

**J.J. College of Arts and Science (Autonomous)**

Sivapuram Post, Pudukkottai – 622 422

(Re-Accredited by NAAC with B++ – 4<sup>th</sup> Cycle)

Affiliated to Bharathidasan University, Tiruchirappalli

PG & Research Department of Biotechnology

Minutes of the Board of Studies Meeting

Meeting No: 08

Date: 03.05.2023 & Time: 10.15 a.m.

As part of our Autonomy, the Curricula for all the Programmes offered in the College have to be revised once in every three years. Though the Curriculum is revised in 2022, the Current Revision is necessary based on the Notification received from the TANSCHÉ & Parent University. Hence, this meeting is called for.

The Meeting of the Board of Studies in Biotechnology (U.G. and P.G.) for the current revision of the curricula to be implemented from 2023-2024, is conducted at 10.15 a.m. on WEDNESDAY 03.05.2023.

Sl. No.	Name	Designation	Signature
1	Dr. G. Manigandan Head, P.G. and Research Dept. of Biotechnology, J.J. College of Arts and Science, Pudukkottai – 622 422	Chairman	<i>G. Manigandan</i> 03/05/23
2	Dr S.Sivaramakrishnan Professor and Head, Department of Biotechnology, Bharathidasan University, Tiruchirappalli - 622 024	Nominee from the Parent University	<i>S. Sivaramakrishnan</i> 3/5/2023
3	Dr. V. Nithya Assistant Professor, Department of Animal Health and Management, Alagappa University, Karaikudi-630 003	Subject Experts Outside the Parent University	<i>V. Nithya</i> 3/5/23
4	Dr. S. Gowrishankar Assistant Professor, Department of Biotechnology, Alagappa University, Karaikudi – 630 003	Subject Experts Outside the Parent University	<i>S. Gowrishankar</i> 03/05/23
5	Dr. V. Jayaramanathan	Senior Faculty members of the Department	<i>V. Jayaramanathan</i>
6	Ms. P. Priyadarshini		<i>P. Priyadarshini</i>
7	Dr. V. Subramaniyan		<i>V. Subramaniyan</i>
8	Ms. C. Sumathi		<i>C. Sumathi</i>
9	Dr. L. Vivekanandan		<i>L. Vivekanandan</i>
10	Mr. T. Venkatesh Stem Cell Technician, Chettinad Health City Kelambakkam, Kanchipuram (DT)	Representative from Industry / Corporate	<i>T. Venkatesh</i>
11	Mr. N. Prasannaganesan Quality Analyst, Medical Coding AGS Health Care, Chennai	Post Graduate Meritorious Alumnus	<i>N. prasannaganesan</i>



The Chairman, Dr. G. Manigandan chaired the meeting and welcomed all the members to the eighth BoS Meeting. After the brief introduction, the agenda items listed were taken up for discussion and the following resolutions were passed. It was resolved to

1. As per the instructions from **TANSICHE and the Parent University**, it is resolved to include **75 % of mandatory inclusion** content from model syllabus and **25 % of Preferential inclusion** by our Department to preserve equivalence in U.G. and P.G. Degree Programmes to enable student Mobility to be implemented from the academic year 2023 – 2024 onwards is framed and restructured following the guidelines laid down by the UGC - LOCF and Tamil Nadu State Council for Higher Education (**TANSICHE**) and the Parent University.
2. Evaluate the Syllabus followed during the Academic Year 2022 – 2023 based on the first Semester Results.
3. Analyze the previous Curriculum based on the feedback received from the Teachers, Employers, Students and the Alumni.
4. Approve the Curriculum, Course Structure (Syllabi) and Text Books recommended for implementation from 2023-2024 onwards.
5. In the present meeting the General Course Structure for the B.Sc. Biotechnology programme and syllabus for the first two semesters were discussed and scrutinized for implementation from the Academic year 2023–2024 onwards based on the communication from the Parent University / TANSICHE.
6. Have the following structure for **B.Sc. Biotechnology**

**Distribution of Courses:**

Part	Course	No. of Courses	Credits	Marks
P – I	Language - Tamil / Hindi / French	04	12	400
P – II	Language – English	04	12	400
P – III	Core Course (Theory)	09	45	900
	Core Course (Practical)	06	18	600
	Allied course ( Theory)	04	12	400
	Allied course (Practical)	04	08	400
	Discipline specific elective course	03	12	300
	Project work	01	05	100
P –IV	Skill Enhancement Course (SEC) / NME	02	04	200
	Ability Enhancement Compulsory Course (AECC)	04	08	400
	Environmental Studies	01	02	100
	Value Education	01	02	100
	Internship	01	02	100
P – V	Extension Activity	01	01	-
<b>Grand Total</b>		<b>44</b>	<b>143</b>	<b>4400</b>



7. **Implement the following guidelines on Curriculum design given by NAAC**
  - a. Specific mention has been made of Program outcomes (POs), Program specific outcomes (PSOs), Course Outcomes (COs), Programme Educational Objectives (PEOs) and Course Objective sin the Syllabus.
  - b. Relationship Matrix for CO, PO and PSO for all courses implemented.
  - c. Curriculum addresses local, Regional, National and Global Needs
  - d. Courses focus on Employability, Entrepreneurship and Skill Development
  - e. Courses also focus on Gender, Environment and Sustainability, Human values and Professional Ethics.
8. List the courses newly introduced in UG & PG and details of the percentage of revision carried out as an appendix
9. Introduce Internship in the 5<sup>th</sup> semester - summer vacation at the end of 4th semester under Part IV
10. Environmental Studies (**IV Sem.**) and Value Education (**V Sem.**) courses to be followed as per the previous curriculum.
11. **Resolved to have the following 16 Core Courses for UG semesters wise**

#### **SEMESTER I**

- 1 Cell and Molecular Developmental Biology (It is the Core Course of previous Curriculum but content is different and unit contents are changed)
- 2 Cell and Molecular Developmental Biology Practical (It is the Core Course of previous Curriculum but content is different)

#### **SEMESTER II**

3. Genetics (It is the Core Course of previous Curriculum but content is different)
4. Major Practical - I (Genetics ) (It is the Core Course of previous Curriculum but content is different)

#### **SEMESTER III**

5. Immunology and Immunotechnology (It is the Allied Course of previous Curriculum, title of the course modified and Immunotechnology contents included in the syllabus)
6. Major Practical (Immunology and Immunotechnology) (It is the Allied Course of previous Curriculum, title of the course modified and Immunotechnology contents included in the syllabus)

#### **SEMESTER IV**

7. Genetic Engineering and rDNA Technology (It is the Core Course of previous Curriculum, title of the course modified and Genetic Engineering contents included in the syllabus)



8. Major Practical (Genetic Engineering and rDNA Technology) (It is the Core Course of previous Curriculum, title of the course modified and Genetic Engineering contents included in the syllabus)

#### **SEMESTER V**

9. Plant Biotechnology (This Core Course Plant and animal Biotechnology of previous Curriculum, title of the course modified but content is different)
10. Animal Biotechnology (This Core Course Plant and animal Biotechnology of previous Curriculum, title of the course modified but content is different)
11. Environmental & Industrial Biotechnology (This Core Course Microbial and Environmental Biotechnology of previous Curriculum, title of the course modified but the unit contents are changed)
12. Major Practical - V (Covering Plant Biotechnology and Animal Biotechnology) (It is the Core Course of previous Curriculum, title of the course modified but the unit contents are changed)
13. Major Practical - VI (Covering Environmental & Industrial Biotechnology) (It is the Core Course of previous Curriculum, title of the course modified but the unit contents are changed)

#### **SEMESTER VI**

14. Bioentrepreneurship (It is the Discipline Specific Elective of previous Curriculum, but content is different)
15. Pharmaceutical Biotechnology (It is the Discipline Specific Elective of previous Curriculum, but content is different)
16. Project work (This Core Course is newly introduced)

#### **12. Resolved to have the following 6 Allied Courses for U.G**

##### **SEMESTER I**

1. Biological Chemistry (It is the Allied Course of previous Curriculum but content is different)
2. Biological Chemistry Practical (It is the Allied Course of previous Curriculum but content is different)

##### **SEMESTER II**

3. Fundamentals of Microbiology (It is the Core Course of previous Curriculum but content is different)
4. Fundamentals of Microbiology Practical (It is the Core Course of previous Curriculum but content is different)

##### **SEMESTER III**

5. Bioinstrumentation (It is the Core Course of previous Curriculum but content is different)
6. Bioinstrumentation Practical (It is the Core Course of previous Curriculum but content is different)



## SEMESTER IV

7. Bioinformatics and Biostatistics (It is the Core Course of previous Curriculum, title of the course modified but the unit contents are changed)
8. Bioinformatics and Biostatistics Practical (It is the Core Course of previous Curriculum, title of the course modified but the unit contents are changed)
13. **Resolved to offer allied practical as sitting course** ( it is non-sitting course of previous curriculum)
14. **Resolved to have the following 8 Skill Enhancement Courses (Non Major Elective)**
  1. Food and Nutrition (This Course is newly introduced)
  2. Herbal Medicine (This Course is newly introduced)
  3. Public Health and Hygiene (This Course is newly introduced)
  4. Environment Management in Industries (This Course is newly introduced)
  5. Good Laboratory Practices (This Course is newly introduced)
  6. Organic Farming and Health Management (This Course is newly introduced)
  7. Biotechnology for Society (It is the Generic elective Course of previous Curriculum, but the unit contents are changed)
  8. Computational Biology (This Course is newly introduced)
15. **Resolved to offer the following Ability Enhancement Compulsory courses for UG**
  1. Introduction to study skills ( It is newly introduced)
  2. Life skills ( It is newly introduced)
  3. Job oriented skills ( It is newly introduced)
  4. Computing skills ( It is newly introduced)
16. **Resolved to have the following Discipline Specific Elective Courses for U.G**
  1. Nanobiotechnology (It is the Skill Enhancement Course of previous Curriculum but the unit contents are changed)
  2. Enzymology (It is the Allied Course of previous Curriculum but the unit contents are changed)
  3. Marine Biotechnology (It is the Skill Enhancement Course of previous Curriculum but the unit contents are changed)
  4. Food Technology (It is the Core Course of previous Curriculum but the unit contents are changed)
  5. Medical Biotechnology (This Discipline Specific Elective Courses is newly introduced)
  6. Forensic Science (This Discipline Specific Elective Courses is newly introduced)



17. **Percentage of Revision carried out in PG Programme (2022 – 2023).**

18. Have the following structure for **M.Sc. Biotechnology**

**Distribution of Courses**

Sl. No	Course	No. of. Courses	Credit	Marks
1	Core Courses	13	52	1300
2	Discipline Specific Elective Course	06	18	600
3	Ability Enhancement Compulsory Course (AECC)	04	08	400
4	Internship	01	02	100
5	Project Work	01	10	100
<b>Grand Total</b>		<b>25</b>	<b>90</b>	<b>2500</b>

19. **Resolved to have the following 14 Core Courses for PG**

**SEMESTER I**

- 1 Biochemistry (It is the Core Course of previous Curriculum but content is different)
- 2 Microbiology (It is the Core Course of previous Curriculum but content is different)
- 3 Cell and Molecular Biology (It is the Core Course of previous Curriculum but content is different)
- 4 Practical I (CC1, CC2 and CC3) (It is the Core Course of previous Curriculum but content is different)

**SEMESTER II**

- 5 Molecular Genetics (It is the Core Course of previous Curriculum but content is different)
- 6 Plant and Animal Biotechnology (It is the Core Course of previous Curriculum but content is different)
- 7 Genetic Engineering (It is the Core Course of previous Curriculum but content is different)
- 8 Practical II (CC5, CC6 and CC7) (It is the Core Course of previous Curriculum but content is different)

**SEMESTER III**

9. Bioinformatics (It is the Core Course of previous Curriculum but content is different)
10. Immunology (It is the Core Course of previous Curriculum but content is different)
11. Bioprocess Technology (It is the Core Course of previous Curriculum but content is different)



12. Research Methodology (It is the Core Course of previous Curriculum but content is different)
13. Practical - III (Covering Bioinformatics, Immunology, Bioprocess Technology)  
It is the Core Course of previous Curriculum but content is different)

#### SEMESTER IV

14. Project Work (It is the Core Course of previous Curriculum but content is different)

### 20. Resolved to have the following 4 Discipline Specific Elective Courses in the first 2 semesters

#### SEMESTER I

- 1 Basic Analytical Methods (It is the Discipline Specific Elective Course of previous Curriculum but content is different)
- 2 Biostatistics / Enzyme Technology (It is the Discipline Specific Elective Course of previous Curriculum but content is different)

#### SEMESTER II

1. Virology (It is the newly introduced course)
2. Pharmaceutical Technology / Environmental Biotechnology (It is the Core Course of previous Curriculum but content is different)

#### SEMESTER III

1. Nano Biotechnology, Bioethics, Biosafety and IPR System Biology (It is the Core Course of previous Curriculum but content is different)
2. Microbial Biotechnology (It is the newly introduced course)

#### SEMESTER IV

- 1 Developmental and Stem Cell Biology (It is the Core Course of previous Curriculum but content is different)
- 2 Medical Microbiology (It is the newly introduced course)

### 21. Resolved to offer the following Ability Enhancement Compulsory courses

1. Soft Skill - I (It is newly introduced)
2. Soft Skill - II (It is newly introduced)
3. Soft Skill - III (It is newly introduced)
4. Soft Skill - IV (It is newly introduced)

### 22. It is resolved to change the practical examination duration from 3 hrs to 6 hrs.



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