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## **DEPARTMENT OF POST GRADUATE STUDIES AND RESEARCH IN BIOTECHNOLOGY**

### **MINUTES OF THE BOARD OF STUDIES 2021-22**

The Board of Studies meeting was held on 10<sup>th</sup> March, 2021, at Conference room to discuss the changes in the M.Sc. Biotechnology and BiSEP Syllabi.

The meeting commenced with a prayer service and the welcome address was delivered by Dr Shreelalitha Suvarna J, Head of the Department.

The experts present were:

- 1) Dr Monika Sadananda, Professor, Department of Biosciences, Mangalore University.
- 2) Dr.TS Keshava Prasad, Yenepoya Research Centre, Mangaluru.
- 3) Dr. Herman D'Souza, Manipal School of Life Sciences, Manipal.
- 4) Dr Vijendra Prabhu, Dept. of Biotechnology, Manipal University.

The experts made a number of suggestions during the course of the meeting.

#### **Agenda:**






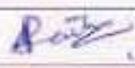
1. Proceedings of the BOS held on 13<sup>th</sup> March 2020
2. Results and achievements of the passed out students.
3. Placements of the students of batch 2018-20
4. BiSEP - Biotechnology Skill Enhancement Programme
5. **MSc Syllabus Revision**
6. Panel of Examiners
7. Any other matter

## BoS meeting of Department of Post Graduate Studies and Research in Biotechnology

Date: 10<sup>th</sup> March, 2021

Time: 9,30AM

Venue: Conference Room

Chairperson	Dr Shreelalitha Suvama J 
Members of the Department	Dr Asha Abraham Mr Sreejesh PC Dr Jiji George Dr Smruthi G Prabhu  <u>Special Invitees</u> Rev. Dr Leo D'Souza SJ, Director, LAB Dr Shashi Kiran Nivas, Research Co-ordinator, LAB 
Subject Expert	Dr T.S. Keshava Prasad Professor and Deputy Director, YU-IOB CSBMM, Yenepoya Research Centre, Yenepoya University, Mangaluru – 575 018.   Dr Herman S D'Souza Professor, <span style="float: right;">ABSENT</span> Department of Radiation Biology and Toxicology, Manipal School of Life Sciences, Near Planetarium Complex, Manipal University, Manipal – 576104.
Vice Chancellor Nominee	Dr Monika Sadananda Professor, Department of Biosciences, Mangalore University, Mangalagangothri Mangaluru- 574 199.  10/3/2021
Representative from Industry/Allied Area/Corporate Sector	Mr Shrikumara Head- Quality Medorganics India Pvt. Ltd. Mangaluru <span style="float: right;">ABSENT</span>
Meritorious Alumnus	Dr. Vijendra Prabhu Assistant Professor, Dept. of Biotechnology, Manipal Institute of Technology, Manipal University, Manipal- 576104. <span style="float: right;">ABSENT</span>
Student Representative	Ms Sonam Sanjeev Raikar  10/3/2021



10/3/2021 (BOS) MINUTES OF THE BOARD OF STUDIES  
DEPARTMENT OF POST GRADUATE STUDIES &  
RESEARCH IN BIOTECHNOLOGY  
10<sup>th</sup> MARCH 2021.

Agenda:

1. Proceedings of the BOS held on 13<sup>th</sup> March 2021.
2. Placements of students of batch 2018-20.
3. Results
4. BISEP - Biotechnology Skill Enhancement Programme
5. M.Sc. Syllabus Revision.
6. Parcel of Examinations.
7. Any other matter.

5. • Official classification instead of the term 'failure' → Check the CIPFA recommended term: (Dr. Manika Sadamanda)

Programme specific outcome

- General outcome (1<sup>st</sup>) -
- Programme objective to be modified to programme outcome (Student's understanding)
- \* 2 of its subject outcome - Only 5
- \* Similar to research ethics, used for environmental science

BWAYAM is the platform → Not MOOE. (online platform) [Correction]

The online courses can be recommended in the meeting → displayed on notice board.

- \* Giving one choice is not enough, courses need to be proposed [Soft core courses]

List of soft core courses → Distinct courses

\* Why is cell biology practical in association with a soft-core practical?  
Suggestion

- Separate, independent practicals than being merged.
- Credit can be reduced to 2
- 4 separate exams.
- Practicals (15 marks)
- Final (35 marks)
- Total (50 marks)

\* Every semester 2 or 3 papers to be introduced

\* Code (paper) need to be changed → for optional practical

Semester 2

\* more options in exam electives.

\* Additional options mentioned in syllabus → distinct courses.

Research Methodology & Integrity

\* Credits already obtained

Suggestion :- Merge papers. 1

if cell biology is made soft core?

↳ Not repeat already covered in undergraduate

Cell biology + Microbiology?

\* Cell biology + Molecular Biology can be merged.

\* Can be a soft core, Enzymology can be made hard core.

Syllabus for Research Methodology → circulate

LSS-DEE → Direct mou.

These courses can be added in list of soft courses (option)

Applicable to 2021 to 2023 batch

\* Proteomics OR Multiomics

What is bioinformatics? Being about the structure.

- Structural Biology OR Docking
- Basic coding → Python and 'R'

Semester 4

Entrepreneurship - What

Any regulation for CECs?

To know if we can go beyond the credits, are we okay?

How many soft and hard core courses?

Practical credits - University system → Check earlier!

Sum 2: R (1) Biochemistry

Objectives → To be changed as highlighted.

- Apply, Integrate, In-depth knowledge, Synthesize

(2) Microbiology — Unit I

- Introduce Metagenomics, phylogenetic tree to be solved
- Objectives & Outcomes modify.
- To get an exposure change.
- All course outcomes should be only 5 points.
- Hardcore & Softcore courses - three.

Unit II: Removal: Cassettes of Nitrogen Fixation

Unit II

Methanogens - to be replaced with some other extremophile.

Unit IV: Biofactories - shift after Integrated

plant diseases, biological warfare. after anti-tumor agents. → add human diseases & biological warfare. or Economic importance of human diseases.

(3) Cell Biology: - To be merged with Molecular Biology. To be added as hardcore in the 1st semester.

- Molecular Biology - 1st 2 semesters could be compromised. - Both III & IV semesters to be retained.

Practicals Biochemistry & Microbiology:

Objectives → To train, or to teach. } Reframe all.  
Outcomes → This enables

- 5 outcomes.

- Good laboratory practice according to iswhc standards.

- Microbial characterization - be specific.

(4) Molecular Genetics:

- Some of the common seminar from objectives.

- Evolutionary aspects of what?

Human Genetics - to be changed to other papers

- Objectives & Outcomes to be changed.

Practicals: Cell & Mol Genetics → to be changed.

(II) (1) 1<sup>st</sup> Sem: Molecular Biology to be combined with Cell Biology.

- Program Codes to be given, [to be checked for each paper.

(2) Genetic Engineering:

- Change will to must.

- Shift Genetics to Unit II.

Unit I: Genetic methods & applications remove.

Unit II & III need modifications, (major)

Unit IV: - to be shifted to Unit II.

Practicals For 50:50 P

Course Objective - Enable the students

- perform it.

- Remove surplus reagents.

(3) Enzymology:

- To be changed to hardcore.

- Check with the earlier hardcore enzymology & improve the syllabus [48-52 hrs is hardcore paper].

(a) BSc - Unit I - Chromatography - components of MS



(4) Bioinformatics Title change - Bioinformatics & Genes / Multisomes.  
Course Objectives - genomes, proteomes & metabolomes

- Even in course outcome - remove transcriptomes

Unit II - change microarray to DNA microarrays.  
- remove EST - CAP3 program.

Unit III - one seg. cut, LC-MS, Protein / peptide microarrays.  
- Some portion deleted, NMR rearranged.

Proteome analysis tools.  
- Add Protein Database, <sup>tools</sup> metabolic database <sup>tools</sup>  
Metabolic Pathway resources.

(5) PRACTICALS - PS 506.2 P BPCS & Enzy  
- Title Multisomes.

- Add Whole Genome Sequencing Analysis, Assembly & Annotation add practicals in Bioinformatics.  
- RNA... ?

(6) Current GMP - Open Elective.  
- CAPA to be added to Quality Tools.

(7) INTRODUCTION OF NEW PAPER - <sup>SOFTWARE / OPEN ELECTIVE</sup> check Vac Guidelines.

III. SEMESTER III

(A) ABT - refine objectives & outcome.

Unit I - substratum word check.

Unit II - 1<sup>st</sup> paragraph to be removed.

Unit IV - Introduction to bioethics to be added to Research Integrity.

(b) PLANT BIOTECHNOLOGY:

- Remove from Methods of Microarray
- Add Plant Varieties <sup>Act</sup> or anything related.

(c) INDUSTRIAL BIOTECHNOLOGY:

- Unit I - Microbial Growth Kinetics.
- Unit II - Follow the <sup>same</sup> method for references.

(d) PS5031a ENVIRONMENTAL BIOTECHNOLOGY

- Check if it could be converted to hardware.

Unit II - Remove Microbial Antagonism Title.

- C of footprint, global warming, add new topics, climate change economics, EPA, ecosystem services, conservation of water - check dams, eco-tourism, CRZ.

- Remove Genoplasm from PBT &

- Unit - III

- Add solid waste management.
- Vermicomposting.

(e) PS505.36 PLANT BREEDING & SEED TECHNOLOGY.

Unit I - change title.

- Alternative culture techniques - remove. mention hydroponics & aeroponics.

- Some optional paper from PS5056 could be added.

Open Elects - PG 507-3.

- Small component about startups to be added as one unit.

- Individual Corporate Ownership.

- Entrepreneurship topics to be added.

Unit III - Research Strategy remove.

(b) SEMESTER - IV - Food Biotechnology

Unit: All fine.

- Check references & Author names.

(c) Immunology:

Unit III - add to Viral HIV, <sup>Chronic</sup> infections.

- Change HIV to AIDS.

(d) PROJECT DISSERTATION - PH 503-4

- Course Objective & Outcome

Put Examination instructions & viva after examination section.

(e) IPR & Clinical Research Change Title.

- For open elective same topic while it is  
learn the contents.

(f) P5505-66 - Title - Stem Cell Technologies instead of  
cell.

- Question Paper some changes done:

- Internal change to 35: - essay type (10)

- " " " " " # 2.11

## MAJOR CHANGES:

- All objectives & Outcomes to be rephrased.
- Practicals to be separately shown with Paper codes.
- Introduction of New Paper with Research.
- Combine Cell Biology & Molecular Biology.
- Make Enzymology Standalone Paper.
- Environmental Science - Standalone Paper.
- Change Internal Exams AP - to half or total as well as sems.

## Internal - Change of Scheme - Total sems

4 → 3 - Part I

1 → 3 Part 2.

2 → 1 Essay

## Panel of Examiners - Chair Associate Professors

- 1) Dr Nile → Retired
- 2) Retired
- 3) Retired
- 4) Director → No time
- 5) Registrar → +, Durgam University
- 6) Retired
- 7) ?
- 8) No longer a Reader, Professor.
- 9) Reader?
- 10) No more in Hubballi, more in Mangalore
- 11) ?
- 12) Retired
- 13) ? No diff. of Examiners
- 14) Retired

86) ? - Check. Probably retired.

89) Retired - Mentioned Dr. Ph.D. not req.

Suggestions - Student Representative.

Maxine Biotechnology as software lecture  
- To teach hands on training to students

Final Suggestions:

(A) Sem 2: Combine Cell Biology & Molecular Biology paper in order to accommodate Research Methodology paper in Semester 2 as software.

- Immunology paper shifted from Sem IV to Sem 2 as optional software lecture

- Developmental Biology - a new soft core paper addition to be done.

\* - As suggested by the BOS members & the Vice-Chancellor's nominee from Mangalore University, more options of papers to be given for soft core lecture in every semester and also more options to be given even for exam elective papers offered to the students of other department.

(B) Sem IV:

- Molecular Biology paper shifted to Sem 2 merged with Cell Biology paper.

- Linguistics paper changed from software to hardware

- New software elective papers introduced:

- (a) Research Methodology, Ethics and

Scientific Communication - New Paper

Biophysical & Biochemical Techniques

nomenclature changed to Analytical Techniques in Biotechnology.

(c) Multithesis - new nomenclature of  
Biotransformation & Patents.

(d) Bioprocess and Biostat - New Paper.

Open Elective: - Change of nomenclature from Current  
Good Manufacturing Processes in Product Development  
to → Quality Assurance and Quality Control  
in Product Development.

- Recent Trends in Biotechnology  
[New Paper Optional]

→ Open Elective I & II: Clinical Research

(c) Semester III: - changed title to Drug Development & PA

- New Soft core Elective paper added to the  
already existing 3 soft core Electives.

→ Marine Biotechnology - New Paper.

Open Elective → New Paper - Bioconversion Techniques

(d) Semester IV:

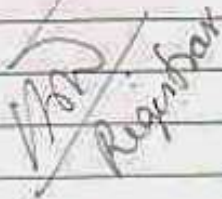
→ Immunology paper replaced with a new paper

→ Molecular Diagnostics and Immunotechnology.

Introduction of a new soft core paper to the already existing  
3 soft core papers → Bio-ethnopharmacology.

Practicals: All to be considered as separate papers.

- Practical to be added to all the newly introduced papers.

  
Registrar

  
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and Research in Biotechnology  
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Department: Post Graduate Studies and Research in Biotechnology

  
Head

Post graduate Department of Biotechnology  
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Signature and seal of the Head of the Department