

S. P. Mandali's

RAMNARAIN RUIA AUTONOMOUS COLLEGE, MUMBAI-19

DEPARTMENT OF BIOTECHNOLOGY

Minutes of the meeting of the Board of Studies

Date: 24.10.2020

Time: 10:30 a.m.

Platform: Google Meet

Members Present:

Sr. No.	Name	Signature
1.	Ms. Supriya Kale	
2.	Ms. Pramada Karnik	
3.	Ms. Neha Ahir	
4.	Ms. Grishma Shetty	
5.	Ms. Rutuja Gupte	
6.	Mrs. Shaheen Abjani	
7.	Mrs. Sneha Panvalkar	
8.	Mr. Aditya Sarnaik	
9.	Mrs. Manvi Vernekar	
10.	Mrs. Reena Pandit	
11.	Mrs. Manju Sharma	

Agenda Item No. 1: To revise, if needed, and pass the syllabus for FY/SY/TY BA/BSc-(Even semesters) classes

DISCUSSED THAT: Following changes were proposed in UG and PG syllabus

FYBSC -

- RUSBTKP205- Practicals on invertase and pectinase enzymes were added.
- Practical related modality was changed - 10 marks previously assigned for viva split into 05 marks for viva and 05 marks for spots.

SYBSC-

- Practicals based on *Klebsiella pneumoniae*, *Streptococcus pyogenes* were added in Medical Microbiology.

TYBSC

- RUSBTK601 - Unit I: Topic - Vaccines and its types added



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- RUSBTK603- Unit I: Added Cancer: Introduction, Diagnosis & treatment, chemotherapy and preventive measures for cancer
- RUSBTK604 - Unit I and II added ., Removed topics on environmental biotechnology like Biogas, biofuels, industrial effluent treatment
- RUSBTK605 & Practicals of the paper - Entire paper changed to Forensic sciences consisting of the following units :
 1. Unit I - Analytical techniques in forensic sciences
 2. Unit II- Evidence analysis
 3. Unit III- Forensic science and its branches
 4. Unit IV- Ballistics and forensic laboratories
- Practicals: RUSBTK 601 & 602 - Added: TLC of fatty acids/plant pigments
Column : chalk chromatography, Sucrose density gradient centrifugation Shifted from other paper : First aid methods and safety in laboratory/ workplace, Biosafety: Signs and Symbols, Validation of measuring cylinders, colorimeters, Calibration of Ph meter and weighing balance

MSC-I-

- RPSBTK202- Added topics of TYPES OF VACCINES :- purified macromolecules as vaccine, Recombinant vector Vaccine, DNA Vaccines, multivalent Subunit Vaccines in UNIT I.

1. Change in practical component with introduction of following:-

a. Work to be carried out of the proposal finalized in the department lab itself and thesis submission in semester IV. weightage to be given -100 M

B. SHIFTING OF PRACTICAL RPSBTKP202 and RPSBTK203 FROM THESE PAPER TO RPSBTK201 TO accommodate THE RESEARCH PROJECT OF 100M.

c. RPSBTKP204 REMAINS THE SAME

d. SUGGESTED MARKS DISTRIBUTION FOR ASSESSMENT OF RESEARCH PROJECT

1. PROJECT INCHARGE-25M

2. EXTERNAL EXAMINER -50M

3. INTERNAL EXAMINER-25M

Note: Rest of the units and paper remains the same as 2019-20 syllabus

IN the wake of COVID 19 scenario we wish to shift our semester Iv papers to semester III in order to accommodate internship in semester IV hoping that the students will secure internships in some institutes/ industries etc. (As per email dated 26th May 2020).

MSc – II-

- RPSBTK401 - Topics such as immortalisation of cell lines, stem cells, tissue engineering were added in the syllabus



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- RPSBTK402 - Topics like infections of respiratory tract, GI tract, viral and fungal infections were included in the syllabus.
- RPSBTK403- Valerization, Radioactive waste, pollution measurement by MHRD guidelines were added in the syllabus.
- RPSBTK404- Paper shifted from semester IV to Semester III.
- Semester III which was decided to be project based would have to be pushed to semester IV considering the given circumstances of pandemic. MSc – II semester III syllabus was then exchanged with semester IV to make it more practical-intensive as per the email dated 26th May 2020 to acclimate with the current pandemic situation.

RESOLVED THAT

- With the supervision of the BOS members, the above discussed changes and propositions were approved for all the classes.

Agenda Item No. 2: To decide on the changes in the modalities of assessment, if any, which includes the question paper pattern, for internal and external examination.

DISCUSSED THAT

- The modalities of assessment were not changed except for TY FORENSIC SCIENCE (RUSBTKP505/605)
- The changes were done in the practical component of FYBSC & SYBSC section, no changes for TYBSC.
- MSC 1 & 2 both practical and Theory component changes were done. All are attached in the form of table

ANNEXURE II

	UG	PG
1. Theory internal :	MCQ – 20M	MCQ- 20 M
	MCQ – 20M SHORT ANSWERS – 20M	MCQ- 30 M Brief answers- 30 M



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1. Theory external	BRIEF ANSWERS -20M	
1. Practical internal	RESULT INTERPRETATION/OBSERVATION/ video assignment – 40M	NIL
1. Practical external	10M – JOURNAL (E-journal) 20M – ANALYTICAL QUESTIONS 20M – VIVA	20 M interpretation based questions 10 M Journal (E-journal) 20 M viva
1. Projects :	15M – RESEARCH METHODOLOGY/ 15M – EXPERIMENT DESIGN Dry lab projects (Survey based)	Dry lab projects based on biostatistics/ bioinformatics/ survey based projects

RUSBTKP503: FORENSIC SCIENCES – 1

1. Club 2 major and 1 minor worth 40/ 50 marks into one case study.
2. Formulate the case study with 3 pieces of evidence corresponding to 3 experiments.
3. Students will write the approach, principle of all the experiments in 3 different sheets of paper.
4. Keeping in mind the current situation, after the writing of data w.r.t. Point 3, students will be given the results of the tests they proposed to carry out on the evidence, for interpretation.
5. Evaluation of answer sheets based on approach, principle and requirements along with the distribution of marks will remain the same as before.
6. The conclusion for all the experiments will be written in one final sheet.
7. Evaluation of the conclusion will be based on correct interpretation and proper addressing of the case study.
8. Conclusion will be in the form of a case report which will lead them to the questions asked in the case study namely (sample questions):
 - Victim
 - Criminal
 - Mode of crime
 - Weapon used, if any
 - Motif behind the crime
 - Type of crime
 - Theory of crime etc.

RESOLVED THAT

- With the supervision of the BOS members, the above discussed changes and propositions were approved for all the classes.

SUGGESTIONS BY BOS: (for online practical exam in absence of performance-based practicals):



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- Proposal writing
 - One type will be for carrying out project at college level: proposal writing with focus on - Economic analysis, referencing, feasibility report
 - Proposal writing according to the Government-prescribed rules
 - Comparative assessment of existing processes.
 - The proposals can be written in the basic format given by government bodies in their open calls and also by DST and DBT. They can also be written in the format for international calls for collaboration.
- Critical review article writing

Resolution Agenda Item No. 3: To approve the Certificate Courses offered by NPTEL/ SWAYAM platform to be proposed to students.

DISCUSSED THAT

- The list of courses were shown to the BOS members for their approval.

ANNEXURE III

SR.NO	UG COURSES	Offered by	PG COURSES	Offered by
1	ENTREPRENEURIAL SKILLS	SWAYAM	ADVANCED ANALYTICAL TECHNIQUES	NPTEL
2	MOLECULES OF LIFE & BIOPHYSICAL PARAMETERS	SWAYAM	INTELLECTUAL PROPERTY	NPTEL
3	HUMAN MOLECULAR GENETICS	NPTEL	DRUG DELIVERY: PRINCIPLES & ENGINEERING	NPTEL
4	COMPUTATIONAL SYSTEMS BIOLOGY	NPTEL	SPECTROSCOPIC TECHNIQUES IN PHARMACEUTICAL & BIOPHARMACEUTICAL INDUSTRIES	SWAYAM
5	AGRICULTURAL POLICY: FORMULATION, COMPONENTS, PROCESS IMPLEMENTATION AND COMPARATIVE ANALYSIS	SWAYAM	APPLIED ENTOMOLOGY	SWAYAM



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6	FORESTS AND THEIR MANAGEMENT	NPTEL	FUNCTIONAL FOOD AND NUTRACEUTICALS	SWAYAM
7	WILDLIFE ECOLOGY	NPTEL	INTERACTOMICS: BASICS AND APPLICATIONS	NPTEL
8	BIOELECTROCHEMISTRY	NPTEL	BIOMICROFLUIDICS	NPTEL
9	FOREST BIOMETRY	NPTEL	BASIC COURSE IN BIOMEDICAL RESEARCH	NPTEL
10	BIOMICROFLUIDICS	NPTEL	MEDICAL BIOMATERIALS	NPTEL
11	INTERACTOMICS: BASICS AND APPLICATIONS	NPTEL	INTRODUCTION TO PROFESSIONAL SCIENTIFIC COMMUNICATION	NPTEL

RESOLVED THAT

- All the courses (NPTEL/ SWAYAM) were approved by the BOS members.

Agenda Item No. 4: To review even semester question papers

DISCUSSED THAT

- The paper pattern for UG and PG was discussed with the BOS members.
- Question papers were displayed on the screen and shared with the BOS members.

RESOLVED THAT

- Format and types of questions in the question papers were approved by the BOS members.



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Therefore Following will be the sequence of the papers in semester III & IV

Semester IV					
Course code	Unit	Topic	Credits	Lectures/ week	45hrs/ week
Paper I : Nanotechnology RPSBTK301	Unit I	Introduction, synthesis of nanomaterials	4	1	15
	Unit II	CNTs and nanomotors		1	15
	Unit III	Nanomedicine		1	15
	Unit IV	Applications of nanotechnology		1	15
Paper III : IPR & protection of inventions RPSBTK302	Unit I	Introduction to Intellectual Property	4	1	15
	Unit II	Concept of 'prior art'		1	15
	Unit III	Patent filing and Infringement		1	15
	Unit IV	Important aspects of IP protection		1	15
Paper III : Clinical Studies RPSBTK303	Unit I	Drug discovery and Preclinical toxicology	4	1	15
	Unit II	Introduction to Clinical trials		1	15
	Unit III	Clinical study design		1	15
	Unit IV	Medical writing		1	15
Paper IV :Biostatistics RPSBTK304	Unit I	Introduction Statistics	4	1	15
	Unit II	Gaussian distribution and normality		1	15
	Unit III	Hypothesis testing		1	15
	Unit IV	ANOVA		1	15
Practical		Dissertation work	2 credits each		
TOTAL CREDITS			24		



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Semester III					
Course code	Unit	Topic	Credits	Lectures/ week	45hrs/we ek
Paper I : PTC and ATC RPSBTK401	Unit I	Plant tissue culture	4	1	15
	Unit II	Plant tissue culture		1	15
	Unit III	Animal tissue culture		1	15
	Unit IV	Animal tissue culture		1	15
Paper II : Medical Microbiology RPSBTK402	Unit I	Cytogenetics	4	1	15
	Unit II	Medical microbiology		1	15
	Unit III	Molecular diagnostics		1	15
	Unit IV	Biofilms		1	15
Paper II : GMO and Environment RPSBTK403	Unit I	Introduction to GMOs	4	1	15
	Unit II	GMO crops		1	15
	Unit III	Solid waste management		1	15
	Unit IV	Biodegradation		1	15
Paper IV :Developmental Biology RPSBTK404	Unit I	Human Embryonic development:	4	1	15
	Unit II	Post fertilization events		1	15
	Unit III	Sex hormones and Implantation		1	15
	Unit IV	Infertility and reproductive vaccines		1	15
Practical	Practical based on all the four papers		2 credits each		
TOTAL CREDITS			24		



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Signature:

Ms. Supriya Kale

HOD

Biotechnology

Ramnarin Ruia Autonomous College



S. P. Mandali's

RAMNARAIN RUIA AUTONOMOUS COLLEGE, MUMBAI-19

DEPARTMENT OF BIOTECHNOLOGY

Minutes of the E-meeting of the Board of Studies

Date: 15-05-2021

Time: 10:00 a.m.

Platform used: ZOOM

Members Present:

Sr. No.	Name	
1.	Ms. Supriya Kale	Head, Department of Biotechnology
2.	Ms. Pramada Karnik	Assistant Professor, Dept of Biotechnology
3.	Ms. Neha Ahir	Assistant Professor, Dept of Biotechnology
4.	Ms. Grishma Shetty	Assistant Professor, Dept of Biotechnology
5.	Ms. Shaheen Abjani	Assistant Professor, Dept of Biotechnology
6.	Ms. Anuja Patil	Assistant Professor, Dept of Biotechnology
7.	Dr. Sneha Panvalkar	Head, Dept of Biotechnology, G.N.Khalsa College, VC nominee.
8.	Dr. Reena Pandit	Member from university other than parent University
9.	Dr. Manju Sharma	Member from university other than parent University
10.	Dr. Manavi Vernekar	Meritorious alumni
11.	Mr. Viraj Tawsalkar	Industry Expert
12.	Dr. Sujata Suvarnapatki	Dean Academics, Ramnarain Ruia Autonomous college.



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Agenda Item No. 1: To revise, if needed, and pass the syllabus for FY/SY/ TYBSc /MSC classes

DISCUSSED THAT:

Following are the changes proposed in the UG/PG syllabus.

1. FYBSc
Practicals based on RUSBTK101 and RUSBTK102
Addition of Practicals -
 1. Estimation of proteins by Folin Lowry method
 2. Paper Chromatography of Amino acids
 3. Qualitative estimation of lipids

2. FYBSc.
RUSBTK206 (Enzymology, Immunology and Biostatistics)
Addition of topics - Enzyme kinetics, Michalis Manton's equation & variations, Inhibition.

3. SYBSc.
RUSBTK406(Molecular Diagnostics)
UNIT II topics Hybridization Techniques: Southern, Northern, Western and FISH; Markers, Probes and its Clinical Applications Shifted to UNIT I
And UNIT I topics like Restriction Endonuclease and Restriction Enzyme Mapping were shifted to UNIT III

4. SYBSc.
RUSBTKP405 - Practical Paper
Practicals based on RUSBTK405 and RUSBTK406
Deletion of Practical - 1. Analysis of 3D structures by Similarity and Interactions.
Addition of practical 1. Pairwise sequence alignment and MSA using Clustal W and Clustal Omega

5. TYBSc.
RUSBTKP603- Practical Paper
Practicals based on RUSBTK605
Introduction of Practical related to odontology:
Analysis and preservation of bite marks
Determination of Age, sex, occupation/habits by dental evidence

6. MSc-I
RPSBTK102
Immunology
Addition of Modifications types of vaccines:-
RNA vaccines and conjugate vaccines



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7. MSc-I

RPSBTKP201 and RPSBTKP204

Practicals based on RPSBTK201, RPSBTK202, RPSBTK203 and RPSBTK204
Addition of Practical- 1. Analysis of 3D Structures by Similarity and Interactions.

8. MSc-I

RPSBTKP201 and RPSBTKP204

Practicals based on RPSBTK201, RPSBTK202, RPSBTK203 and RPSBTK204
Review writing/ Presentation on online courses assignment/bioinfo internships/ online internships/ Animations of experiments(application based)

- Considering the pandemic Semester IV of MSC II is exchanged after confirmation from BOS members, over mail. with semester III, thus the Research project/ internship component will now be in semester IV.

RESOLVED THAT

- With the supervision of the BOS members, the above discussed changes and propositions were approved for all the classes.

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

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

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



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

- Department had proposed a rough draft of certificate course in **Pharmaceutical Quality Assurance**



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Resolved that:

- The NPTEL/ SWAYAM/MOOC courses suggested by the Department were approved by the Members of the BOS
- The certificate course needs certain modifications and can be proposed in the next BOS meeting.

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:

- NO CHANGES IN THE EXISTING PATTERN OF ASSESSMENT
- External Examination- 60%- 60 Marks
- Semester End Theory Examination: (Deviation from the usual modality)
- Owing to the pandemic situation prevailing in 2020 and continuing in 2021, the external examinations (Semester End) may be conducted online as per the instructions/circulars received from the University of Mumbai and Maharashtra State notifications from time to time. The conventional mode of external examination will commence again only after the declaration of normalcy by the Government authorities.
- For MSC the internal component will be for 40 marks & external components will be for 60 marks.
- For MSC I the 100 marks project component can have alternatives like: Review article writing/ online internships/ online projects in bioinformatics/ Animations of experiments (application based)/ Presentations on certificate courses suggested by the Department. Etc.

Resolved that: All the changes were approved by the BOS members

Agenda 4: Any other by the permission of chair

Discussed that:

- Feedback on curriculum received from the students was presented, and discussed with BOS members.
Following are the major points discussed on the basis of the responses collected from the 76 students of the course.
 - a. 63.2% of the students find the syllabus adequate .
 - b. 34.2% of the students find the syllabus challenging.
- The Department proposed certain electives to be introduced at UG & PG level in future. The electives proposed were: Biosafety, environment management, food processing, medical biotechnology, pharmacology.



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Resolved that:

- Majority the students are happy with the syllabus. The overall rating for the syllabus was good.
- The BOS members approved the proposed electives with a suggestion to concise the modules included.

Thank you,

With best regards,

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Supriya Kale,

Head, Department of Biotechnology,

Ramnarain Ruia Autonomous College

