

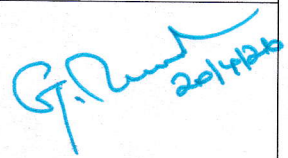
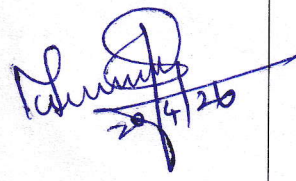
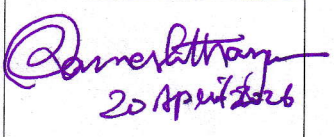
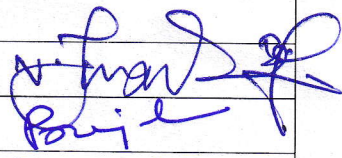
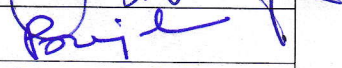
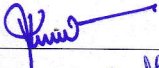
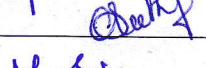
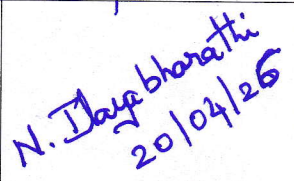
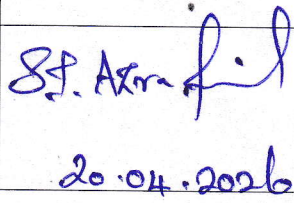
J.J. College of Arts and Science (Autonomous)
Sivapuram Post, Pudukkottai – 622 422
 (Re-Accredited by NAAC with B⁺⁺ – 4th Cycle)
 Affiliated to Bharathidasan University, Tiruchirappalli
PG & Research Department of Biotechnology

Minutes of the Board of Studies Meeting

Meeting No: 11

Date: 20.04.2025 & Time: 11.00 a.m.

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 **2026-2027**, is conducted at **11.00 a.m. on Monday 20.04.2026.**

Sl. No.	Name	Designation	Signature
1	Dr. G. Manigandan Head, Dept. of Biotechnology J.J. College of Arts and Science (Autonomous), Pudukkottai – 622 422	Chairman	
2	Dr. M. Muthuselvem Associate Professor Department of Biotechnology Bharathidasan University Tiruchirappalli - 622 024	Nominee from the Parent University	
3	Dr.K. Pandima Devi Professor, Department of Biotechnology Alagappa University Karaikudi – 630003	Subject Experts Outside the Parent University	ABSENT
4	Dr. P. Ramesh Thangam Professor of Biotechnology & Head i/c, Department of Nutrition and Dietetics, Alagappa University Karaikudi – 630003	Subject Experts Outside the Parent University	
5	Dr. V. Jayaramanathan	Senior Faculty members of the Department	
6	Ms. P. Priyadarshini		
7	Dr. V. Subramaniyan		
8	Ms. C. Sumathi		
9	Ms. M. Sakthipriya		
10	Mr. N. Ilaya Bharathi Executive Quality Control Virchow Biotech Private Limited No. 172, Gagillapur, Telangana - 500043 Hyderabad.	Representative from Industry / Corporate	
11	S.I. Azra Firdous Coordinator and Biology Staff (NEET) Paripoorna Academy of foundation and NEET, Trichy	Post Graduate Meritorious Alumnus	

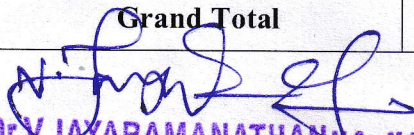
The Chairman, **Dr. G. Manigandan** chaired the meeting and welcomed all the members to the eleventh BoS Meeting. After the brief introduction, the agenda items listed below were taken up for discussion and the following resolutions were passed.

It was resolved

1. To approve the revised UG and PG curriculum, in accordance with the guidelines of UGC-LOCF, NAAC, TANSCH and the Parent University.
2. To approve the Curriculum, Course Structure (Syllabi) and Text books recommended for implementation from the academic year **2026-2027 onwards**.
3. To approve the General Course Structure for the **B.Sc. and M.Sc. Biotechnology** Programmes, along with the syllabi for the first two semesters, were discussed and scrutinized for implementation from the academic year 2026-27 onwards.
4. To approve the following course structure for UG and PG Programmes respectively.

Distribution of Courses - UG

Part	Semester	Course	No. of Courses	Credit	Marks
I	1 – 4	Language – (Tamil/Hindi/French/Sanskrit)	04	12	400
II	1 – 4	Language – English	04	12	400
III	1 – 6	Core Course (Theory)	15	96 (CC – 69, AC – 18, DSE – 09)	2400
	1 – 4	Allied Course (Theory)	06		
	5 & 6	Discipline Specific Elective	03		
IV	5	Internship	01	02	100
	3, 4 & 5	Skill Enhancement Course (SEC)	03	06	1200
	1 & 2	Generic Elective Course (IDC)	02	04	
	3, 4, 5 & 6	Ability Enhancement Compulsory Course (AECC) (EVS, VE, DM, GS)	04	08	
	4 & 5	Self – Learning Course	02	04	
	6	Value Added Course	01	02	
V	3	Health and Wellness	01	01	100
	6	Extension Activity	-	01	-
Grand Total			46	148	4600


Dr. V. JAYARAMANATHAN M.Sc., M.Phil., Ph.D
 ASST. PROFESSOR DEPT. OF BIOTECHNOLOGY
 J.J. COLLEGE OF ARTS & SCIENCE (AUTONOMOUS)
 PUDUKKOTTAI - 622 422, SOUTH INDIA.

Distribution of Courses - PG

S.No.	Semester	Course	No. of Courses	Credit	Marks
1.	1 - 4	Core Courses (Theory & Practical)	12	60	1200
2.	1 & 2	Discipline Specific Elective Course	03	12	300
3.	1 - 3	Skill Enhancement Course	03	09	300
4.	3	Generic Elective Course	01	03	100
5.	4	Project Work	01	07	100
6.	3	Internship	01	02	100
7.	2	Self – Learning Course	01	02	100
Grand Total			22	95	2200
8.	4	Value Added Course (Extra Credit Course)	01	02	100

5. To approve the changes made in the curriculum based on the special feedback received from all stake holders on the existing curricula, courses and Syllabi.
6. To adopt the revised Bloom's Taxonomy in framing the Course Outcomes.
7. To approve the newly incorporated guidelines on Curriculum Design prescribed by NAAC.
 - a. The curriculum framework has been aligned with OBE by defining POs, COs & PEOs/PSOs.
 - b. Generic Open Elective Courses for UG and PG Programmes have been designed in alignment with the CBCS to ensure curriculum flexibility.
 - c. Practical and Industry focused field work/project and Internship Training have been incorporated into the curriculum.
 - d. Skill oriented courses offered by the Departments are aligned with NCeF, NSQF, and NHEQF.
 - e. Greater focus has been given to incorporate components of Indian Knowledge Systems into the curriculum.
 - f. Online courses for UG and PG through SWAYAM/SWAYAM PLUS have been incorporated into the curriculum.
 - g. A relationship matrix mapping for COs, POs and PSOs has been implemented for all courses.
 - h. The Curriculum addresses local, regional, national and global needs.

- i. Courses focus on Employability, Entrepreneurship and Skill Development.
 - j. Courses also emphasize Gender, Environment and Sustainability, Human Values and Professional Ethics.
8. To approve the inclusion of a self-learning course from SWAYAM/SWAYAMPLUS for the UG programme in the 4th semester, carrying two credits and 100 marks, and a subject related self-learning course offered by the department in the 5th Semester also carrying two credits and 100 marks.
 9. To approve that, in the fourth semester, if a student is unable to complete the SWAYAM course, the student shall be permitted to take an optional course offered by the Department under the self-learning category only in the final semester.
 10. To approve the inclusion of self-learning course from SWAYAM/SWAYAM PLUS for PG programme in the 2nd Semester carrying two credits and 100 marks.
 11. To approve the inclusion of Value Added Course in the sixth semester for the UG Programme under Part – IV.
 12. To approve the **Value Added Course** to be treated an **extra credit course** for all PG Programmes. The credit will not be included in CGPA.
 13. To approve the new evaluation pattern of **CIA – 30, ESE –70** for both UG and PG programmes as per the guidelines given by UGC and TANSCHÉ on Examination and Evaluation reforms.
 14. To approve the following pattern for the calculation of CIA

UG		PG	
Category	Marks	Category	Marks
Mid-Semester	7.5	Mid-Semester	7.5
Model Exam	7.5	Model Exam	7.5
Assignment 1	05	Assignment 1	05
Assignment 2	05	Assignment 2	05
Attendance	05	Quiz / Seminar	05
Total	30	Total	30

15. To approve the following question paper pattern for the ESE – 70 marks:

S. No	Section	Marks
1	Part - A	10 x1 = 10 (5 MCQ & 5 Fill in the blanks)
2	Part - B	5 x 2 = 10 Marks
3	Part - C	5x4 = 20 marks (either... or choice/)
4	Part - D	3x10 = 30 marks (Open choice)
Total		70 marks

16. To approve the following evaluation pattern for the UG & PG project:

S. No	Description	Marks
1	Plan of the Project	20
2	Logical Execution of the Plan	40
3	Innovation	
4	Usage of Modern Tools / Technology	
5	Individual Contribution / Group Activity	
6	Project Report	20
7	Viva-Voce	20
Total		100

17. To approve the internship training shall be undertaken by UG students during their IV semester summer vacation and by PG students during their II semester summer vacation with a duration of **15 to 21** working days.

18. To approve the continuance of awarding credits for the internship course to be reflected in the 5th Semester mark statement for UG programmes and in the III semester mark statement for PG programmes. The scheme for awarding marks for UG and PG programmes are as follows:

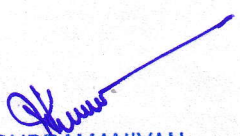
S. No	Description	Marks
1	Report	50
2	Viva Voce	50
Total		100

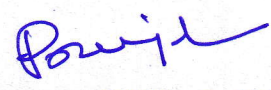
19. To continue to follow the existing evaluation system for the Health and Wellness Course

Scheme of Evaluation:

Part	Description	Marks
A	Report	40
B	Attendance	20
C	Activities (Observation During Practice)	40
Total		100

20. To approve the inclusion of Introduction to Disaster Management as Ability Enhancement Course in the 5th Semester for all UG Programmes.


Dr. V. SUBRAMANIYAN M.Sc.(Bio), M.Sc.(Micro), Ph.D.
 Assistant Professor
 PG & Research Department of Biotechnology,
 J.J. College of Arts & Science (Autonomous),
 Pudukkottai - 622 422.


Ms. P. PRIYADARSHINI, M.Sc., M.Sc., M.Phil.,
 Assistant Professor
 Department of Biotechnology
 J.J. College of Arts and Science (Autonomous)
 Sivapuram, Pudukkottai - 622 422.

21. To approve the following system for students who have not studied Tamil under Part – I (Languages).

INTERDISCIPLINARY COURSE (IDC) # FOR WHO HAVE NOT STUDIED TAMIL UNDER PART – I		
Those who have studied Tamil up to 10 th +2 but opt for other languages in degree	1 st Semester	Special Tamil - I
	2 nd Semester	Special Tamil - II
Those who have not studied Tamil in school level	1 st Semester	Basic Tamil - I
	2 nd Semester	Basic Tamil - II

22. Resolved to have the following 16 Core Courses for UG semesters wise

SEMESTER I

- Cell and Developmental Biology (This Core Course previously titled as Cell and molecular Developmental Biology has been revised and renamed).
- Major Practical -I : Cell and Developmental Biology (This Core Course previously titled as Cell and molecular Developmental Biology has been revised and renamed)

SEMESTER II

- Genetics (This Core Course existed in previous Curriculum but the content has been revised)
- Major Practical - II : Genetics (This Core Course existed in previous Curriculum but the content has been revised)

SEMESTER III

- Molecular Biology (It is newly introduced)
- Major practical -III : Molecular Biology (It is newly introduced)

SEMESTER IV

- Immunology
- Major Practical - IV : Immunology

SEMESTER V

- Genetic Engineering
- Plant Biotechnology
- Animal Biotechnology
- Major Practical – V(Genetic engineering, Plant and Animal Biotechnology)

SEMESTER VI

- Environmental & Bioprocess Technology
- Major Practical - VI (Environmental & Bioprocess Technology)
- Project work (Retained as it is)

23. Resolved to have the following 6 Allied Courses for U.G

SEMESTER I

- Microbiology (It is the Discipline Specific Elective of previous Curriculum but content is slightly modified)
- Allied Practical -I : Microbiology (It is newly introduced)

SEMESTER II

- Biochemistry (It is the Discipline Specific Elective of previous Curriculum, title of the course changed and unit contents are slightly modified)
- Allied Practical - II : Biochemistry (It is the Discipline Specific Elective of previous Curriculum, title of the course changed and unit contents are slightly modified)

SEMESTER III

- Enzyme Technology

SEMESTER IV

- Bioinformatics and Biostatistics

24. Resolved to have the following 4 Generic Elective Courses

- Food Biotechnology (It is the Skill Enhancement Courses of previous Curriculum title of the course modified and the unit contents are changed)
- Biotechnology for Human Welfare (It is newly introduced)
- Herbal technology (It is newly introduced)
- Organic Farming (It is newly introduced)

25. It is resolved to offer the following Skill Enhancement Courses

- Instrumentation in Biotechnology
- Diagnostic Biotechnology
- Biofertilizer Technology
- Vermitechnology (It is newly introduced)
- Food Biotechnology
- Nutraceuticals (It is newly introduced)

26. It is resolved to offer the following Ability Enhancement Compulsory Courses

- Value Education
- Environmental Studies
- Introduction to Disaster Management (It is newly introduced)
- Gender Studies

27. It is resolved to offer Health and Wellness (U3R4HW) in the 3rd semester.

28. It is resolved to offer the following Self Learning Courses

- Online Courses (SWAYAM/ MOOC's / NPTEL)
- Mushroom Technology
- Artificial Intelligence in Biotechnology (It is newly introduced)

- Bio products: from Waste to Wealth (It is newly introduced)

29. Resolved to have the following Discipline Specific Elective Courses for U.G

- Research Methodology (It is newly introduced)
- IPR, Bioethics and Bio-safety (It is newly introduced)
- Pharmaceutical Biotechnology
- Cell signalling (It is newly introduced)
- Nanobiotechnology
- Stem Cell Technology

30. It is resolved to offer “Internship Programme” for the undergraduate students in their 5th semester for the undergraduate students.

31. It is resolved to have the following 13 Core Courses for PG programme semester-wise

SEMESTER-I

- Cell and Molecular Biology (It is newly introduced)
- Biochemistry (This Core Course existed in previous Curriculum and the content has been revised)
- Practical I (Covering Cell and Molecular biology and Biochemistry) (It is newly introduced)

SEMESTER-II

- Microbiology (This Core Course existed in previous Curriculum and the content has been revised)
- Genetic Engineering (This Core Course existed in previous Curriculum and the content has been revised)
- Practical II (Covering Microbiology and Genetic Engineering) (It is newly introduced)

SEMESTER-III

- Immunotechnology
- Plant Biotechnology
- Environmental and Bioprocess technology
- Practical III (Covering Immunotechnology, Plant Biotechnology and Environmental and Bioprocess technology)

SEMESTER-IV

- Animal Biotechnology
- Research Methodology, Bioethics & IPR
- Project Work

32. It is resolved to offer the following Discipline Specific Elective courses for the PG programme

SEMESTER-I

- Food Biotechnology (It is newly introduced)

- Enzyme Technology (This Core Course previously titled as Enzymology has been revised and renamed).
- Stem Cell Technology (This Core Course existed in previous Curriculum but the content has been revised)
- Tissue Engineering (It is newly introduced)

SEMESTER-II

- Bioinstrumentation (This Core Course existed in previous Curriculum and the content has been revised)
- Diagnostic Biotechnology (This Core Course existed in previous Curriculum and the content has been revised)

33. It is resolved to offer the following Skill Enhancement Courses for the PG programme

- Molecular Therapeutics (It is newly introduced)
- Pharmaceutical Biotechnology (This Core Course existed in previous Curriculum but the content has been revised)
- Bioinformatics (This Core Course existed in previous Curriculum but the content has been revised)
- Genomics and Proteomics (This Core Course existed in previous Curriculum but the content has been revised)
- Bio-entrepreneurship (It is newly introduced)

34. It is resolved to offer Self Learning Courses - Online Courses (SWAYAM/MOOC's / NPTEL) in the 2th semester

35. It is resolved to offer Value Added course- Vaccine technology in the 4th semester. (It is newly introduced).

36 It is resolved to offer the following Generic Elective Course to other departments in the 3rd semester.

- Biotechnology for human welfare
- Food Biotechnology

37. It is resolved to retain the Internship programme at the end of 2nd semester for PG programme.

38. "It is resolved that a Board of Studies meeting will be convened to incorporate curriculum modifications and updates, as directed by the Parent University and TANSCHÉ."

1. *Muthuselvan*
20/4/26

2. *Rameshthangam*
20 April 2026

3. *G. Manigandan*
20/4/26

Dr. M. MUTHUSELVAM
Associate Professor
Department of Biotechnology
School of Biotechnology and Genetic Engineering
Bharathidasan University, Tiruchirappalli-620024

Dr. P. RAMESHTHANGAM, M.Sc., Ph.D.,
Professor & Head
Department of Nutrition and Dietetics
Alagappa University
Karakudi - 630 003, Tamil Nadu

Dr. G. MANIGANDAN Ph.D., SET, NET
Assistant Professor and Head
PG & Research Department of Biotechnology
U. College of Arts and Science (Autonomous)
Pudukkottai - 622 422