



THE ASSAM
ROYAL GLOBAL UNIVERSITY
— GUWAHATI —

CRITERION 1

CURRICULAR ASPECTS

METRIC NO.
1.2

Academic Flexibility

Minutes of Board of Studies Meeting

Royal School of Biosciences

Biotechnology
Biochemistry
Microbiology
Food Technology

MINUTES OF THE MEETING
OF
BOARD OF STUDIES
30/04/2019

DEPARTMENT OF BIOTECHNOLOGY, RSBC

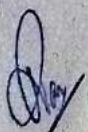
AGENDA OF THE MEETING:

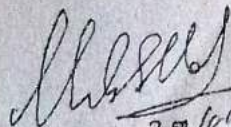
1. Suggestions on the Programme structure of the syllabus, credit point distribution, Lecture, Theory and Practical class ratio of both P.G. & U.G.
2. Define and inclusion of the course objectives and expected outcomes
3. Assessment of the course content
4. Suggestions on the List of reference Books and text Books paper wise.
5. Suggestions on the List of General Elective and Discipline Specific Electives

A meeting of Board of Studies under School of Bio Sciences was held on 30/04/2019 in order to discuss the new syllabus prepared for the Department of Biotechnology for the session 2019-20 onward. The committee went through the syllabus prepared for the purpose and the same was submitted. The syllabus in existence was also modified which can be regulated from the 2019-20 session from 3rd semester onwards. After a threadbare discussion on the modification of syllabus the following modifications has been suggested for both P.G. and U.G. courses which are detailed as-

I. SUGGESTIONS FOR P.G. COURSE:

1. In the first semester BTC154C101 – Analytical Techniques in Module III, under Radioactivity portions in the topic may be reduced but Fluorescence based techniques be included as more stress on fluorescence is being laid upon.
2. In the first semester the total credit for practical in the paper “Practical I” is to be made 3.
3. In the first semester the paper- BTC154C103- Genetics and Microbiology is to be divided into two different papers- **Genetics** with subject code BTC154C103 and **Microbiology** with subject code BTC154C104.
4. In the second semester the total credit for practical in the paper “Practical II” is to be made 3.
5. For certain practical's where high speed centrifuge is required such practical's may be skipped at present unless the instrument is available.
6. In 2nd semester M.Sc. Biotechnology, in paper III- Molecular Biology (BTC154C203) sequencing techniques such as NexGen sequencing is to be included.
7. In 2nd semester M.Sc. Biotechnology, in paper IV- Practical II (BTC154C214) experiment on Module I (1, 2, 3, 4) may be skipped as instrument is not available.


Head of Department
Department of Biotechnology
Royal School of Biosciences
The Assam Royal Global University
F. No. 101, City-35, NH-37, Assam


29/04/19

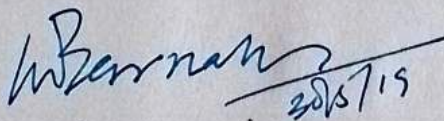
8. In module III of paper IV- Practical II (BTC154C214) WBC profiling by Giemsa stain is to be written instead of Blood smear identification of leucocytes by Giemsa stain.
9. In M.Sc. 3rd semester, the nomenclature of the core paper- BTC154C301- **Animal Cell Biotechnology** may be changed into **Animal Biotechnology**.
10. In M.Sc. 4th semester, the number of theory paper in the form of DSE is high. Total theory papers is 6. As Biotechnology is an applied subject 02 numbers of DSE papers may be reduced and the credits for these two papers may be credited to Major Project.

II. SUGGESTIONS FOR U.G. SYLLABUS:

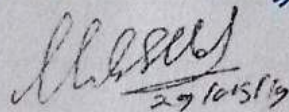
1. The total credits may be changed from 6 to 4 in the first two semesters in Core papers and from 6 to 3 in the first two semesters in Practical papers
2. The core paper "Basics of Biocomputing-BTC152C301" is to be replaced with Enzymology. Syllabus placed in BoS and approved. Paper has been replaced as similar paper is present in 5th semester.
3. In 3rd semester Environmental Science, EVS982A303 total credits should be 3 including 1 credit for practical.
4. In 6th semester a minor project may be incorporated with 8 credits for UG course.
5. For DSE, new papers such as **Molecular Diagnostics, Industrial Microbiology**.
6. **IPR Biosafety and Bioethics** to be introduced as a core paper in 5th semester with 3 credits.
7. 1st semester practical is to be reduced and distributed in other semesters.
8. Chemistry is to be selected by the students in GE as chemistry is must for all students pursuing Biotechnology.
9. The GE-1 papers for the first 4 semesters of the UG programme has been decided to be **Biotechnology and Human Welfare, Bioethics and Biosafety, Developmental Biology and Entrepreneurship Development** while **Biofertilizer** has been decided as the GE-2 paper in the 2nd and 4th semesters.

Signatures:

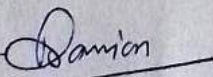
1. Prof K.K. Baruah-


20/5/19

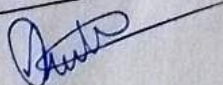
2. Prof Manabendra Mandal-


29/10/19

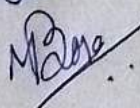
3. Dr Ranjan Dutta Kalita-



4. Dr. Sthitiporna Dutta-



5. Dr. Monalisa Bora Deka-

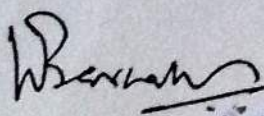


MEETING OF THE BOARD OF STUDIES
ROYAL SCHOOL OF BIOSCIENCES, ROYAL GLOBAL UNIVERSITY
15/07/2020

FOR DEPARTMENT OF BIOTECHNOLOGY AND MICROBIOLOGY
Minutes of the Board of Studies meeting held on 15th May, 2020

- 1) The meeting started with a welcome address by the Chairman of the meeting, Prof K.K. Baruah, Dean, RSBSC.
- 2) The Chairman opined that due to difficulty of the present COVID-19 situation the physical presence of the members could not be called for and therefore appreciated the initiatives taken by RGU for an online meeting.
- 3) The Chairman first requested the Coordinator of the Department of Biotechnology and Microbiology, Dr. Ranjan Dutta Kalita to initiate the meeting and suggest the changes made in the syllabus of the Department of Biotechnology.
- 4) Dr. Kalita, first welcomed all the members and informed that there has been certain changes as new subjects were introduced for the existing semesters and also credits redistributed as advised according to UGC to maintain 102 credits in PG and 146 credits in UG for the new batch to start class from the 2020-21 session. The practical papers previously separated have been incorporated as parts of the core syllabus to maintain the total number of core papers.
- 5) Dr. Kalita also informed that due to clash of timings, the external expert could not join the online meeting, however he requested the minutes to be forwarded to him so that he can comment his views.
- 6) During the proceedings, the Chairperson, asked Dr. Monalisa Bora Deka, if there will arise any problem due to credit change or increase.
- 7) Dr. Dr. Monalisa Bora Deka informed that the total credits for UG programme according to UGC are 146 and PG is 102, which are strictly adhered by RGU. Therefore the total credit must be equal to the credits mentioned. However in case the total credits increased it will not be a problem as it is the students benefit.
- 8) The Chairman praised the incorporation of new subject papers for the students such as Fermentation Technology, Instrumentation and Techniques, Medical Biotechnology, Genomics and Proteomics etc. Besides on the advice of Hon'ble VC sir a GE 4/8 paper on Basics of Nanotechnology is also proposed.
- 9) Dr. Kalita also informed that the DSE paper on Environmental Biotechnology provided in MSc 3rd sem has been shifted to MSc 4th sem to incorporate a Minor Project course for the existing 2019-21 batch only.
- 10) Dr. Kalita also informed that in UG 6 due to incorporation of Project paper, the total number of DSE papers provided was one.
- 11) Dr. Kalita informed that the Department of Microbiology made no changes in the syllabus and as such the previous syllabus will be taught.
- 12) The Chairman also proposed that the minutes of the meeting should be written and forwarded to the external expert for his final remarks on the syllabus.
- 13) As per the advice of the Chairman, the members proposed that the syllabus will be submitted to the external expert and his comments on the same will be recorded.
- 14) The meeting ended with a vote of thanks from Dr. Kalita.

i. Prof K.K. Baruah
(Chairman)



Head of Department
Department of Biotechnology
Royal School of Biosciences
The Indian Royal Global University
Baruah, Guwahati, Assam

ii. Prof Manabendra Mandal
(External Expert)

M Mandal
29/05/19

iii. Dr. Monalisa Bora Deka
(Member)

iv. Dr. Ranjan Dutta Kalita
(Member)

R Dutta

v. Dr. Niraj Singh
(Member)

N Singh
15/05/2020

MEETING OF THE BOARD OF STUDIES
ROYAL SCHOOL OF BIOSCIENCES, ROYAL GLOBAL UNIVERSITY

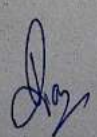
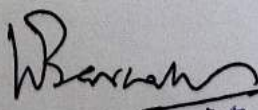
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i. Prof K.K. Baruah
(Chairman)



Head of Department
Department of Biotechnology
Royal School of Biosciences
The Assam Royal Global University
Dikuchi, Ghy-35, NH-37, Assam

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29/10/2019

- ii. Prof ManabendraMandal
(External Expert)
- iii. Dr. Monalisa Bora Deka
(Member)
- iv. Dr. Ranjan Dutta Kalita
(Member)
- v. Dr. Niraj Singh
(Member)

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BOS 5

MEETING OF THE BOARD OF STUDIES

3rd **ROYAL SCHOOL OF BIOSCIENCES, ROYAL GLOBAL UNIVERSITY**

15/07/2021

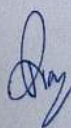
The meeting of the BOS of the RSBSC took place on 15/7/2021 in the presence of the members of the board.

Members of the Board

1. Prof (Dr.) K K Baruah, Dean, RSBSC- Ex-officio- Chairperson
2. Mrs Angira Mimani, Registrar, RGU- Ex-officio- Member Secretary (or her nominees)
3. Dr. Ranjan Dutta Kalita, Coordinator, RSBSC- Ex-officio-Member
4. Dr. Sthitiporna Dutta, Coordinator, Biochemistry- Ex-officio-Member
5. Dr. Birson Ingti, Coordinator, Microbiology- Ex-officio-Member
6. Prof (Dr.) S. R. Patgiri, Professor, Dept. of Microbiology, - Ex-officio-Member
7. Prof Manabendra Mandal- External Member (Academic), Nominated member
8. Mr Swapan Kumar Nath- External Member (Industry), Nominated member
9. Dr. Neeraj Singh, Assistant Professor, Microbiology, Nominated member by Hon'ble VC
10. Ms Prostuti Chakraborty. Assistant Professor, Dept of Food Technology - Nominated member by Hon'ble VC
11. Dr. Aniruddha Deka, Head of Dept, Dept of Computer Sciences and IT, Nominated member by Registrar
12. Ms. Moon Moon Ahmed, Assistant Manager, RGU, Nominated member by Registrar

Agenda of the Meeting

- Introduction of new courses
- Changes in course content
- Swapping of course/papers
- Modifications in the syllabus on account of NEP
- Discussion on MOOCS
- AOB



Head of Department
Department of Biotechnology
Royal School of Biosciences
Royal Global University
35, NH-37, Assam

MEETING OF THE BOARD OF STUDIES
ROYAL SCHOOL OF BIOSCIENCES, ROYAL GLOBAL UNIVERSITY

15/07/2021

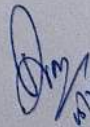
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8. Mr Swapan Kumar Nath- External Member (Industry), Nominated member
9. Dr. Neeraj Singh, Assistant Professor, Microbiology, Nominated member by Hon'ble VC
10. Ms Prostuti Chakraborty, Assistant Professor, Dept of Food Technology - Nominated member by Hon'ble VC
11. Dr. Aniruddha Deka, Head of Dept, Dept of Computer Sciences and IT, Nominated member by Registrar
12. Ms. Moon Moon Ahmed, Assistant Manager, RGU, Nominated member by Registrar

Agenda of the Meeting

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- AOB


Head of Department
Department of Biotechnology
Royal School of Biosciences
The Assam Royal Global University
Jalkuchi, Ghy-35, NH-37, Assam

Members Absent

1. Mr Swapan Kumar Nath- External Member (Industry), Nominated member
2. Prof (Dr.) S. R. Patgiri, Professor, Dept. of Microbiology, - Ex-officio-Member

Minutes of the Meeting

The meeting started with a welcome address by the Chairperson of the meeting, Prof K.K. Baruah, Dean, RSBSC, RSLSC & RSEES.

He acknowledged the initiative taken by RGU for conducting an online meeting as it was difficult for any physical meeting during the present Covid-19 pandemic

The Chairperson asked Dr. Ranjan Dutta Kalita, Coordinator, RSBSC, to initiate the meeting and inform the board about the agenda items.

Dr. Kalita, welcomed all members of the Board to the meeting and presented the changes. The changes were presented department wise.

Department of Biotechnology

Dr. Kalita informed that in UG syllabus, although as advised the practical papers were introduced as part of the core papers in the previous year, yet it was found that without being separate the practical papers are not reflected in the mark-sheet. Therefore being a practical based subject and keeping in mind the importance of the same to be reflective in the mark-sheet, the practical papers have been made a separate core paper. The total credits in the core papers have been left unchanged to maintain the UG credit of 146 as per RGU policy. The new practical papers introduced are- Practical I (1st sem), Practical II (2nd sem), Practical III (3rd sem), Practical IV (4th sem), Practical V (5th sem) and Practical VI (6th sem). The Chairperson and the external expert agreed to the changes and the external expert said that it is essential for the practical papers to be separate and also have more credits. However when explained about the RGU policies for credits on core papers he agreed to the proposal.

Dr. Kalita also informed that the course on Molecular Biology taught in UG 4th sem bearing code number- BTC152C402 is swapped with Human and Animal Physiology taught in UG 2nd sem bearing code number- BTC152C202 so that if any student exits after completion of First year of

Dr. Kalita
6/12/24

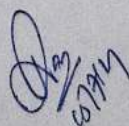
UG programme then he/she would have the basic knowledge of the subject/programme as per the NEP-2020. The chairperson and the external academic expert agreed to the swapping of the course.

Dr. Kalita informed that there is a slight modification of the syllabus of the Genetics course bearing subject code- BTC152C203 taught in UG- 2nd sem. The course has been curtailed to incorporate the necessary syllabus for teaching the UG 2nd semester students. The new syllabus was sent to the external academic expert. The external expert and the Chairperson agreed to the changes.

The AEEC paper on **Basics of Food Processing and Preservation** is proposed as a Practical paper from being initially taught as a theory paper as it involves learning of food based practical subjects and students could be engaged with preparation of various food items. The theory on the same course is also taught so that students can understand the processes. The Chairperson asked for the comments of all other members. All the members agreed to the proposal. The learned external expert too has agreed to the proposal for conversion of the course into a practical based subject.

A new paper on GE4/8 has been introduced. Previously as suggested by Hon'ble VC sir in a meeting the department offered Basics of Nanotechnology as the GE4/8 paper. However, the concerned teacher, Dr. Vimal Sharma who had an M.Tech. degree in Nanotechnology, left the University. As such the course could not be provided to the students. Therefore the new course **Ecosystem Degradation** and Intervention has been proposed. The external member suggested the incorporation of sustainable agriculture, waste to energy and waste management topics to be included as well in the syllabus. The chairperson of the board as well as the external academic expert praised the faculty members for incorporation of such a paper and hoped that it will benefit the students in the long run.

Dr. Kalita informed that in the PG course, practical papers have been separately introduced in PG I, III and IV. He also informed that the course on DSE I- Bioresource Technology has been replaced with Analytical Techniques which was previously a Core paper in PG1st sem. This was done to introduce the new **Practical-I** paper in the first semester.



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Dr. Kalita informed that since RGU follows a policy of 16-16-8-8 credits in core courses in the PG I-II-III-IV semesters, therefore in introducing the new practical papers in 3rd and 4th semesters the total credits in the two theory papers have been kept as 3 each and the practical paper as 2 credit.

Dr. Kalita informed that the syllabus of the Biophysical Chemistry paper taught in the PG 2nd sem bearing subject code- BTC154C201 has been modified. More contents were added as the previous syllabus contents were found to be less. The External expert questioned as if any new things are added will it be possible to finish the syllabus on time. Dr. Kalita informed that in the previous unmodified syllabus, the course was completed before time and revision classes/ assignments were given to keep the students busy. Also he informed that the new components shall add to the student's knowledge. This was agreed upon by the external expert and also the Chairperson of the board.

Dr. Anirudhha Deka, Nominated member inquired if the new practical papers were laboratory oriented or based on assignments. He opined that if they are assignment based then it could be kept together with the core paper but if laboratory based then separate paper may be introduced.

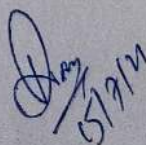
The members of the BOS approved the changes as requested on recommendation of the Chairperson of the BOS.

Department of Food-Technology

Dr. Kalita informed that in the Food Technology programme similar separate papers were introduced as in the UG programme of Biotechnology. The total credits in the core papers have been left unchanged to maintain the UG credit of 146 as per RGU policy. The new practical papers introduced are- Practical I (1st sem), Practical II (2nd sem), Practical III (3rd sem), Practical IV (4th sem), Practical V (5th sem) and Practical VI (6th sem).

Ms Chakraborty, nominated member, informed that the practical paper must be made as separate paper.

The members of the BOS approved the changes as requested on recommendation of the Chairperson of the BOS.

A handwritten signature in blue ink, followed by the date '5/9/22' written below it.

Department of Biochemistry

The department of Biochemistry had in a previous meeting with the subject expert Prof Donkumar Syiem, Professor, NEHU highlighted the changes to be made in the syllabus.

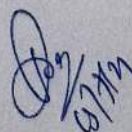
Dr. Sthitiporna Dutta, Coordinator, informed the members that the changes as presented before the expert and as further suggested by him were incorporated and also the corrections suggested by the subject expert in the overall text of the syllabus has been made. The separate minutes of the meeting is also attached herewith.

1. Contents of the Paper Human Physiology(BCH152C401) of B.Sc. Biochemistry 4th sem was modified, and has been present to subject expert as well as in BOS after his approval.
2. Project paper was introduced in B.Sc. Biochemistry 6th sem. So instead of two DSE paper, students will be having one DSE and one project paper.
3. Contents of the Paper Microbiology (BCH154C401) of M.Sc. Biochemistry 4th sem was modified, and has been present to subject expert as well as in BOS after his approval.
4. It was suggested to incorporate some staining techniques in the last module of the Paper Microbiology (BCH154C401) of M.Sc. Biochemistry 4th sem.
5. It was suggested to shortened and to make the preamble/ introductory part of the syllabus more precise for both B.Sc. and M.Sc. Biochemistry.

The members of the BOS approved the changes as requested on recommendation of the Chairperson of the BOS.

Department of Microbiology

The meeting was conducted on 15-07-2021 by RSBSC in the presence of BOS chairperson Prof.(Dr) K.K. Baruah, External member (Academic) Prof. Manabendra Mandal along with other members. In the meeting Department has proposed a revised syllabus for both UG and PG programmes and necessary decision were made by the members. Following points that were discussed in the meeting along with its decision are as follows:


15/7/21

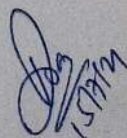
1. It was decided that UG programme will follow the old syllabus with minor correction in UG 1st sem : Phycology & Mycology (MIB152C103) in Module 1 : c) 'Diatoms' which is replace with Bacillariophyceae g) 'Cyanobacteria' is replace with Cyanophyceae. These modifications were approved by the members. However, renaming of practical papers is suggested by the members in all the semester.

UG 2nd sem: In the theory paper Virology (MIB152C202) the module I is reorganized.

These changes were also approved by the members.

2. Members have suggested Agricultural Microbiology (MIB152C303) to be offered as DSE paper instead of core paper and increase practical credits from 3 to 4 in UG 3rd, 4th as number of core paper will remain only two instead of three. Similarly in UG 4th sem Food & Dairy Microbiology (MIB152C403) be offered as DSE paper
3. In UG 5th sem practical paper of 4 credits should be introduced and Microbial genetics core paper be offered as DSE paper.
4. In UG 6th semester two DSE papers should be offered as any one and one core paper should offered as DSE paper. Members also suggest minor project should be offered in the last semester.
5. In Case of PG programme members have considered and approved new syllabus to be offered in the coming semester with minor modification and suggestion. In PG 1st sem members have suggested that core paper Microbial biochemistry (MIB154C104) should be offered as DSE in 2nd sem and also accepted the reorganization of the whole contents of the module IV of Mycology, Phycology and Virology (MIB154C102) core paper. Further, members have suggested that 3rd and 4th semester should have practical in the new proposed syllabus.
6. The BOS recommended that Departmental Ph.D syllabus for course work should be send to the external member (Academic) for evaluation and necessary suggestion.

The members of the BOS approved the changes as requested on recommendation of the Chairperson of the BOS.



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MOOCS Course (30% online courses)

The board discussed on the issue of MOOCS course and on the possibility of the introduction of 30% online courses.

Dr. Kalita informed that in case of Biotechnology and Food Technology the UGC-MOOCS courses which were offered are

- General Microbiology (start date-12/07/2021), Immunology (start date-12/07/2021) papers have already started. The papers on Microbiology is offered in the first semester and the admission process has only started. Therefore the paper could not be offered to the students. The immunology paper offered in this session has already been taught to the students in the previous semester. As such there are no further papers being offered for UG programme. In MSc programme too a similar problem is present and therefore the MOOCS courses could not be provided.

In view of this Dr. Kalita requested the members of the BOS to approve for courses which may be offered in the next session and also which may be taken up by the students. The Chairperson also informed that certain courses can also be taken up on permission of the Hon'ble VC, RGU and then from the next BOS.

Dr. Kalita also informed of his discussion with Prof A.K. Buragohain, Chairperson Academics regarding the MOOCs courses. Prof Buragohain informed that if the courses are not available for this semester than the same may be availed in the next session starting from January. Prof Buragohain suggested that online guest faculties may be engaged for online classes. The external member also informed that apart from online guest lectures, you tube based lectures on important topics can be taken up which are being taught by faculty members from reputed universities worldwide.

Dr. Aniruddha Deka, member suggested that students may also be allowed to take online courses from other online sources such as NPTEL, Coursera etc. he informed that students may take those courses, submit the assignments but need not give the exams as the cost of exams is higher. Instead he suggested that the students may appear for exams from RGU itself.

B. Kalita

Dr. Niraj Singh, nominated member, suggested that students should be asked to appear for exams from the MOOCS courses offered by Indian agencies. In this way the tracking of the students taking the courses will be monitored. And also they can earn a certificate.

Dr. Deka however said that if a student obtains a certificate it will be good but there will be problems in credit transfer as some of the courses are of lesser credits than that offered by RGU.

Dr. Kalita suggested that both the courses offered through online platform and RGU may be compared and the syllabus studied. Students can also opt for tutorial classes for certain topics not covered in the online platforms.

Dr. Deka suggested that if the course has 80-90% similarity it may be taken over by the students. Also he informed that the particular faculty member who is assigned the paper may also register and regularly monitor the submission of assignments. He stated that students should submit screen shots to the teachers as a part of report.

Dr. Ingti suggested the faculty members to go through the online courses

Dr. Sthitiporna Dutta inquired whether the you tube classes can be considered as 30 % online courses.

Dr. Deka informed that the youtube courses may be considered but since no assignments are given there so therefore the teacher may play a part in giving and submission of assignments. The teacher may also monitor the students, he suggested.

Dr. Kalita summarized the views given by the members and informed that students should be encouraged to take online classes and submit the assignments. If in that semester the MOOCs courses are not available then it may be made up through online guest lectures and you tube links to be provided by teachers. However in such alternatives, the concerned faculty member must provide regular assignment and tests. In case of guest lectures too, only some parts of a particular module is to be provided and remuneration paid as per terms and conditions of RGU.

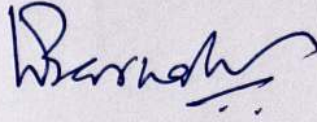

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The members of the BOS approved the changes as requested on recommendation of the Chairperson of the BOS.

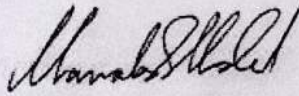
The meeting concluded with a Vote of thanks from Dr. Kalita.

Members present with signatures:


1. Prof.(Dr) K.K Baruah



2. Prof. Manabendra Mandal



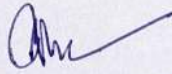
3. Dr. Ranjan Dutta Kalita



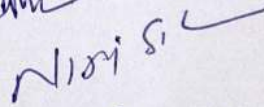
4. Dr. Stithiporna. Dutta



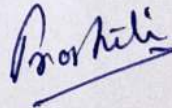
5. Dr. Birson Ingti



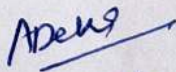
6. Dr Neeraj Singh



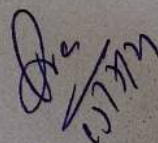
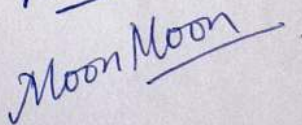
7. Ms. Prostuti Chakraborty


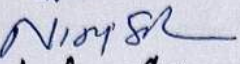
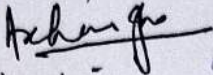
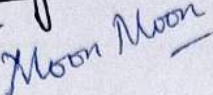


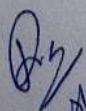
8. Dr. Aniruddha Deka



9. Ms Moon Moon Ahmed



5. Dr. Birson Ingti 
6. Dr Neeraj Singh 
7. Dr. Archana Ojha 
8. Ms Moon Moon Ahmed 


20/2/24

The Assam Royal Global University
4th meeting of the Board of Studies (BoS),
Royal School of Biosciences
27th May, 2022

Time: 11 AM

Mode of Conduct: Offline

Place: Board Room, Office of the Chairperson Academic, D block

Members of the BoS, RSBSC

1. Prof. Anupam Chatterjee, Dean, RSBSC- Chairperson
2. Prof Manabendra Mandal, Professor, Dept of Biotechnology, Tezpur University- External Academic Expert
3. Prof Donkumar Syiem, Professor, Dept of Biochemistry, NEHU- External Academic Expert
4. Mr S K Nath, SRD Industries, Mangaldoi- Industry Expert
5. Dr. Ranjan Dutta Kalita, Associate Professor & School Coordinator, RSBSC- Member
6. Dr. Sthitiporna Dutta, Assistant Professor & Coordinator, Dept of Biochemistry- Member
7. Dr. Niraj Singh, Assistant Professor & Coordinator, Dept of Microbiology
8. Ms. Moon Moon Ahmed, Registrar's Nominee

Agenda of the Meeting

1. Review of the changes in the course structure of the departments under RSBSC.
2. Inclusion of NEP-2020 in the course structure of UG programme

Minutes of the Meeting

1. The Chairperson, BoS, RSBSC, welcomed all the members

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27/5/22

Head of Department
Department of Biotechnology
Royal School of Biosciences
Assam Royal Global University
Ghy-35, H-37, Assam

2. The chairperson informed that some of the papers of the PG courses were modified. For the UG courses major changes of the syllabus were incorporated.

3. The school coordinator RSBSC informed that various modifications in the syllabus of the ongoing PG and UG programmes were carried out. For the Food Technology dept, 3rd and 4th sem syllabus o UG programme were discussed for the first time for the ongoing first batch of students. It was also informed that modifications with respect to the NEP will also be undertaken.

4. The changes made were briefed by the HoD, Dept of Biotechnology and Coordinators of the Dept of Food Technology, Biochemistry and Microbiology. The decision of the Department BoS were discussed.

5. The changes made in the syllabus of the Department of Biotechnology were discussed.

6. In genetics- BTC154C102, PG 1s sem, certain topics from the modules were swapped within each other. The present 4th module consisting of cytogenetics and developmental cytogenetics were removed and component on human genetics were incorporated.

7. Inmicrobiology- BTC154C103, PG 1st sem, the external academic expert informed to include taxonomy of viruses and removal of second paragraph of Module 4. He informed that the second para may be shifted to the paper on Bioprocess Technology.

8. In the practical paper I- BTC154C114, the practicals 1,2 & 3 in Module III has been removed and the following practicals were included.

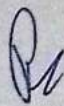
- i. Study of metaphase chromosome from mouse bone marrow/ root tip
- ii. Study of meiosis from grasshopper testis
- iii. Preparation of humnkaryotype from well spread metaphase photograph.

9. In molecular biology- BTC154C203, the part on replication in prokaryotes and eukaryotes in module I has been shifted to module II. Component on human genome project has been incorporated. In module III certain omissions have beenmade and new additions incorporated. The part on mutation and transposition in module IV is omitted and regulation of gene expression incorporated.

10. In practical II-module I, study of permanent slides has been removed. In module III, study of dye binding proprties using different proteins and preparation of competent cells has been removed. In module IV, ligation of foreig DNA into cloning/ expression vector and RFLP analysis of PCR product is removed whereas genomic DNA isolation from animal cells, extraction of RNA has been added.

Head of Department
Department of Biotechnology
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The Assam Royal Government
Dibrugarh, Assam, India

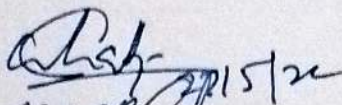
11. In genomics and proteomics- BTC154D201, omissions were made in the 1st module and 2nd module. Functional genomics, DNA microarrays, functional analysis by gene knockouts, details of qPCR and its applications, genome sequencing, NGS were added.
12. In Animal Biotechnology- BTC14C301, minor changes were made in the 1st three modules by omitting various topics. New components on basic techniques of mammalian cell culture, vaccine production, molecular forensics, gene therapy, targeted gene replacement were added. The 4th module on cancer biology was completely removed as it is already studied and reproductive biology and its related topic were introduced.
13. The external expert added bioenergy and renewable energy in Environmental Biotechnology- BTC154D301.
14. The external also suggested addition of chemostat and mass transfer in bioprocess technology-BTC154D302.
15. In immunology-BTC154D401, antibody diversity, somatic hypermutation and class switching, vaccines-history development, types and process of preparation were added to the existing syllabus without any omission of the rest of the syllabus.
16. In genetic engineering-BTC154C402, the 4th module on PCR and its application and sequencing methods were omitted and study on gene regulation, DNA transfection, reporter assay, targeted gene replacement was incorporated.
17. In the practical paper-BTC154C413, practicals on preparation of antigen, immunization, preservation of IgG from serum, immunofluorescence test, immunoperoxidase test, isolation of lymphoid cells from mouse spleen were omitted. RBC/WBC counting using haemocytometer, estimation of haemoglobin, blood grouping, identification of leucocytes using Giemsa stain were added.
18. The Coordinator, Biochemistry explained the changes suggested in the department BoS, on 26th May, 2022 including changes in the components of the syllabus and credits. The external agreed to the changes.
19. The coordinator, microbiology explained the changes made in the department BoS on 26th, May, 2022. The external agreed to the changes.
20. The coordinator for Food tech also informed of the incorporation of new syllabus for the 5th and 6th sem approved in dept Bos. The external expert agreed upon the same.


Head of Department
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Juch, Ghy-35, NH-37, Assam

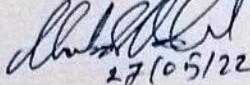
The meeting ended with a Vote of Thanks from the School Coordinator, R5B5C.

Members Present:

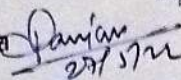
1. Prof. Anupam Chatterjee



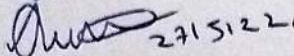
2. Prof Manabendra Mandal


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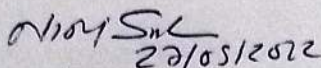
3. Dr. Ranjan Dutta Kalita


27/5/22

4. Dr. Sthitiporna Dutta


27/5/22

5. Dr. Niraj Singh


27/05/2022

6. Ms. Moon Moon Ahmed



Head of Department
Department of Biotechnology
Royal School of Biosciences
The Assam Royal Global University
Peitkuchi, Ghy-35 NH-37, Assam

The Assam Royal Global University
5th meeting of the Board of Studies (BoS),
Royal School of Biosciences
23rd December, 2022

Time: 11 AM

Mode of Conduct: Offline

Place: Board Room, Office of the Chairperson Academic, D block, RGU

Members of the BoS, RSBSC


1. Prof. Anupam Chatterjee, Dean, RSBSC- Chairperson
2. Prof. Manabendra Mandal, Professor, Dept of Biotechnology, Tezpur University- External Academic Expert
3. Mr. S K Nath, SRD Industries, Mangaldoi- Industry Expert
4. Dr. Ranjan Dutta Kalita, Associate Professor, HoD of Biotechnology & School Coordinator, RSBSC- Member
5. Dr. Sthitiporna Dutta, Assistant Professor & Coordinator, Dept of Biochemistry- Member
6. Dr. Niraj Singh, Assistant Professor & Coordinator, Dept of Microbiology
7. Dr. Debajit Borah, Associate Prof, Dept of Biotechnology
8. Dr. Birson Ingti, Asst Professor, Dept of Microbiology
9. Dr. Tarangga Jyoti Baruah, Assistant Professor, Dept of Biochemistry
10. Dr. Anushree Baruah, Coordinator, Dept of Botany & VC Nominee
11. Ms. Moitreyee Goswami, Asst Professor, Dept of Food Technology:
12. Ms. Moon Moon Ahmed, Registrar's Nominee

Agenda of the Meeting

1. Review of the changes in the course structure of the departments under RSBSC.
2. Inclusion of NEP-2020 in the course structure of UG programme.

Minutes of the Meeting

1. The chairperson welcomed all the members of the meeting and explained the agenda items to the external expert.


23/12/22
Head of Department
Department of Biotechnology
Royal School of Biosciences
The Assam Royal Global University
Jaitkuchi, Ghy-35, NH-37, Assam

2. The chairperson then requested the coordinator of the Dept of Biochemistry, Dr Sthiti Porna Dutta, to present the changes suggested in the Dept BOS and requested the external expert for his views.

3. Dr. Sthiti Porna Dutta presented the BSc syllabus that was prepared 'In Line' with NEP 2020.

4. The external expert; Prof Mandal; enquired about the lack of Theory papers to go along with the Skill Enhancement Course (SEC) papers of 'Biochemical Assessment of Food' and 'Food Adulteration'.

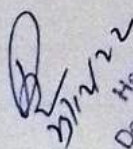
5. Dr. Sthiti Porna Dutta informed the expert that the basic biomolecules present in food have been covered in the different theory papers in the two semesters. Also the expert was informed that the SEC papers were initially meant to be a combination of both theory and practicals. But they have been currently made into practical alone papers following the norms of the university.

6. The external enquired about whether the paper "Bioanalytical Technique" is a core or optional paper to which Dr. Sthiti Porna Dutta informed him that it was a Department Specific Elective paper.

7. The external enquired if the topics of Handwriting analysis and Softwares involved in forensics analysis were included in the syllabus of the paper "Biochemical Applications in Forensics". Dr. Sthiti Porna Dutta informed the external that both the topics have been covered in the syllabus.

8. The Dean of RSBSC; Prof Chatterjee; raised query regarding the names of the practical papers as they should be named as 'Practical I/II/III/IV' instead of the current format. Dr. Sthiti Porna Dutta informed the Dean that the names of the practical papers have been given as per Examination section norms.

9. The Dean asked Dr. Sthiti Porna Dutta to carry out changes in the paper 'Gene Organisation, Replication and Repair'. He suggested that the Units II and III should be modified. In Unit II, he suggested that the topic of Replication be made more concise along with the addition of the topic of Transcription along with the discussion of the


2/12/22

Head of Department
Department of Biochemistry
Royal School of Biosciences
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differences between these two processes in prokaryotes and eukaryotes. For Unit III, he suggested the removal of the current topic 'Mutation and Regulation of Gene Expression' and replace it with the topics of 'Genetic code, Translation and a basic introduction to regulation of gene expression'. He suggested adding the topic of Mutation and with DNA Repair in Unit IV.

10. The Chairperson, now requested the HoD of Biotechnology, Dr. Ranjan Dutta Kalita, to present the changes, suggested during the department BoS.

11. Dr. R D Kalita, informed the changes regarding the inclusion of Programme Outcomes and Course Outcomes and the modification of syllabus as advised in the Dept BoS.

12. Dr. Mandal, the external expert, suggested that the terminology of the practical components under the SEC paper on Biocompost and its Applications, in BSc 1st semester, may be changed.

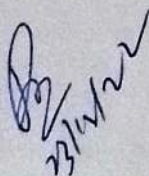
13. Dr. Mandal asked to incorporate the Carbon and Nitrogen cycle in the syllabus of the Microbiology paper to be taught in the BSc 2nd semester.

14. The advice of the expert was requested in changing the paper on Medicinal plants, conservation and its applications, taught as a DSE paper in PG 4th sem. The expert suggested to keep the paper as AYUSH is laying stress on medicinal plants.

15. The external expert suggested the inclusion of ramachandran plot, glycogenolysis, bisubstrate reactions, types and vitamins.

16. In the Practical I paper (BTC154C114) for first semester, validation of Henderson-Hasselbach equation, estimation of protein by biuret method, detection of amino acid by paper chromatography, metaphase chromosome from mouse bone marrow etc were removed.

17. In Practical III, practicals on Anther and embryo culture, demonstration of process and techniques of animal cell culture, induced ovulation in mouse/rats etc were removed


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Dr. Ranjan Dutta Kalita
The Assam Royal Global University
Berkuchi, Ghy-35, NH-37, Assam

18. In Practical IV, the experiment on Colony hybridization for screening of libraries using probe is removed. In DSE 6- IPR, Biosafety, Bioethics and Research Methodology (BTC154D401) the component on patent writing and Institutional Biosafety/Ethical committees to be included.

19. The UG syllabus for the session 2022-23 was approved as per the corrections of the external expert in the Dept BOS meeting held on 21/12/2023. However in the SEC papers the names of the practical were suggested to be modified.

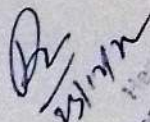
20. The Coordinator, Dept of Microbiology outlined the syllabus of the UG and PG courses. The external expert Prof. M. Mandal and Dean RSBSC suggested some modifications in Practical Papers I, II, III & IV in the BSc Microbiology course. Minor modification were also recommended in the cell biology and molecular biology papers of the B.Sc. course while in case of M.Sc. Microbiology biology, a few suggestions were given regarding course outcome.

21. All suggestion given by external expert and BOS member has been incorporated into the syllabus of the B.Sc. and M.Sc. microbiology course.

22. The course outlines for the Dept of Food Technology were deliberated upon by Ms Moitreyee Goswami. The external expert inquired about the course structure including VAC and SEC courses. The external expert also inquired about the DSE papers in UG 3rd and 4th semesters. The expert also suggested to incorporate the corrections in core paper inclusions. The expert also suggested inclusion of internship in the 3rd semester.

23. The Dean RSBSC thanked the external expert for his visit and valuable suggestions. He also asked the HoD's and the Coordinators to incorporate the suggestions and modify the syllabus accordingly.


24. The meeting ended with a Vote of Thanks from the HoD, Biotechnology.


21/12/23
Head of Department,
Department of Biotechnology,
Royal School of Biosciences,
The Assam Royal Global University
Beikuchi, Ghy-35, NH-37, Assam

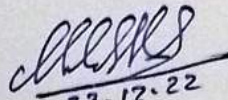
The meeting was concluded with a vote of thanks from the Coordinator, Dept of Biochemistry.

Signature of members present

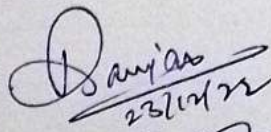
1. Prof Anupam Chatterjee, Chairperson, BOS, RSBSC:


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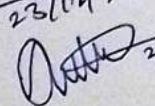
2. Prof Manabendra Mandal, External Expert:


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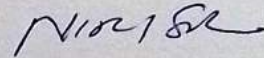
3. Dr. Ranjan Dutta Kalita, HoD, Dept of Biotechnology:


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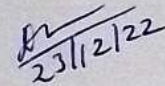
4. Dr. Sthitiporna Dutta, Coordinator, Dept of Biochemistry:


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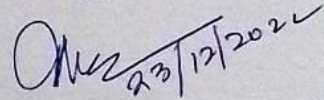
5. Dr. Niraj Singh, Coordinator, Dept of Microbiology:



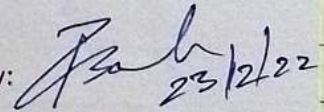
6. Dr. Debajit Borah, Associate Prof, Dept of Biotechnology:


23/12/22

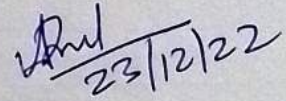
7. Dr. Birson Ingti, Asst Professor, Dept of Microbiology:


23/12/2022

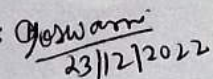
8. Dr. Tarangga Jyoti Baruah, Assistant Professor, Dept of Biochemistry:

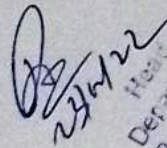

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9. Dr. Anushree Baruah, Coordinator, Dept of Botany & VC Nominee:


23/12/22

10. Ms. Moitreyee Goswami, Asst Professor, Dept of Food Technology:


23/12/2022


23/12/22
Head of Department
Department of Biochemistry
Rajal Saha Institute of Biotechnology
The Assam Royal Global University
Beikuchi, Ghy-35, NH-37, Assam

The Assam Royal Global University
6th meeting of the Board of Studies (BoS),
Royal School of Biosciences (RSBSC)
20th April, 2023

Time: 11 AM

Mode of Conduct: ONLINE

APP USED: ZOOM and GOOGLE MEET

Link Details:

Zoom: <https://us05web.zoom.us/j/3943889576?pwd=L2taMHFWa2paVVVUb1lWYmtQbVhDUT09>, Meeting ID: 394 388 9576, Passcode: 339085

Google Meet: <https://meet.google.com/doo-lsow-pns>

Members of the BoS, RSBSC

1. Prof. Anupam Chatterjee, Dean, RSBSC- Chairperson
2. Prof. Manabendra Mandal, Professor, Dept of Biotechnology, Tezpur University- External Academic Expert
3. Prof. Sankar Chandra Deka, Professor, Department of Food Engineering Technology, Tezpur University- External Academic Expert
4. Mr. S K Nath, SRD Industries, Mangaldoi-External Industry Expert
5. Dr. Ranjan Dutta Kalita, Associate Professor & HoD, Dept of Biotechnology, RGU - Member
6. Prof Pranati Das, Professor & HoD, Dept of Food Technology-, RGU- Member
7. Dr. Tarangajyoti Baruah, Assistant Professor & Coordinator (I/c), Dept of Biochemistry- Member
8. Dr. Niraj Singh, Assistant Professor & Coordinator, Dept of Microbiology- Member
9. Dr. Debajit Borah, Associate Prof, Dept of Biotechnology-Member
10. Dr. Birson Ingti, Asst Professor, Dept of Microbiology-Member
11. Dr. Amlan Das, Associate Professor, Dept of Biochemistry-Member
12. Dr. Anushree Baruah, Coordinator, Dept of Botany & VC Nominee-Member
13. Dr. Sujata Deb, Associate Prof, Dept of Physics & VC Nominee- Member
14. Ms. Moitreyee Goswami, Asst Professor, Dept of Food Technology-Member
15. Ms. Moon Moon Ahmed, Registrar's Nominee

Agenda of the Meeting

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20/4/23

Head of Department
Department of Biotechnology
Royal School of Biosciences
The Assam Royal Global University
Dekhuchi, Ghy-35, NH-37, Assam

1. Review of the changes in the course structure of the departments under RSBSC.

Minutes of the Meeting

1. The chairperson welcomed all the members of the meeting and explained the agenda items to the external expert.

2. The Chairperson requested the HoD, Dept of Food Technology to present the syllabus after being discussed in the Dept BoS. Prof Pranati Das, HoD, Dept of Food Technology then informed the external about the introduction of M.Sc. Food Technology Programme and the draft of the new syllabus for the M.Sc. Course. She also presented the B.Sc. Syllabus to the external. The external's comments are as follows

A. The course structure and course content of both UG and PG programme of the Department of Food Technology were found to be adequate and acceptable. The syllabus has also taken care of the courses under AECC, AECC, SEC, DSE categories.

B. Under UG programme, more of industry visit is suggested.

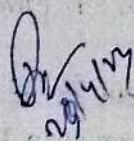
C. Under PG programme, more emphasis to research component was suggested

3. The chairperson then requested the coordinator of the Dept of Biochemistry, Dr Taranga Jyoti Baruah, to present the changes suggested in the Dept BOS and requested the external expert for his views.

4. Dr. Taranga Jyoti Baruah presented the syllabus of the 5th and 6th semester of the B.Sc. Biochemistry syllabus prepared in line with NEP 2020.

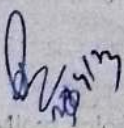
5. Dean, RSBSC, recommended the addition of the topics 'Mutagens and the different types of mutagens; Concepts of gene expression in prokaryotes and eukaryotes; inducible operons-Lac operon and repressible operon- Trp operon' to Module 3 of the core paper "Gene Organisation, Replication and Repair" in the 5th semester. The external expert recommended the same.

6. The external expert recommended minor correction in the naming of Experiment number 1 of Module II in the practical paper for 5th semester.


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7. The external expert recommended the addition of the topic 'pathway databases like KEGG database' to module I of the paper "Bioinformatics and Biostatistics" in the 5th semester.
8. The external expert recommended the addition of the topic 'anti-nutrients' to the paper "Nutritional Biochemistry" in the 5th semester.
9. The Dean and the external expert recommended the addition of the topic 'Life style induced cancers like oral esophageal cancer and the underlying genes associated with those cancers' in the paper "Genes and Diseases" in the 5th semester.
10. The swapping of the core paper "Concept of Genetics" from the 5th semester to the 4th semester and the core paper "Gene Organisation Replication and Repair" from the 4th semester to the 5th semester was recommended in the departmental BOS, and ~~was put up for approval in the School level BOS.~~ The external expert ^{& The Dean} agreed to the requirement of the swapping of the above mentioned papers. The external expert also agreed with the swapping of the Practical papers associated with the two Core theory papers.
11. The external expert recommended shifting of the topic 'Vaccines' to another Module in the core paper "Immunology" of the 6th semester.
12. The Dean and the external expert recommended the shifting of the paper "Genetic Engineering and Biotechnology" from the 6th semester to the 5th semester as it would better match with the Practical paper of the 5th semester and one of the DSE papers from the 5th semester to the 6th semester.
13. Dr. Niraj Singh, Coordinator, Dept of Microbiology presented the syllabus in front of the external academic expert.
14. The external ^a suggested addition of synthetic biology in the genetic engineering paper.
15. Shuffling of practical paper contents in 5TH-semester practical paper-V.
16. Addition of an antibiotic sensitivity test practical in the SEC paper of 6th semester.


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17. Addition of food preservation technology topic in food microbiology DSE paper.

18. A major modification suggested in the IPR and Biostatistics DSE paper of 6th semester, Prof. M. Mandal has suggested changing the subject name of the DSE paper IPR and Biostatistics, Proposed name is IPR and Bioethics, he also suggested modifying the syllabus content according to the subject title for IPR and Bioethics paper.

19. The Dean, RSBSC, asked Dr. Ranjan Dutta Kalita, HoD, Biotechnology to put forward the discussion about the department BoS. Dr. Kalita, put forwarded the highlights of the department BoS. The external expert put forward the following suggestions

A. The expert suggested to change the heading of the module IV of Plant and Animal Biotechnology, BTC152C501 from "Animal Health Biotechnology" to "Health Biotechnology".

B. The external asked if radioactive isotopes present in module IV of Instrumentation and Techniques, BTC152D501 is relevant as the techniques are obsolete. However it was discussed and stressed that the topic may be kept as it is important for the students to learn about the same.

C. The external suggested to include "Strain improvement of efficient microbes" in Fermentation Technology, BTC152D502. However it was informed that the same is being taught in the module I of the paper.

D. In the Genetic Engineering paper (BTC152C601) of UG 6th sem, the external proposed to include Sanger sequencing and High throughput sequencing in module IV under sequencing methods.

E. The external also proposed to modify the heading in module II of "Research Methodology and IPR", BTC152D603 from "Publication ethics" to "Research Ethics".

F. A discussion on the name of the "Human and Animal Physiology" paper, BTC152D604 was discussed to which the Dean, RSBSC suggested to rename the paper as "Human Physiology"



20/4/23

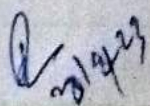
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The Assam Royal Global University
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G. In the "Clinical Biochemistry" paper, BTC1525411, the external expert suggested to remove practical 1 from module IV- "Estimation of cholesterol in blood" to "Estimation of lipid profile". He also asked to include "Estimation of Haemoglobin in blood" and "Kidney Profile Test".

20. The meeting ended with a Vote of Thanks from the Chairperson, RSBSC.

Signatures of the members present

Sl No	Name	Signature
1	Prof. Anupam Chatterjee	
2	Prof. Manabendra Mandal	
3	Prof. Sankar Deka	
4	Mr. S. K. Nath	
5	Prof Pranati Das	
6	Dr. Ranjan Dutta Kalita	
7	Dr. Niraj Singh	
8	Dr. Taranga Jyoti Baruah	
9	Dr. Debajit Borah	
10	Dr. Amlan Das	
11	Dr. Birson Ingti	
12	Dr. Moitreyee Goswami	
13	Dr. Anushree Baruah	
14	Dr. Sujata Deb	
15	Ms. Moon Moon Ahmed	

 20/4/23

Head of Department
 Department of Biochemistry
 Royal Society of Education
 The Assam Royal Society University
 Etawah, Ghy-35, NH-37, Assam