of Microbiology, Sri Sankara Arts and Science College, Enathur, Kanchipuram – Chairman.
5. Mrs. K. Kavitha, M.Sc., M.Phil., Assistant Professor, Department of Microbiology, Sri Sankara Arts and Science College, Enathur, Kanchipuram – Member
6. Dr. S. Bharathi, M.Sc., M. Phil., Ph.D., Assistant Professor, Department of Microbiology, Sri Sankara Arts and Science College, Enathur, Kanchipuram – Member

  
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7. Dr. N. Prasanna Balaji, M.Sc., M.Phil., Ph.D., Assistant Professor, Department of Microbiology, Sri Sankara Arts and Science College, Enathur, Kanchipuram – Member
8. Dr.K.Sivasubramanian, M.Sc., Ph.D., Assistant Professor, Department of Microbiology, Sri Sankara Arts and Science College, Enathur, Kanchipuram – Member
9. Mr. P. Saravanan, M.Sc., Assistant General Manager – QHSE, Elior India Food Services LLP, #001, 3B, RMZ Ecospace, Belandur, Marthahalli Outer Ring Road, Bangalore – 560103 – Member –Representative from industry
10. Dr. A. Suresh, M.Sc., Ph.D. Scientist cum Research Coordinator, Central Research Laboratory, Meenakshi Medical College Hospital & Research Institute, Meenakshi Academy of Higher Education and Research (MAHER), Enathur, Kanchipuram – Member – Postgraduate Meritorious Alumnus
11. Dr. K. R. Venkatesan, M.A., M. Phil., Ph.D., Principal, Sri Sankara Arts and Science College, Enathur, Kanchipuram – Special Invitee.

#### **Agenda**

- The current Syllabus for B.Sc., Microbiology and M.Sc., Applied Microbiology Courses (took effect from the academic year 2020-2021) were discussed and evaluated for employability/ entrepreneurship/ skill development in the Board of Studies. Evaluation is attached as Annexure.

#### **Resolution**

- The board of studies resolved to record that in B.Sc., Microbiology syllabus, 12 papers (66.66%) focus on employability, 3 papers (16.66%) focus on entrepreneurship and 3 papers (16.66%) on skill development.
- In M.Sc., Applied Microbiology syllabus, 8 papers (47.05%) focus on employability, 3 papers (17.64%) focus on entrepreneurship and 6 papers (35.29%) on skill development.
- B.Sc., Microbiology and M.Sc., Applied Microbiology syllabus are relevant and fulfills OBE under CBCS.

  
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**Signature of members:**

1. Prof. M. Elanchezhiyan

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2. Dr. S. Valli

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3. Dr. Mohan Pandi

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4. Dr. G. Suresh

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5. Mrs. K. Kavitha

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6. Dr. S. Bharathi

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7. Dr.N.Prasanna Balaji

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8. Dr.K.Sivasubramanian

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9. Mr. P. Saravanan

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10. Dr. A. Suresh

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11. Dr.K.R.Venkatesan

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### Annexure

#### B.Sc., Microbiology

Serial No	Name of the Course	Focus on employability/entrepreneurship/ skill development	Evaluation on the Focus
1	General Microbiology and Microbial Physiology	Employability	Microscopy, isolation, and cultural techniques were basic for employability
2	Allied Biochemistry I	Employability	Learn the molecular, and chemical nature of biomolecules needed for quality assurance in pharma industries
3	Cellular Organization	Skill Development	Expose to structural organization of cell organelles, genes, genome and chromosomes including the gene expression strategies helps to crack competitive exams
4	Immunology	Employability	Learn various serological techniques including agglutination precipitation reactions, ELISA, complement fixation and enumeration of blood cells required for serological diagnosis kit preparing laboratories
5	Allied Biochemistry II	Employability	Learn the enzymes, vitamins and minerals properties that are needed for quality assurance in pharma industries
6	Diversity of Life Forms	Skill Development	Know the fundamentals of taxonomy and systemic classification of organisms helps to crack competitive exams
7	Molecular Biology	Employability	Understand prokaryotic and eukaryotic gene expression and control of gene expression that assist to improve strains for maximum metabolite production

8	Bioinstrumentation	Employability	Learn the principles, types and application of different chromatography, electrophoresis, spectrophotometry techniques helps to place in analytical and research laboratories
9	Soil and Agricultural Microbiology	Entrepreneurship	Study about biofertilizer and biopesticide preparation and application method assist them to establish small scale biomanure industry
10	Biostatistics	Skill Development	Learn to analyze biological data using statistical tools
11	Medical Bacteriology	Employability	Know the techniques for collection, isolation and identification of medically important bacteria that provide employment in diagnostic laboratories
12	Medical Mycology and Parasitology	Employability	Learn the conventional and advanced techniques for identification of pathogenic fungi and parasites from clinical specimen that provide employment in diagnostic laboratories
13	Medical Virology	Employability	Study the biology, cultural and vaccine preparation techniques of viruses that helps to acquire job in research laboratories
14	Microbial Genetics and Genetic Engineering	Employability	Obtain ideas on the gene cloning techniques helps to find job in recombinant products producing industries
15	Industrial and Pharmaceutical microbiology	Entrepreneurship	Gain knowledge on the large scale production of microbial metabolites aid in establishment of bioproduct industries
16	Environmental Microbiology	Employability	Learn to access the quality of water, air and to manage solid and liquid wastes assist to get employment in pollution control boards, quality testing laboratories.
17	Food & Dairy Microbiology	Entrepreneurship	Learn the role of microbes in food, food analysis and food fermentation that aid in establishing food industry

18	Biotechnology	Employability	Learn plant, animal tissue culture and recombinant products that helps to get place in pharmaceutical industries
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Particulars	Employability	Entrepreneurship	Skill development
Total No of Papers 18	12 (66.66%)	3 (16.66%)	3 (16.66%)

### M.Sc., Applied Microbiology

Serial No	Name of the Course	Focus on employability/entrepreneurship/ skill development	Evaluation on the Focus
1	General Microbiology and Laboratory Animal Science	Employability	Learn microscopic and cultural techniques to demonstrate and isolate microbes that aids in employment in Food, Pharmaceutical industries and diagnostic laboratories
2	Immunology and Immunotechnology	Employability	Know immunological techniques including method of bacterial antigen preparation and raising polyclonal antisera in experimental animals that helps in placement at research and serological laboratories.
3	Microbial Diversity and Taxonomy	Skill Development	Gains knowledge on microbial taxonomy and systematic of classification that helps to crack competitive exams.
4	Metabolic Pathways	Skill Development	Learn the metabolism of carbohydrates, lipids and protein that helps to better understanding of physiology of organism



5	General regime of intellectual property rights	Skill Development	Imparts the fundamentals of Intellectual property rights, Patent process, copy rights and trade mark helps to protect their intellectual property in a right way
6	Virology	Employability	Impart knowledge regarding the epidemiology, diagnosis, prevention and related implications of human viral diseases and emerging viral Infections that aid in the employment at research, diagnostic laboratories and pharmaceutical industries
7	Systematic Medical Bacteriology	Employability	Acquire the skill of sample collection, transport and processing of clinical samples for bacterial identification that provide employment that provide employment in diagnostic laboratories
8	Mycology and Parasitology	Employability	Practical skills on microscopical examination, cultivation, identification of fungal pathogens and examination of parasites in clinical specimens that provide employment in diagnostic laboratories
9	Bioinformatics and Biostatistics	Skill Development	Learn about primer synthesis, DNA sequencing methods, analyze gene libraries for whole genome analysis, Next generation sequencing concepts of QSAR and biostatistical tools for effectively presenting their research findings
10	Industrial and Pharmaceutical Microbiology	Entrepreneurship	Gains knowledge on isolation, preservation of industrially important microbes, media formulation, purification of metabolites that helps to establish small scale fermentation industry
11	Microbial Genetics	Skill Development	Gains knowledge on genetic recombination, transposons and

			gene mapping in bacteria, yeast and viruses aids in cracking of competitive exams
12	Genetic Engineering	Employability	Learn the techniques of protoplast fusion, DNA finger printing techniques, gene cloning concepts and its application in agricultural, medical sectors
13	Molecular Biology	Employability	Imparts the knowledge on plasmid, genomic DNA, RNA and protein their isolation and application in diagnostic and research
14	Soil and Agricultural Microbiology	Entrepreneurship	Learn about biofertilizers, biopesticides, preparation and applications that helps to establish biomanure industry
15	Marketable microbial products	Entrepreneurship	Acquire knowledge on cultivation of spirulina, mushroom, probiotics, preparation of biopigments, biofertilizers, and various marketing strategies for selling microbial products
16	Food, Dairy and Environmental Microbiology	Employability	Learn about dairy products, fermented food, air sanitation food sanitation solid and liquid waste management that helps to acquire employability in food and dairy industry
17	Research Methodology and Bioinstrumentation	Skill Development	Obtain knowledge on importance, components and framing research report. and application of histochemical, immunotechniques, microscopic and radiolabeling techniques that help to prepare dissertation in a right way

Particulars	Employability	Entrepreneurship	Skill development
Total Number of Papers 17	8 (47.05%)	3 (17.64%)	6 (35.29%)