

S. P. Mandali's
RAMNARAIN RUIA AUTONOMOUS COLLEGE, MUMBAI-19
DEPARTMENT OF BIOTECHNOLOGY
Minutes of the E-meeting of the Board of Studies

Date: 23.06.2023

Time: 2.30-4.00PM

Meeting attended by:

Sr. No.	Name	
1.	Ms. Supriya Kale	Head, Department of Biotechnology
2	Ms. Grishma Shetty	Assistant Professor, Dept of Biotechnology
3	Ms. Ragini Kulkarni	Assistant Professor, Dept of Biotechnology
4	Ms. Bhavi Kudu	Assistant Professor, Dept of Biotechnology
5	Ms. Sakshi Sangle	Assistant Professor, Dept of Biotechnology
6.	Mr. Raunak Giri	Assistant Professor, Dept of Biotechnology
7.	Dr. Reena Pandit	Member from university other than parent University
8.	Dr. Tara Menon	VC nominee
9.	Dr. Mayuri Bandekar	Msc alumni
10.	Dr. Sneha Sathe	Industry Expert

Agenda Item No. 1:

- 1) To present the board, the proposed credit system for the Four-Year Undergraduate Program (B.A., B.Sc., BACM) and the Post Graduate Program (M.A., M.Sc.), aligning with the guidelines outlined in NEP2020, commencing from the Academic Year 2023-24.

DISCUSSED THAT:



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Undergraduate Biotechnology Credit System (2023-2024)

Semester	Subject 1		Subject 2	GE/ OE course (Across disciplines)	Vocational and Skill Enhancement Course (VSC) & SEC	Ability Enhancement Course/ VEC/IKS	OJT/FP/CEP CC, RP	Total Credits
	DSC	DSE						
1	4 (3T+1P)		4 (3T+1P)	4 (2*2)	VSC-2(1T+1P) Sub 1+ SEC-2 (1T+1P)	AEC- 2 (CSK) + VEC- 2 (Understanding India) + IKS-2		22
2	4 (3T+1P)		4 (3T+1P)	4 (2*2)	VSC-2(1T+1P) Sub 2+ SEC-2 (1T+1P)	AEC-2 (CSK)+ VEC-2 (Env Sc)	CC-2	22
Total	8		8	8	8	10	2	44
Exit option: award of UG certificate in Major with 44 credits and an additional 4 credit Core NSQF course/ Internship or Continue with Major and Minor								
3	Major 8 4*2/ (3T+1P)*2		Minor 4 (3T+1P)	2	VSC-2-Major	AEC-2 MIL (Marathi/Hindi)	FP -2, CC-2	22
4	Major 8 4*2/ (3T+1P)*2		Minor 4 (3T+1P)	2	SEC-2	AEC-2 MIL (Marathi/ Hindi)	CEP-2, CC-2	22
Total	16		8	4	4	4	8	44
Exit option: award of UG Diploma in Major with 88 credits and an additional 4 credit Core NSQF course/ Internship or Continue with Major and Minor								
5	DSC 12 4*3/ (3T+1P)*3	DSE 4/ (3T+1P)	Minor 2 (1T+1P)		VSC-2-Major		CEP/FP-2	22
6	DSC 12 4*3/ (3T+1P)*3	DSE 4/ (3T+1P)	Minor 2 (1T+1P)				OJT-4	22
Total	24	8	4		2		6	44



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Total of 3 years	48	8	20	12	14	14	16	132
Exit option: award of UG Degree in Major with 132 credits or Continue with Major for Honours/ Research								
7 (Hon)	DSC 12	DSE 4	RM 4				RP-2	22
8 (Hon)	DSC 12	DSE 4					OJT-6	22
Total	24	8	4				8	44
Total Credits (Four Year UG Honours)	72	16	24	12	14	14	20	176
OR								
7 (Res)	DSC 10	DSE 4	RM 4				RP-4	22
8 (Res)	DSC 10	DSE 4					RP-8	22
Total	20	8	4				12	44
Total Credits (Four Year UG Research)	68	16	24	12	14	14	24	176

Postgraduate Biotechnology Credit System (2023-2024)

Year	Level	Semester	Mandatory	Elective	RM	OJT/FP	RP	Cum.Credits	Degree
I	6	1	14	4	4	0	0	22	
		2	14	4	0	4	0	22	



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	Mandatory Credits to be distributed as follows		
Paper 1	4	Theory 3 + 1 practical	
Paper 2	4	Theory 3 + 1 practical	
Paper 3	4	Theory 3 + 1 practical	
Paper 4	2	theory 2	No practicals
Electives			
Paper 5	4	Theory 3 + 1 practical	
Research Methodology			
Paper 6	4	Theory 4 no practical	

- The above given agenda was discussed and presented by Ms. Grishma Shetty.
- Proposed and approved structure for PG courses according to NEF _020 structure was discussed

RESOLVED THAT

- With the supervision of the BOS members, the above discussed agenda was approved with no suggestions or changes

Agenda 2. To seek approval for the syllabus of the first-year of undergraduate program (Semester I and II) courses, and Postgraduate Program (Semester I) courses including the courses offered for the subject, Generic Elective or Open Elective Courses, Ability Enhancement Courses, Skill Enhancement Courses, and Vocational Skill Enhancement Courses, Discipline specific Core Courses and Discipline specific elective Courses (whichever is applicable) for the Academic Year 2023-24.

Discussed that:

- The above agenda is presented by Ms. Ragini Kulkarni
- The syllabus of the first-year of undergraduate program (Semester I and II) courses, and Postgraduate Program (Semester I) courses including the courses offered for the subject, Generic Elective or Open Elective Courses, Ability Enhancement Courses, Skill



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Enhancement Courses, and Vocational Skill Enhancement Courses, Discipline specific Core Courses and Discipline specific elective Courses (whichever is applicable) for the Academic Year 2023-24 was presented and discussed

FYBSC BIOTECHNOLOGY 2023-24

PROGRAMME OUTLINE

YEAR	SEMESTER	PAPER	COURSE CODE	COURSE TITLE	CREDITS
FYBSc i	I	Subject 1		Biotechnology -I	3
				Practicals of Biotechnology -I	1
		Subject 2		Fundamentals of chemistry for biotechnology	3
				Practicals of subject 2	1
		GE		IPR-I	2
		SEC		Microscopy and microbial techniques	1



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				Practicals of SEC	1
		VSC		Techniques of forensics - I	1
				Practicals of VSC	1
FYBSc I	II			Biotechnology-II	3
				Practical of Biotechnology-II	1
				Bioorganic chemistry	3
				Practical of subject 2	1
		GE		IPR-II	2
		VSE		Techniques in tissue culture	1
					Practicals of VSE
		SEC		Techniques in forensic -II	1



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				Practicals of SEC	1
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MSc- Part 1 BIOTECHNOLOGY 2023-24

PROGRAMME OUTLINE

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YEAR	SEMESTER	COURSE CODE	COURSE TITLE	Course Type	CREDITS
MSC I	I	RPSBTK101 (Core Course) Paper 1	Biochemistry	CC	3
		RPSBTK102 (Core Course) Paper 2	Immunology	CC	3
		RPSBTK103 (Core Course) Paper 3	Molecular Biology	CC	3
		RPSBTK104 Paper 4	Intellectual property rights	CC	2



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		RPSBTK105 Paper 5	Clinical data management	elective	3
		RPSBTKP101	Practical based on paper 1	-	1
		RPSBTKP102	Practical based on paper 2	-	1
		RPSBTKP103	Practical based on paper 3	-	1
		RPSBTKP105	Practical based on paper 5	-	1
		RPSBTK106	Research Methodology	-	4
		RPSBTK201 (Core Course) Paper 1	Metabolism	CC	3
MSC I	II	RPSBTK202 (Core Course) Paper 2	Immunology	CC	3
		RPSBTK203 (Core Course) Paper 3	Bioinstrumentation	CC	3



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		RPSBTK204 Paper 4	Developmental Biology	Electiv e	2
		RPSBTKP201	Practical based on paper 1	-	1
		RPSBTKP202	Practical based on Paper 2	-	1
		RPSBTKP203	Practical based on paper 3	-	1
		RPSBTKP205	Practical based on paper 5	-	1

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Signature of HOD

Name :- Ms. Supriya Kale

Date :23.6.2023



Resolved that:

- The above agenda was approved without any changes

AGENDA 3

3) To seek approval for the modifications in the assessment methods, including changes to the question paper pattern for internal and semester-end examinations, as well as the evaluation process for Semester End examinations (Theory/Practical, as applicable).

Discussed that:

The above agenda was discussed with BOS members.

Resolved That:

Bos members approved that with respect to college guidelines the modalities of assessment can be finalized.



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4) Any other matter with the permission of the Chair.

No other agenda was discussed apart from the ones laid down above.



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S.P.Mandali's
Ramnarain Ruia Autonomous College
Department of Biotechnology
Minutes of The Meeting
Board Of Studies

Date: 28/2/2024

Time: 2.00-4.00pm

Venue:- Online

AGENDA 1

- 1) To confirm the minutes of the previously held BOS Meeting.

Discussed That :

- The first BOS meeting for the academic year was conducted on 23rd June 2023 at 2.30pm online mode.
- The MoM of the said BOS meeting was presented and approved.

Resolved That:

- The presented MoM was approved without any suggestions.

AGENDA 2

- 2) To seek approval for the changes in the syllabi as per NEP2020 structure for SYBA/SYBSc/SYBVoc (Semester III and IV for the year 2024-25), MA/MSc (Part I/II for the year 2024-25).

Discussed That

Following credit structure and syllabi for SYBSc Biotechnology was presented :

- A. NEP2020 structure for SYBA/SYBSc/SYBVoc (Semester III and IV for the year 2024-25)



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Semester	Major		Minor	GE/ OE course (Across disciplines)	Vocational and Skill Enhancement Course (VSC) & SEC	Ability Enhancement Course/ VEC/IKS	OJT/FP/CEP CC, RP	Total Credits
	DSC	DSE						
3	Major 8 4*2/ (3T+1P)*2		Minor 4 (3T+1P)	2	VSC-2-Major	AEC-2 MIL (Marathi/Hindi)	FP-2, CC-2	22
4	Major 8 4*2/ (3T+1P)*2		Minor 4 (3T+1P)	2	SEC-2	AEC-2 MIL (Marathi/ Hindi)	CEP-2, CC-2	22
Total	16		8	4	4	4	8	44

SYBsc Semester III

1. Major 1 (IMMUNOLOGY) -no change in contents
2. Practicals Based on Major 1- 3 new practicals added;flow cytometry, isohaemagglutinin, rapid antigens tests
3. Major 2 (Plant and Animal Physiology)- animal physiology topics distributed in unit II and Unit III
4. Practicals Based on Major 2-whole new practical paper
5. Minor (biochemistry)- no change
6. Practicals Based On Minor- new practicals introduced
7. VSC (Analytical techniques in biotechnology) -2 credits complete practical paper
8. GE (research methodology)- possibility of having OE instead of GE

SYBsc Semester IV

9. Major 1 (AIR WATER AND SOIL MICROBIOLOGY)- no change in contents
10. Practicals Based on Major 1 -new practicals introduced
11. Major 2 (Molecular Biology) -
12. Practicals Based on Major 2- no change
13. Minor (biophysical chemistry)- no change
14. Practicals Based On Minor- new practicals introduced
15. SEC (Bioinformatics and biostatistics) -2 credits complete practical paper



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Suggestion From BOS:-

1. Removal of mercury pull method from Sem III Major 2 practicals.
2. Replace liver function test with transamination activity from Sem III Minor practicals
3. removal of reactome, swiss modeling, expasy and mega XI from Sem IV SEC practicals ; shifted to Msc part II bioinformatics paper
4. **Rest the presented syllabi was approved**

Resolved That:-

1. **the suggestion from the BOS would be duly incorporated and implemented.**

Msc Semester III

1. Core Course 1 (Medical Microbiology)- no change
2. Practical Based on CC-1- Diagnosis of kala azar and dengue
3. Core Course 2 (Environmental amd GMO)-new paper introduced
4. Practical Based on CC-2- addition of new practicals
5. Core Course 3 (tissue culture)- previous unit 2 combined with unit 1 and introduction of new unit III-stem cell and regeneration
6. Practical Based on CC-3- new practicals introduced
7. Elective 1- Clinical data Management (offered by Biotechnology department
8. Elective 2- Clinical Microbiology and Epidemiology(offered by Microbiology department)
9. Elective 3- Plant biochemistry (offered by department of Biochemistry)- biotechnology students have to opt for elective from other two departments mentioned above)
10. **Research project of 6 credit**

Msc Semester IV

1. Core course 1- Bioprocess Technology - rheology unit removed from previous paper, rest no chnages
2. Practicals of CC-1
3. Core course -2 - Biostatistics
4. practical of Cc-2 - new practicals introduced- graph pad prism, graph using SPSS
5. Elective 1- Agricultural Biotechnology - New paper introduced
6. Elective 2- Bioinformatics
7. **Internship Of 10 credit**



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Suggestions from BOS

No suggestions from BOS

Resolved That:-

The syllabus was approved

Postgraduate Biotechnology Credit System (2024-2025)

Year	Level	Semester	Mandatory	Elective	RM	OJT/FP	RP	Cum.Cr edits	Degree
II	6.5	Sem 3	12	4	0	0	6	22	
		Sem 4	8	4	0	0	10	22	

Semester 3

	Mandatory Credits to be distributed as follows		
Paper 1	4 Theory 3 + 1 practical		
Paper 2	4 Theory 3 + 1 practical		
Paper 3	4 Theory 3 + 1 practical		
Electives			
Paper 4	4 Theory 3 + 1 practical		
Research Project			
	6		

Semester 4



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	Mandatory Credits to be distributed as follows		
Paper 1	4 Theory 3 + 1 practical		
Paper 2	4 Theory 3 + 1 practical		
Electives			
Paper 4	4 Theory 3 + 1 practical		
Internship	10		



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Semester IV

INTERNSHIP

Course Outcomes

Credit-10

1. Demonstrate proficiency in laboratory techniques, experimental design, and data analysis relevant to biotechnology.
2. Develop critical thinking and problem-solving skills by identifying, analysing, and proposing solutions to challenges encountered during the internship.
3. Gain hands-on experience in working on projects in different research institutes or industries.
4. Conduct effective documentation of experimental procedures, results interpretation, and presentation of findings.
5. Identify and address potential ethical concerns in the research plans developed.

The students will be working in different research institutes / industries and will be presenting their work for evaluation in the form of a thesis.

Most Probable Marks Distribution:

Internal Guide	External Examiner	Principal Investigator	Panel Presentation	Total Marks
60	60	50	80	250



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3) To seek approval for the changes in the Modalities of assessment (Internal Class tests/Assignments etc.), if any.

Discussed That:

1. Modalities of assessment for NEP introduced SYBsc and Msc Part II structure need to be received from the college
2. Rest of the class modalities remain same as passed in previous BOS

Resolved That:

No major suggestions by the BOS and they agreed to go ahead with modalities received from the college

4) To seek suggestion on **Field Projects/CEP** (Community Engagement Programs) to be conducted in **Semester III and IV (2024-25)**

Discussed That

following course outcome presented for the field project to be conducted in Semester III and IV (2024-25)

COURSE OUTCOMES [Field Project]

1. Apply different sampling techniques to collect various samples from multiple locations.
2. Implement systematic methodologies for the comparison of collected samples, considering factors such as location, environmental conditions, and anthropogenic influences.
3. Analyse data obtained for sample comparisons.
4. Use appropriate statistical tools and wet lab methods to draw meaningful conclusions.
5. Communicate findings effectively through comprehensive reports and presentations

Resolved That:

the outcomes approved by BOS with no major suggestions



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5) To revise, if needed, and approve the changes in the syllabi for FYBSc for the academic year 2024-25.

FYBsc Semester I

1. RUSBTK.O101-Shifting part of Unit 1 to higher level paper titled Bioprocess technology
2. RUSBTK.O101-Shifted part of unit 3 to higher level paper titled Immunology
3. RUSBTKP.O101-+ few practicals shifted to Transferred to SYBSc paper titled PLANT AND ANIMAL PHYSIOLOGY
4. RUSSECBTK.O101-Addition Concept of Cell Shape and Size. Detail. Structure of Slime Layer,Capsule,Flagella, Pilli, Cell Wall(Gram Positive and Negative),Cytoplasm and Storage Bodies and Spores
5. RUSSECBTKP.O101- Fungal staining Haemocytometer Contact slide
Slide culture (shifted to SYBSC semester IV major 1), Fluorescent and Phase Contrast Microscope (shifted to SYBSc sem III VSC paper analytical Techniques in Biotechnology
6. RUSBTK.E111-unit 1 Mutation and repair shifted to SYBSC SEM IV Major 2 paper molecular biology
7. RUSBTKP.E111-Detection of DNA using UV spectrophotometer ,Effect of UV light on microorganisms ,Study of dark and light repair mechanism in bacteria shifted to SYBSC SEM IV Major 2 paper molecular biology practicals
8. RUSBTKP.E112-Detection of sugars using TLC,Protein estimation using Biuret test, Acid number ,Iodine number (shifted to SYBSC semester III Minor Biochemistry paper)
9. Introduction of New GE - - new paper introduced
 - Semester I - GE -Nutrition and fitness I
 - Semester II- GE -Nutrition and fitness II
10. Semester I -VSC - Marine biotechnology - 2 credit practical component
11. Semester II VSC - Forensic Science - 2 credit practical component
12. Semester I -SEC - Microbial techniques- 2 credit practical component
13. Semester II VSC - Techniques in tissue culture - 2 credit practical component



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6) To seek approval for the new certificate courses, if any (for 2024-25)

Discussed That:

No new certificate course introduced for academic year 24-25

7) Any other matter with the permission of the chair.

Not applicable

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Signature of HOD

Name :- Ms. Supriya Kale

Date :24.2.2024

