

S. P. Mandali's

RAMNARAIN RUIA AUTONOMOUS COLLEGE, MUMBAI-19

DEPARTMENT OF BIOTECHNOLOGY

Minutes of the E-meeting of the Board of Studies

Date: 30.03.2022

Time: 3.00-5.00pm

Platform used: ZOOM:

<https://us06web.zoom.us/j/83348450564?pwd=Vzd0VVFFMHBPdTBxbWlwbDltT1MwQT09>

Members Present:

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

The meeting was initiated by Ms. Supriya kale with introduction of all the members of the BOS and discussion of following agenda was started .

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		Core	RUSBTK104	Microbial techniques	2
			RUSBTKP103	Practicals based on RUSBTK103 & RUSBTK104	2
		Core	RUSBTK105	Introduction to Biotechnology	2
		Core	RUSBTK106	Molecular Biology-II	2
			RUSBTKP105	Practicals based on RUSBTK105 & RUSBTK106	2
		AECC	RUSBTK107	Foundation Course	2
I	I I	Core	RUSBTK201	Basic Chemistry-II	2
		Core	RUSBTK202	Physical Chemistry	2
			RUSBTKP201	Practicals based on RUSBTK201 & RUSBTK202	2
		Core	RUSBTK203	Physiology and Ecology	2
		Core	RUSBTK204	Genetics	2



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				RUSBTKP 203	Practicals based on RUSBTK203 & RUSBTK204	2
			CORE	RUSBTK20 5	Tissue Culture	2
			CORE	RUSBTK20 6	Enzymology, Immunology and Biostatistics	2
				RUSBTKP 205	Practicals based on RUSBTK205 & RUSBTK206	2
			AECC	RUSBTK20 7	Foundation Course	2
SYBSc	I I I		DSE	RUSBTK30 1	Biophysics	2
			DSE	RUSBTK30 2	Applied Chemistry- I	2
				RUSBTKP 301	Practicals based on RUSBTK301 & RUSBTK302	2
			DSE	RUSBTK30 3	Immunology	2
			DSE	RUSBTK30 4	Cell Biology and Cytogenetics	2
				RUSBTKP 303	Practicals based on RUSBTK303 & RUSBTK304	2



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			DSE	RUSBTK30 5	Molecular Biology	2
			DSE	RUSBTK30 6	Bioprocess Technology & General Microbiology	2
				RUSBTKP 305	Practicals based on RUSBTK305 & RUSBTK306	2
			SEC	RUSBTK30 7	Research Methodology and scientific writing	2



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I I I	I V	DSE	RUSBTK401	Biochemistry	2
		DSE	RUSBTK402	Applied chemistry II: Physical Chemistry	2
			RUSBTKP40 1	Practicals based on RUSBTK401 & RUSBTK402	2
		DSE	RUSBTK403	Medical Microbiology	2
		DSE	RUSBTK404	Environmental Biotechnology	2
			RUSBTKP40 3	Practicals based on RUSBTK403 & RUSBTK404	2
		DSE	RUSBTK405	Biostatistics and Bioinformatics	2
		DSE	RUSBTK406	Molecular Diagnostics	2
			RUSBTKP40 5	Practicals based on RUSBTK405 & RUSBTK406	2
		SEC	RUSBTK407	Entrepreneurship Development	2
TYBSc I I I	V	DSE	RUSBTK501	Cell Biology	4
		DSE	RUSBTK502	Biochemistry	4
			RUSBTKP50 1	Practicals based on RUSBTK501 & RUSBTK502	3



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		DSE	RUSBTK503	Genetics and Molecular Biology	4
		DSE	RUSBTK504	Forensic sciences-I	4
		DSE		Food production and processing - I	



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			RUSBTKP50 2	Practicals based on RUSBTK503 & RUSBTK504	3
		SEC	RUSBTK505	Pharmacology	2
			RUSBTKP50 3	Practicals Based on RUSBTK505	2
I I I	V I	DSE	RUSBTK601	Biosafety, Immunology and Virology	4
		DSE	RUSBTK602	Developmental biology and transgenesis	4
			RUSBTKP60 1	Practicals Based on RUSBTK601 & RUSBTK602	3
		DSE	RUSBTK603	Industrial biotechnology	4
		DSE	RUSBTK604	Forensic sciences- II	4
				Food production and processing - II	
			RUSBTKP60 2	Practicals Based on RUSBTK603 & RUSBTK604	3
		SEC	RUSBTK605	Instrumentation	2
			RUSBTKP60 3	Practicals Based on RUSBTK605	2



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POST GRADUATE:

Semester	Courses	Code	Credits Theory	Credits Practical	
1	Core I	Biochemistry	4	2	
	Core II	Immunology	4	2	
	Core III	Molecular biology	4	2	
	Discipline Specific Elective-II	Clinical Data management	2	2	
	Ability Enhancement		2	0	Yoga, soft skills, mindfulness, social service etc
2	Core I	Metabolism	4	2	
	Core II	Immunology	4	2	
	Core III	Bioinstrumentation	4	2	
	Discipline Specific Elective-II	Nanotechnology	2	2	
	Ability Enhancement		2	0	RM/Scientific Writing, computational biology, Ent skills
3	Core I	Developmental biology	4	0	
	Core II	IPR	4	0	
	Core III	Bioprocess Technology	4	2	
	Research Project/internship		0	10	
4	Core I	Medical Microbiology	4	2	
	Core II	Bioinformatics	4	2	
	Research Project		0	6	
	Skill Enhancement Course	Tissue culture	2	2	



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MOOCs/Swayam/Coursera/Workshops/ Case study	GMO/Biostatistics	0	2	Only approved courses/workshops
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- New Titles of chemistry papers were discussed
- Change in the credits were mentioned
- Proposed changes in the syllabus were presented and discussed.

The following changes were proposed:-

FYBSC

1. **RUSBTK205- ADDITIONS -Tissue culture topics introduced.**
2. Rest papers remains unchanged

TYBSC

1. **RUSBTK504 - DSE paper to be introduced -Food production and processing- I**
2. **RUSBTK505- pharmacology paper - industrial pharmacy to be introduced and toxicology to be removed.**
 - a. **RUSBTK601 - Biosafety, Immunology and Virology - units centrifugation and spectroscopy shifted to instrumentation paper**
3. **RUSBTK601 -few topics introduced.-ADDITIONS: Introduction to Biosafety , GLP,GMP & QA-QC**
4. **RUSBTK603 - DSE paper introduced to be Industrial Biotechnology ;**
5. **RUSBTK605 - Instrumentation- DSE paper to be introduced**
 - The classification of courses for Postgraduate program was also presented and discussed.

Suggestions by BOS members

- Suggestion by Dr. Reena Pandit if students could attend all the elective classes and assessed only on the selected electives.
- Suggestion By BOS for PG : Shifting of semester III to semester IV and vice versa
- With the supervision of the BOS members, all the changes were approved without any suggestions.

RESOLVED THAT

- Suggestion by BOS members were accepted and approved and would be incorporated in respective syllabi.



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Agenda 2. To seek approval for the new certificate courses, SWAYAM, NPTEL Courses, if any.

Discussed that:

- The Department had presented Certificate Courses offered by NPTEL Swayam /MOOC for UG & PG both.

SWAYAM NPTEL COURSES

SR.NO	UG COURSES	Offered by	PG COURSES	Offered by
1	MOLECULES OF LIFE & BIOPHYSICAL PARAMETERS	SWAYAM	INTRODUCTION TO PROFESSIONAL SCIENTIFIC COMMUNICATION	NPTEL
2	HUMAN MOLECULAR GENETICS	NPTEL	DRUG DELIVERY: PRINCIPLES & ENGINEERING	NPTEL
3	COMPUTATIONAL SYSTEMS BIOLOGY	NPTEL	SPECTROSCOPIC TECHNIQUES IN PHARMACEUTICAL & BIOPHARMACEUTICAL INDUSTRIES	SWAYAM
4	AGRICULTURAL POLICY: FORMULATION, COMPONENTS, PROCESS IMPLEMENTATION AND COMPARATIVE ANALYSIS	SWAYAM	APPLIED ENTOMOLOGY	SWAYAM
5	FORESTS AND THEIR MANAGEMENT	NPTEL	FUNCTIONAL FOOD AND NUTRACEUTICALS	SWAYAM
6	BIOELECTROCHEMISTRY	NPTEL	INTERACTOMICS: BASICS AND APPLICATIONS	NPTEL



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7	FOREST BIOMETRY	NPTEL	BIOMICROFLUIDICS	NPTEL
8	BIOMICROFLUIDICS	NPTEL	BASIC COURSE IN BIOMEDICAL RESEARCH	NPTEL
9	INTERACTOMICS: BASICS AND APPLICATIONS	NPTEL	MEDICAL BIOMATERIALS	NPTEL

Suggestions by BOS members

- No suggestions from The BOS members for the above agenda.

Resolved that:

- The NPTEL/ SAYAM/MOOC courses suggested by the Department were approved by the Members of the BOS and would be introduced in the coming academic year.

Agenda 3. To decide the changes in the modalities of assessment, if any, which includes the question paper pattern, for internal and external examination. (Theory/Practical, wherever applicable).

Discussed that:

- Continuation with the same modalities of assessment
- External Examination- 60%- 60 Marks
- Internal Examination -40%-40 Marks
- No changes in the Practical component modality of assessment.



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FYBSc

Modality of Assessment (SEMESTER I)

Theory Examination Pattern:	Internal Assessment- Total : 40 Marks i) One Assignment (Animations/Presentations/Posters/ Video Making/ Skits/ Written assignments/ Mind maps/ Concept maps/ Info graphs) - 20 Marks ii) One class Test (multiple choice questions or objective & one sentence) - 20 Marks Internal Assessment followed as per given format - NO CHANGES FOR 2021-22	Semester End Theory Examination- Total : 60 Marks External examination was conducted ONLINE due to current pandemic situation as per the instructions/circulars received from the University of Mumbai and Maharashtra State notifications from time to time. MCQs per paper: 1 marks - 8 questions 2 Marks - 6 questions Time duration for examination - 1 hour
Practical Examination Pattern:		External Examination: 100 Marks RUST KP101 (BIOTECHNOLOGY) - TOTAL 50 MARKS MCQ - 10M INTERPRETATION -15M JOURNAL -05M RUST KP101 (CHEMISTRY) - TOTAL 50 MARKS MCQ - 20M JOURNAL -05M RUST KP103 - TOTAL 100 MARKS MCQ - 20M INTERPRETATION -25M JOURNAL - 05M Marks obtained from 50 converted to 100



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		<p>RUST KP105 - TOTAL 100 MARKS MCQ - 20M INTERPRETATION -25M JOURNAL - 05M Marks obtained from 50 converted to 100</p> <p>*Examinations were conducted online due to the current pandemic situation as per the instructions/circulars received from the University of Mumbai and Maharashtra State notifications .</p>
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Modality of Assessment (SEMESTER II)

<p>Theory Examination Pattern:</p>	<p>Internal Assessment- Total : 40 Marks</p> <p>i) One Assignment (Animations/Presentations/Posters/ Video Making/ Skits/ Written assignments/ Mind maps/ Concept maps/ Info graphs) - 20 Marks</p> <p>ii) One class Test (multiple choice questions or objective & one sentence) - 20 Marks</p> <p>Internal Assessment followed as per given format - NO CHANGES FOR 2021-22</p>	<p>Semester End Theory Examination- Total : 60 Marks</p> <p>External examination will be conducted OFFLINE as per the instructions/circulars received from the University of Mumbai and Maharashtra State notifications</p> <p>Semester End Theory Assessment - 60 marks</p> <p>UNIT I Q.1 A) Do as directed (Any 5 out of 8) - 5M B) Do as directed (Any 3 out of 4)- 15M</p> <p>UNIT II Q.2 A) Do as directed (Any 5 out of 8) - 5M B) Do as directed (Any 3 out of 4)- 15M</p> <p>UNIT III Q.3 A) Do as directed (Any 5 out of 8) - 5M B) Do as directed (Any 3 out of 4)- 15M</p> <p>Time duration for examination - 2:30 hour</p>
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<p>Practical Examination Pattern:</p>		<p>External Examination: 100 Marks</p> <p>RUST KP201 (BIOTECHNOLOGY) - TOTAL 50 MARKS</p> <p>MCQ - 10M INTERPRETATION -15M JOURNAL -05M</p> <p>RUST KP201 (CHEMISTRY) - TOTAL 50 MARKS</p> <p>MCQ - 20M JOURNAL -05M Marks obtained from 25 converted to 50</p> <p>RUST KP203 - TOTAL 100 MARKS</p> <p>MCQ - 20M INTERPRETATION -25M JOURNAL - 05M Marks obtained from 50 converted to 100</p> <p>RUST KP205 - TOTAL 100 MARKS</p> <p>MCQ - 20M INTERPRETATION -25M JOURNAL - 05M Marks obtained from 50 converted to 100</p> <p>*Examinations will be conducted online due to the current pandemic situation as per the instructions/circulars received from the University of Mumbai and Maharashtra State notifications .</p>
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SYBSc

Modality of Assessment (SEMESTER III)

<p>Theory Examination Pattern:</p>	<p>Internal Assessment- Total : 40 Marks</p> <p>i) One Assignment (Animations/Presentations/Posters/ Video Making/ Skits/ Written assignments/ Mind maps/ Concept maps/ Info graphs) - 20 Marks</p> <p>ii) One class Test (multiple choice questions or objective & one sentence) - 20 Marks</p> <p>Internal Assessment followed as per given format - NO CHANGES FOR 2021-22</p>	<p>Semester End Theory Examination- Total : 60 Marks</p> <p>External examination was conducted ONLINE due to current pandemic situation as per the instructions/circulars received from the University of Mumbai and Maharashtra State notifications from time to time.</p> <p>MCQs per paper: 1 marks - 8 questions 2 Marks - 6 questions</p> <p>Time duration for examination - 1 hour</p>
<p>Practical Examination Pattern:</p>	<p>Internal Examination: 40%- 40 Marks</p> <p>10 marks - Experimental based Theory and task / calculations/ with respect to each experiment per paper. 4 experiments per paper.</p> <p>This was followed for all three papers.</p>	<p>External Examination: 60%- 60 Marks</p> <p>RUSBTKP301 (BIOTECHNOLOGY) - TOTAL 30 MARKS</p> <p>MCQ - 05M INTERPRETATION -05M VIVA - 05 M JOURNAL -05M</p> <p>RUSBTKP301 (CHEMISTRY) - TOTAL 30 MARKS</p> <p>MCQ - 05M PRESENTATION -15M VIVA - 05 M JOURNAL -05M</p> <p>RUSBTKP303 - TOTAL 60 MARKS</p> <p>MCQ - 10M VIVA - 20M INTERPRETATION -25M JOURNAL - 05M</p> <p>RUSBTKP305 - TOTAL 60 MARKS</p> <p>MCQ - 10M VIVA - 20M INTERPRETATION -25M</p>



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		<p>JOURNAL - 05M</p> <p>*Examinations were conducted online due to current pandemic situation as per the instructions/circulars received from the University of Mumbai and Maharashtra State notifications from time to time.</p>
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Modality of Assessment (SEMESTER IV)

<p>Theory Examination Pattern:</p>	<p>Internal Assessment- Total : 40 Marks</p> <p>i) One Assignment (Animations/Presentations/Posters/ Video Making/ Skits/ Written assignments/ Mind maps/ Concept maps/ Info graphs) - 20 Marks</p> <p>ii) One class Test (multiple choice questions or objective & one sentence) - 20 Marks</p> <p>Internal Assessment followed as per given format - NO CHANGES FOR 2021-22</p>	<p>Semester End Theory Examination- Total : 60 Marks</p> <p>External examination was conducted ONLINE due to current pandemic situation as per the instructions/circulars received from the University of Mumbai and Maharashtra State notifications from time to time.</p> <p>MCQs per paper: 1 marks - 8 questions 2 Marks - 6 questions</p> <p>Time duration for examination - 1 hour</p>
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<p>Practical Examination Pattern:</p>	<p>Internal Examination: 40%- 40 Marks</p> <p>10 marks - Experimental tasks / theory / calculations/ poster presentation with respect to each experiment per paper.</p> <p>This was followed for all three papers of practicals.</p>	<p>External Examination: 60%- 60 Marks</p> <p>RUSBTKP401 (BIOTECHNOLOGY) - TOTAL 30 MARKS</p> <p>MAJOR - 15 M MINOR - 10 M VIVA - 05 M</p> <p>RUSBTKP401 (CHEMISTRY) - TOTAL 30 MARKS</p> <p>PRACTICAL - 20 JOURNAL - 05 M VIVA - 05 M</p> <p>RUSBTKP403 - TOTAL 60 MARKS</p> <p>MAJOR - 30 M MINOR - 15 M VIVA - 05M SPOTS - 05M JOURNAL - 05M</p> <p>RUSBTKP405 - TOTAL 60 MARKS</p> <p>MAJOR - 30 M MINOR - 15 M VIVA - 05M SPOTS -05M JOURNAL - 05M</p> <ul style="list-style-type: none"> Experiments which were performed by students during this semester were considered for external examination (Major/Minor)
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TYBSc

Modality of Assessment (SEMESTER V)

<p>Theory Examination Pattern:</p>	<p>Internal Assessment- Total : 40 Marks</p> <p>i) One Assignment (Animations/Presentations/Posters/ Video Making/ Skits/ Written assignments/ Mind maps/ Concept maps/ Info graphs) - 20 Marks</p> <p>ii) One class Test -Subjective questions 4 questions of 5M each- 20 Marks</p>	<p>Semester End Theory Examination- Total : 60 Marks</p> <p>External examination was conducted ONLINE due to current pandemic situation as per the instructions/circulars received from the University of Mumbai and Maharashtra State notifications from time to time.</p> <p>MCQs per paper: 1 marks - 24 questions 2 Marks - 18 questions</p> <p>Time duration for examination - 1 hour</p>
<p>Practical Examination Pattern:</p>	<p>Internal Examination: 40%- 40 Marks</p> <p>10 marks - Experimental based Theory and task / calculations/ with respect to each experiment per paper. 4 experiments per paper.</p> <p>This was followed for all three papers.</p>	<p>External Examination: 60%- 60 Marks</p> <p>RUSBTKP501 - TOTAL 60 MARKS</p> <p>MCQ - 15M INTERPRETATION -35M VIVA - 10 M</p> <p>RUSBTKP502 - TOTAL 60 MARKS</p> <p>MCQ - 15M INTERPRETATION -35M VIVA - 10 M</p> <p>RUSBTKP503 - TOTAL 60 MARKS</p> <p>MCQ - 15M VIVA - 10M INTERPRETATION -35M</p> <p>*Examinations were conducted online due to current pandemic situation as per the instructions/circulars received from the University of Mumbai and Maharashtra State notifications from time to time.</p>

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Modality of Assessment (SEMESTER VI)



Theory Examination Pattern:	Internal Assessment- Total : 40 Marks i) One Assignment (Animations/Presentations/Posters/ Video Making/ Skits/ Written assignments/ Mind maps/ Concept maps/ Info graphs) - 20 Marks ii) One class Test (multiple choice questions or objective & one sentence) - 20 Marks Internal Assessment followed as per given format - NO CHANGES FOR 2021-22	Semester End Theory Examination- Total : 60 Marks External examination was conducted ONLINE due to current pandemic situation as per the instructions/circulars received from the University of Mumbai and Maharashtra State notifications from time to time. MCQs per paper: 1 marks - 24 questions 2 Marks - 18 questions Time duration for examination - 1 hour
Practical Examination Pattern:	Internal Examination: 40%- 40 Marks RUSBTKP601 - TOTAL 40 MARKS i) Internal project (thesis)- 25M ii) Experimental tasks / theory / calculations/ poster presentation - 15M RUSBTKP602 - TOTAL 40 MARKS Experimental tasks / theory / calculations/ poster presentation based on 3 practicals- 10 & 15 M RUSBTKP603 - TOTAL 40 MARKS Case study on Forensic based on 4 practicals- 40M	External Examination: 60%- 60 Marks RUSBTKP601 - TOTAL 60 MARKS i) Project external (presentation)- 25M ii) Major -20M iii) Minor- 10M iv) Journal- 05M RUSBTKP602 - TOTAL 60 MARKS i) Major- 30M ii) Minor- 10M iii) Spots- 10M iv) Journal- 05M v) Viva- 05M RUSBTKP603 - TOTAL 60 MARKS i) Major- 20M ii) Minor- 15M iii) Minor- 10M iv) Spots- 10M v) Viva- 05M

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MSc I

Modality of Assessment MSc (SEMESTER I)



Theory Examination Pattern:	Internal Assessment- Total : 40 Marks i) 20M One Assignment(Powerpoint presentations) ii) 20M One class Test (Subjective questions of 5M each)-any 4 out of 6	Semester End Theory Examination- Total : 60 Marks External examination was conducted ONLINE due to current pandemic situation as per the instructions/circulars received from the University of Mumbai and Maharashtra State notifications from time to time. 44 MCQs per paper: 1 marks - 28 questions 2 Marks - 16 questions Time duration for examination - 1 hour
Practical Examination Pattern:		External Examination: 200M RPSBTKP101-50M RPSBTKP102-50M RPSBTKP103-50M RPSBTKP104-50M RPSBTKP101 - MCQ(10M)+ Interpretation(35M)+ Viva (5M) RPSBTKP102 - MCQ(15M)+ Interpretation(25M) + Viva (10M) RPSBTKP103 - MCQ(15M)+ Interpretation(25M) + Viva (10M) RPSBTKP104 - MCQ(10M)+Interpretation (15M)+ research Proposal(25M)



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Modality of Assessment MSc (SEMESTER II)

<p>Theory Examination Pattern:</p>	<p>Internal Assessment- Total : 40 Marks</p> <p>i) 20M One Assignment(Powerpoint presentations)</p> <p>ii) 20M One class Test (Subjective questions of 2M each)</p>	<p>Semester End Theory Examination- Total : 60 Marks</p> <p>EXAMINATION WOULD BE OFFLINE</p> <p>Time duration for examination -2.5 hour Paper Pattern:</p> <p>External Examination- 60%- 60 Marks Semester End Theory Examination:</p> <p>UNIT I Q.1)A) Any 1 out of 2-8M Q.1)B) Compulsory-7M</p> <p>UNIT II Q.2)A) Any 1 out of 2-7M Q.2)B) Compulsory-8M</p> <p>UNIT III Q.3)A) Any 1 out of 2-8M Q.3)B) Compulsory-7M</p> <p>UNIT IV Q.4)A) Any 1 out of 2-7M Q.4)B) Compulsory-8M</p> <p>TOTAL 60M</p>
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Practical Examination Pattern:		External Examination: 200M RPSBTKP201- 50M RPSBTKP204- 50M RESEARCH PROJECT -100M 1. Review writing -25M 2. Animations of experiments(application based) - 25M 3. Bioinformatics project -50M consists of 35M thesis + 15M presentation
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Modality of Assessment MSc (SEMESTER III)

Theory Examination Pattern:	Internal Assessment- Total : 40 Marks i) 20M One Assignment(Powerpoint presentations) ii) 20M One class Test (Subjective questions of 5M each)-any 4 out of 6	Semester End Theory Examination- Total : 60 Marks External examination was conducted ONLINE due to current pandemic situation as per the instructions/circulars received from the University of Mumbai and Maharashtra State notifications from time to time. 44 MCQs per paper: 1 marks - 28 questions 2 Marks - 16 questions Time duration for examination - 1 hour
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Practical Examination Pattern:		External Examination: 200M RPSBTKP301-30M RPSBTKP302-30M RPSBTKP303-30M RPSBTKP304-30M RPSBTKP301 - MCQ(5M)+ Interpretation(20M)+ Viva (5M) RPSBTKP302- MCQ(5M)+ Interpretation(20M) + Viva (5M) RPSBTKP303- MCQ(5M)+ Interpretation(20M) + Viva (5M) RPSBTKP304- MCQ(5M)+Interpretation (20M)+ Viva (5M) Marks obtained from 30 were converted to 50
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Modality of Assessment MSc (SEMESTER IV)

<p>Theory Examination Pattern:</p>	<p>Internal Assessment- Total : 40 Marks</p> <p>i) 20M One Assignment(Powerpoint presentations)</p> <p>ii) 20M One class Test (Subjective questions of 2M each)</p>	<p>Semester End Theory Examination- Total : 60 Marks</p> <p>EXAMINATION WOULD BE OFFLINE</p> <p>Time duration for examination -2.5 hour Paper Pattern:</p> <p>External Examination- 60%- 60 Marks Semester End Theory Examination:</p> <p>UNIT I Q.1)A) Any 1 out of 2-8M Q.1)B) Compulsory-7M</p> <p>UNIT II Q.2)A) Any 1 out of 2-7M Q.2)B) Compulsory-8M</p> <p>UNIT III Q.3)A) Any 1 out of 2-8M Q.3)B) Compulsory-7M</p> <p>UNIT IV Q.4)A) Any 1 out of 2-7M Q.4)B) Compulsory-8M</p> <p>TOTAL 60M</p>
<p>Practical Examination Pattern:</p>		<p>External Examination: 200 Marks</p> <p>Research project - 200M</p> <p>Guide - 50 marks Punctuality - 5M Attendance - 10M Table work - 30M Reference - 5M</p> <p>Panel of departmental teachers - 50 marks Timely submission - 10M Fortnight report - 10M Thesis and Table Work - 30M</p> <p>Internal examiner- 50 marks Viva voce - 15M Interpretation/discussion/conclusion - 15M Presentation skills- 20M</p> <p>External examiner - 50 marks Viva voce -15M</p>



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		Interpretation/discussion/conclusion - 15M Presentation skills- 20M
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Resolved that: Above discussion was approved by the BOS members with no major suggestions.

Agenda 4: To seek approval for the examination pattern used for the internal assessments, semester end examinations and the Practical exams (wherever applicable) conducted for the even semester exams in the current academic year. (2021-22)

Discussed that:

- The examination pattern used for the internal assessments, semester end examinations and the Practical exams (wherever applicable) conducted for the even semester exams in the current academic year. (2021-22) was presented and discussed (Annexure III)

Resolved that:

- The above discussion and changes were approved by the BOS member.

AGENDA 4: Any other matter with the permission of the Chair.

No further matters other than the above mentioned agenda were discussed

Signature of HOD



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Name :- Ms. Supriya Kale

Date :31.3.2022



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RAMNARAIN RUIA AUTONOMOUS COLLEGE, MUMBAI-19

DEPARTMENT OF BIOTECHNOLOGY

Minutes of the E-meeting of the Board of Studies

Date: 23.04.2022

Time: 2.00-4.00pm

Platform used: ZOOM:

<https://us06web.zoom.us/j/88492696558?pwd=TVZXdGdHMGM2QlZYTDU3cHIIZXBvdz09>

Members Present:

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

The meeting was initiated by Ms. Supriya kale with introduction of all the members of the BOS and discussion of following agenda was started .



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Agenda No. 1:

To seek suggestions, if any, for the changes in the content of the syllabi for Post Graduate Program as per CBCS system with reference to Core Courses, Skill enhancement Courses, Discipline specific electives for the course.

DISCUSSED THAT:

- The changes in the structure of the syllabi for Post Graduate Program as per CBCS system with reference to Core Courses, Skill enhancement Courses, Discipline-specific electives for the course was presented and discussed

Postgraduate CBCS system-100 CREDITS

SEMESTER I & II-26 CREDIT EACH

SEMESTER III & IV-24 CREDIT EACH

Semester	Courses	Code	Credits Theory	Credits Practical
1	Core I	Biochemistry	4	2
	Core II	Immunology	4	2
	Core III	Molecular Biology	4	2
	Discipline Specific Elective-I	Clinical data Management	4	2
	Ability Enhancement-I	Emotional well-being through Logic-based thinking	2	0
2	Core I	Metabolism	4	2
	Core II	Immunology	4	2
	Core III	Bioinstrumentation	4	2
	Discipline Specific Elective-II	Nanotechnology	4	2
	Ability Enhancement-II	Intellectual Property rights	2	0



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3	Core I	Medical Microbiology	4	2
	Core II	Development Biology	4	0
	Skill Enhancement Course	Tissue Culture	4	2
	Research Project/ Internship	Research Project/ Internship	0	8
4	Core I	Bioinformatics	4	2
	Core II	Bioprocess Technology	4	2
	Core III	Biostatistics	4	0
	Research Project/Internship	Research	0	8

- Content of DSE and AECC to be offered by the department was presented

Following are the changes presented for papers introduced in DSE and AEC respectively

1. DSE-I Clinical data management

- ADDITIONS:-

- Practicals :

1. Action query based on various scenarios: vendor data query, eCRF data query, date Mis-Match query in eRCF on AE/CONMED form and study conclusion form
2. design and Raise a query as per given scenario: data missing query, out of sequence data on AE/commed form. missing labs query on visits already performed etc.
3. Designing eCRF form based on given protocol (only particular sections of protocol will be given)
4. Designing of eCRF completion guidelines based on given protocol
5. Perform Screening process of various molecules (plant, algal or marine sources) before performing preclinical toxicity study.
6. Perform preclinical toxicity study on cell lines and microorganisms using drugs screened in exp no.5
7. Various ways to resolve vendor issues.



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2. DSE -II Nanotechnology

• ADDITIONS:-

Practicals :

1. .Antibacterial studies of silver nanoparticles by MIC method.
2. Synthesis of Metal Nanoparticles by Chemical reduction method and their UV-VIS absorption studies.
3. Synthesis of nanoparticles using bacterial systems and their UV-VIS absorption studies.
4. Synthesis of nanoparticles using plant extract and their UV-VIS absorption studies.
5. Synthesis of nanoparticles using a fungal system and their UV-VIS absorption studies.
6. Analysis of nanoparticles using UV vis spectrophotometer , TEM ,SEM -data interpretation.
7. Testing the cell viability of metal oxide nanoparticles using tissue culture technique.

3. AEC-I Emotional well-being through Logic-based thinking

proposed to be introduced as AEC.

4. AEC-II Intellectual Property Rights

1. 3 units were rearranged into a 2 Unit course.

RESOLVED THAT :

The structure of the Post graduate program as per CBCS system and the changes in AEC and DSE were approved by the BOS members with following suggestions which were accepted and incorporated in the curriculum.

- In reference to practical of Clinical data management of screening of drug molecules , Bos members suggested to incorporate the screening of compounds from plant, algal as well as from marine sources
- Also suggested to discuss with reference to above practical with bioanalytical department.
- In Silico analysis such as molecular docking could be incorporated in the bioinformatics paper.



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Agenda 2. To seek approval for the new certificate courses, SWAYAM, NPTEL Courses, if any.

Discussed that:

- Following are the SWAYAM, NPTEL Courses for both UG and PG to be continued were already approved in the previous BOS meeting as well as this BOS meeting

SR.N O	UG COURSES	Offered by	PG COURSES	Offered by
1	MOLECULES OF LIFE & BIOPHYSICAL PARAMETERS	SWAYAM	INTRODUCTION TO PROFESSIONAL SCIENTIFIC COMMUNICATION	NPTEL
2	HUMAN MOLECULAR GENETICS	NPTEL	DRUG DELIVERY: PRINCIPLES & ENGINEERING	NPTEL
3	COMPUTATIONAL SYSTEMS BIOLOGY	NPTEL	SPECTROSCOPIC TECHNIQUES IN PHARMACEUTICAL & BIOPHARMACEUTICAL INDUSTRIES	SWAYAM
4	AGRICULTURAL POLICY: FORMULATION, COMPONENTS, PROCESS IMPLEMENTATION AND COMPARATIVE ANALYSIS	SWAYAM	APPLIED ENTOMOLOGY	SWAYAM
5	FORESTS AND THEIR MANAGEMENT	NPTEL	FUNCTIONAL FOOD AND NUTRACEUTICALS	SWAYAM
6	BIOELECTROCHEMISTRY	NPTEL	INTERACTOMICS: BASICS AND APPLICATIONS	NPTEL
7	FOREST BIOMETRY	NPTEL	BIOMICROFLUIDICS	NPTEL



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8	BIOMICROFLUIDICS	NPTEL	BASIC COURSE IN BIOMEDICAL RESEARCH	NPTEL
9	INTERACTOMICS: BASICS AND APPLICATIONS	NPTEL	MEDICAL BIOMATERIALS	NPTEL

Resolved that:

- Approved by BOS

Agenda 3.

To seek approval for the M.Sc. Entrance examinations' pattern.

Discussed that:

The department informed the BOS members of having the Msc entrance exam for the new academic year and seeked suggestion for the same.

Resolved that:

- all the members suggested to have complete MCQ pattern for Msc entrance examination.
- offline exam to be conducted
- weightage to be given equally to both the Entrance scores as well as Bsc marks
- To incorporate aptitude as well as basic chemistry calculations
- Suggested to take the entrance exam before the results of TYBsc is released.

Agenda 4:

To seek approval for the change in the Syllabi, the change in the number of credits and the modalities of assessment for the M.Sc. Program.

Discussed that:

- the change in the number of credits and the modalities of assessment for the M.Sc. Program were presented .



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Modality of Assessment

Semester I

Theory Examination Pattern

A) Internal assessment -40%-40 Marks

Sr. No	Evaluation Type	Marks
1	One Assignment /case study/project based/Written assignment/Presentations	20
2	One class test (Multiple choice questions)	20

B) External Examination- 60%-60 Marks

Semester End Theory Examination:

1. Duration: These examination shall be of 2.5 hrs
2. Theory question paper pattern
 - There shall be 4 questions each of 15 Marks. On each unit there will be one question
 - All questions shall be compulsory with internal choice within the questions

Paper Pattern:

Questions	Pattern	Marks	Question based on
Q.1 A)	Any 1 out of 2	8	Unit I
Q.1 B)	compulsory	7	
Q.2 A)	Any 1 out of 2	7	Unit II
Q.2 B)	compulsory	8	
Q.3 A)	Any 1 out of 2	8	Unit III
Q.3 B)	compulsory	7	
Q.4 A)	Any 1 out of 2	7	Unit IV
Q.4 B)	compulsory	8	
	TOTAL	60M	



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Practical Examination Pattern:

**A) External Examination- 50 Marks
Semester End Practical Examination**

Particulars	Paper
Laboratory Work	40
Journal	05
Viva	05
Total	50

**Overall Examination and Marks distribution Pattern
Semester I**

Course	RPSBTK101/102/103/ 104			Grand total
	Internal	External	Total	
Theory	40	60	100	400
Practicals		50	50	200

Modality of Assessment

Semester II

Theory Examination Pattern

A) Internal assessment -40%-40 Marks

Sr.No	Evaluation Type	Marks
1	One Assignment /case study/project based/Written assignment/Presentations	20
2	One class test (Multiple choice questions)	20



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B) External Examination- 60%-60 Marks**Semester End Theory Examination:**

1. Duration: These examination shall be of 2.5 hrs
2. Theory question paper pattern
 - There shall be 4 questions each of 15 Marks. On each unit there will be one question
 - All questions shall be compulsory with internal choice within the questions

Paper Pattern:

Questions	Pattern	Marks	Question based on
Q.1 A)	Any 1 out of 2	8	Unit I
Q.1 B)	compulsory	7	
Q.2 A)	Any 1 out of 2	7	Unit II
Q.2 B)	compulsory	8	
Q.3 A)	Any 1 out of 2	8	Unit III
Q.3 B)	compulsory	7	
Q.4 A)	Any 1 out of 2	7	Unit IV
Q.4 B)	compulsory	8	
	TOTAL	60M	

Practical Examination Pattern:**A) External Examination- 50 Marks****Semester End Practical Examination**

Particulars	Paper
Laboratory Work	40
Journal	05
Viva	05
Total	50

Overall Examination and Marks Distribution Pattern**Semester II**smkale

Course	RPSBTK201/202/203/204			Grand Total
	Internal	External	Total	
Theory	40	60	100	400
Practicals	-	50	50	200

Modality of Assessment

Semester III

Theory Examination Pattern

A) Internal assessment -40%-40 Marks

Sr.No	Evaluation Type	Marks
1	One Assignment /case study/project based/Written assignment/Presentations	20
2	One class test (Multiple choice questions)	20

B) External Examination- 60%-60 Marks

Semester End Theory Examination:

3. Duration: These examination shall be of 2.5 hrs
4. Theory question paper pattern
 - There shall be 4 questions each of 15 Marks. On each unit there will be one question
 - All questions shall be compulsory with internal choice within the questions

Paper Pattern:

Questions	Pattern	Marks	Question based on
Q.1 A)	Any 1 out of 2	8	Unit I
Q.1 B)	compulsory	7	
Q.2 A)	Any 1 out of 2	7	Unit II
Q.2 B)	compulsory	8	
Q.3 A)	Any 1 out of 2	8	Unit III
Q.3 B)	compulsory	7	
Q.4 A)	Any 1 out of 2	7	Unit IV



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Q.4 B)	compulsory	8	
	TOTAL	60M	

Practical Examination Pattern:

B) External Examination- 50 Marks
Semester End Practical Examination

Particulars	Paper
Laboratory Work	40
Journal	05
Viva	05
Total	50

Overall Examination and Marks Distribution Pattern
Semester III

Course	RPSBTK301/302/303/304			Grand Total
	Internal	External	Total	
Theory	40	60	100	400
Practicals	-	50	50	200

Modality of Assessment

Semester IV

Theory Examination Pattern

A) Internal assessment -40%-40 Marks

Sr.No	Evaluation Type	Marks
1	One Assignment /case study/project based/Written assignment/Presentations	20
2	One class test (Multiple choice questions)	20

B) External Examination- 60%-60 Marks



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Semester End Theory Examination:

5. Duration: These examination shall be of 2.5 hrs
6. Theory question paper pattern
 - There shall be 4 questions each of 15 Marks. On each unit there will be one question
 - All questions shall be compulsory with internal choice within the questions

Paper Pattern:

Questions	Pattern	Marks	Question based on
Q.1 A)	Any 1 out of 2	8	Unit I
Q.1 B)	compulsory	7	
Q.2 A)	Any 1 out of 2	7	Unit II
Q.2 B)	compulsory	8	
Q.3 A)	Any 1 out of 2	8	Unit III
Q.3 B)	compulsory	7	
Q.4 A)	Any 1 out of 2	7	Unit IV
Q.4 B)	compulsory	8	
	TOTAL	60M	

Practical Examination Pattern:

students will have to undergo mandatory hands-on project for 200M in an established laboratory /college laboratory for 4-6 months, and the subsequent submission of thesis.

A) Semester End Examination: (200 marks)

Particulars	Marks
Guide	50
Panel departmental teachers	50
Internal examiner	50
External examiner	50
TOTAL	200



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**Overall Examination and Marks Distribution Pattern
Semester IV**

Course	RPSBTK401/402/403/404			Grand Total
	Internal	External	Total	
Theory	40	60	100	400
Practicals	-	50	50	200

Resolved that:

- No Suggestions , the above agenda was accepted and approved.

AGENDA 4: Any other matter with the permission of the Chair.

No further matter other than above mentioned agenda were discussed.

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Signature of HOD

Name :- Ms. Supriya Kale

Date :23.4.2022

