



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 Life Sciences


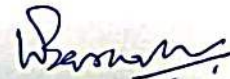




Botany
Zoology

**MINUTES OF THE MEETING
OF
BOARD OF STUDIES**

09/05/2019

DEPARTMENT OF BOTANY, RSLSC

NAME AND SIGNATURE OF THE MEMBERS PRESENT

NAMES	SIGNATURE
1. PROF. D.K. JHA, PROFESSOR IN THE DEPARTMENT OF BOTANY, GAUHATI UNIVERSITY (External Academic Expert)	
2. PROF. K.K. BARUAH DEAN, Royal School of Life Sciences & Bio Sciences Chairperson (Ex-Officio)	
3. DR. BIDISHA SHARMA DEPARTMENT OF BOTANY, RGU VC Nominee	
4. PROF. MINA RAM NATH, DEPARTMENT OF BOTANY, RGU Member (Ex-Officio)	
5. DR. SUSHMITA DEY, DEPARTMENT OF ZOOLOGY, COORDINATOR, RSLC Member (Ex-Officio)	
6. DR. MONALISA BORA DEKA ASST. REGISTRAR (ACADEMIC) Registrar Nominee (Ex-Officio)	

AGENDA OF THE MEETING:

1. The programme structure of the syllabus, credit point distribution, Lecture, Theory and Practical class ratio of both P.G. & U.G.
2. Evaluation of the course objectives and expected outcomes
3. Assessment of the course content
4. List of reference Books and text Books paper wise.

A meeting of Board of Studies under School of Bio Sciences was held on 09/05/2019 in order to discuss the new syllabus prepared for the Department of Botany for the session 2019 onward. The committee has gone through the syllabus prepared for the purpose and the same was submitted and a power point presentation was also given in front of BOS members. After a threadbare discussion on the modification of syllabus the following modifications has been suggested for both P.G. and U.G. courses which is mentioned as follows-

I. SUGGESTIONS FOR P.G. COURSE:

1. The **Plant Pathology** course should be shifted from Department Specific Course of SEM-II BOT144D202 and should be incorporated as Core course in SEM-II in the paper BOT144C202.
2. In the paper BOT144C203 should be Plant Physiology instead of Introductory Plant Physiology.
3. In place of Plant Pathology paper BOT144D 202 a new paper **Genomics and Proteomics** should be incorporated as DSE paper.
4. In the 3rd semester, **Plant Taxonomy** is incorporated as Core course paper BOT144C301 in place of **Plant Growth and Metabolism** which has been incorporated in paper BOT144C303 and now renamed as **Plant Growth and Development**.
5. Further, in the same semester, the paper BOT144D302 **Advance Microbiology** has been merged with the paper BOT144C401 in 4th sem and renamed as **Microbes and Microbial Technology**. The vacancy arises due to removal of the paper **Molecular Biology** is newly incorporated in paper BOT144D302.
6. The paper BOT144D303 **virology and immunology** is also merged with paper BOT144C401 in 4th sem and in its place **Bioinformatics and Computer Application** was newly incorporated
7. Two new papers are included as DSE papers **BOT144D304 Palcobotany and Palynology** and **BOT144D305 Tools and Techniques in Plant Sciences and Biostatistics**.
8. In the 4th Semester, **BOT144C401 Microbes and Microbial Technology** was incorporated instead of **Plant Taxonomy** which is shifted to BOT144C301 and **Plant Biochemistry and Metabolism** has been introduced **BOT144C402** instead of **Advanced Morphology and Economic Botany** which has now been made paper BOT144D402.
9. In 4th sem, the DSE papers has been included in such a manner that the students will get an opportunity to choose papers based on their project works along with DSE papers to be carried out by the students. These papers are- i) **BOT144D401 Advanced Morphology and Economic Botany**, ii) **sBOT144D402 Topics in Microbiology and Plant Disease Control**, iii) **BOT144D403 Advances in Plant Systematics**, iv) **BOT144D404 Industrial Application in Plant Sciences**, and v) **BOT144D405 Topics in Plant Physiology**.
10. The committee suggested incorporation of new books by foreign authors as text books as well as reference books.

II. SUGGESTIONS FOR U.G. SYLLABUS:

1. The committee suggested to reduce the course content to fit the semester system and necessary omission has been made as per UGC model syllabus with 20% changes.
2. The lecture hours/week should be reduced to 03 hours.
3. Care should be taken not to repeat the course content in U.G. and P.G.
4. In new syllabus incorporation of the number of Books
5. Name of the paper Phyto pathology should be removed and in its place Plant pathology
6. The nomenclature of Theory and Practical paper should be same

Minutes of the meeting for Board of Studies (BOS) - Department of Zoology, School of Life Sciences, Assam, Royal Global University.

Minutes of the Meeting

A meeting for the Board of Studies (BOS) with regards to the compilation of syllabus for the 3rd and 4th semesters as well as changes with regards to the syllabus of 1st and 2nd semesters for the Department of Zoology was held on the 9th of May, 2019. The compilation as well as the changes in question was applicable to the syllabus of both undergraduate and post graduate batches.

The meeting was chaired by Prof. Dr K.K.Barua (Dean, School of Life Science, RGU), Dr. Amallesh Dutta (Retd. Professor, Department of Zoology, Gauhati University), Dr. D.K.Jha (Professor, Department of Botany, Gauhati University).

The following issues were discussed in the meeting:

- 1) The programme structure of the overall syllabus. It included the total credit point and distribution of credit points over lectures, tutorials and practical classes.
- 2) A detailed evaluation of the course objective as well as the expected outcome for each paper was made.
- 3) The overall course content was assessed and discussed. The syllabus was found to be balanced one which catered to the requirement of the students.
- 4) Text books and references mentioned in the syllabus were also seen and discussed by the board and they were found to be satisfactory.

After careful evaluation by the board, a few changes were suggested which are as follows –

- 1) A few portions were incorporated in the PG 2nd semester paper 3 (ZOO 144C203), Environmental Physiology. In the 3rd module of the paper the following topics were added-
 - Effects of pollutant in aquatic habitat
 - Oxidative stress tolerance- free radicals: ROS and SOS.

On previous discussion with the Academic Chairperson, certain changes were made in the programme structure which was placed in the Board of Studies and was duly approved. The changes were as follows-

- 1) PG 1st and 2nd semesters: Two new Papers (Immunology in 1st semester and Computational Biology, Biostatistics and Bioinformatics in the 2nd semester), one in each semester was introduced in lieu of the single practical paper in each semesters. The subject code for the paper Immunology is ZOO144C104 and Computational Biology, Biostatistics and Bioinformatics is ZOO144C204
- 2) The practicals of the respective subjects were clubbed with their theory papers in the PG courses.

5

2nd Meeting of the Board of Studies

19.05.2020

AGENDA

- 1) Discussion of the programme structure of the overall syllabus which will include the total credit point and distribution of credit points over lectures, tutorials and practical classes.
- 2) A detailed evaluation of the course objective as well as the expected outcome for each paper .
- 3) Assesment and discussion of the overall course content .
- 4) Discussion on text books and references mentioned in the syllabus .

**Structure and members nominated for
Board of Studies for RSLSC, RGU**

1. Royal School of Life Sciences

Sl. No.	Name	Designation	Status
A. Chairperson (ex - officio)			
01	Prof. (Dr.) K.K. Baruah	Dean of School	01/11/2018
B. Members (ex-officio)			
02	Ms. Angira Mimani or her nominee	Registrar or his/her nominee (member-secretary)	Dr. Monalisa Deka
03	Dr. Susmita Dey (Coordinator, RSLSC)	All Heads of Departments	01/11/2018
04	Prof. (Dr.) Mina Ram Nath	All Professors	
C. One External Academic Expert for each department (nominated by BoM)			
05	Prof. D. K. Jha (Botany)	Professor (Botany) and Coordinator (Microbiology), Dept. of Botany, Gauhati University.	30/10/2018-Received & Accepted
	Prof. Amalesh Dutta (Zoology)	.Retd. Professor, Deptt. Of Zoology, G.U.)	30/10/2018 - Received & Accepted
D. One External Industry/Practice Expert for each department (nominated by BoM)			
06	Dr. Siddhartha Proteem Saikia (Botany)	Sr. Scientist, Plant Physiology, Deptt. of Medicinal & Aromatic Plants Division. CSIR-NEIST, Jorhat, Assam	02/11/2018 - Received & Accepted
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7

Department of Zoology, The Assam Royal Global University

Minutes of the BoS meeting

Date-15th July 2021

Time-2.30 pm

1. Leave of absence of industry expert- Dr Sudutta Banerjee, Head, Food Processing Unit, ITC, Bangalore was informed to all esteem members and her leave is duly accepted.
2. Zoology syllabus has been sent to three subject experts (Prof Saibal Sengupta ,Prof A.Dutta Prof Ratul Rajkhowa) and all expert comments has been received.
3. Following changes has been made in the BSc Syllabus-
 - 2nd Sem- Change in Paper name- From Chordata II to Comparative Anatomy. Syllabus remains same
 - The Cell Biology paper has been revised- 5% (old and new)
 - The syllabus is at per the requirements of New Education Policy i.e. with multiple exit options, viz. Certificate (after completion of 1 year), Diploma (after completion of 2 years) and Bachelor's degree (after 3 year programme).
 - In the 3rd Sem, 'Biochemistry of Metabolic Processes' syllabus is revised- 20%
 - In the 5th Sem, Biotechnology syllabus is revised- 20%
 - In the 5th Sem, 20% syllabus of Genetics and Genomics (Code: ZOO142C502) paper shall be offered as a MOOC course from Swayam https://onlinecourses.nptel.ac.in/noc21_bt39/preview and accordingly the syllabus is modified - 20%
4. It was pointed by esteemed member, Prof. K. K. Baruah sir that as per the decision of University Committee on MOOC's, a faculty has to be deputed to help students who are opting for MOOC courses as they might find some parts difficult and faculty can guide them accordingly.
5. Ms Dipanneeta Dasgupta is assigned with the responsibility since she is the concerned teacher of the subject.
6. Dr Anirudhha Deka, member deputed by Registrar, RGU further added that the concerned faculty should register the course himself/ herself so that he/she can keep a track on assignments and can motivate students on timely submission
7. Following changes has been made in MSc Syllabus
 - No change in the Programme Structure and credits which is as per RGU format
 - In the 1st Sem, DSE paper Fish Biology is replaced by Parasitology of 4th Semester. The Fish Biology paper is included in the Special Paper of 3rd Semester.
 - In the 1st Sem Molecular Cell biology is revised- 5%
 - In the 2nd Sem, the name of the paper is changed from Computational Biology, Biostatistics and Bioinformatics to Biostatistics and Bioinformatics and syllabus is revised- 20%
 - Three specialization are introduced from this year, namely- Fish Biology and Fishery Science, Ecology and Wildlife Biology and Entomology each having 4 theory and two practicals distributed in 3rd and 4th Semester.
 - In the 3rd Sem, one Special Paper theory and one special paper practical from each specialization are introduced.
 - Out of 3 DSE paper, Chronobiology paper is replaced with a Theory Special Paper. Since Chronobiology was already a part of Animal Behaviour paper.

- Research Methodology syllabus is revised- 20%
 - In the 4th Sem, Core paper 'Biochemistry of Metabolic Processes' syllabus is revised- 20%
 - All the DSE papers are converted into Theory Special Paper's and the General Practical is converted into Special Paper Practical
 - For Specialization, there will be 4 theory paper and 2 practical paper along with the Dissertation distributed in the 3rd and 4th Sem
8. Prof D. K. Jha sir remarked that minor and major project in 3rd and 4th should be clubbed and students should submit **one project with 4th Semester exam**. The remark was duly accepted by the committee.
 9. Dr Aniruddha Deka pointed and remarked that as per RGU norms DSE credits should be 3 and should be changed accordingly
 10. It was further decided that corrected Syllabus and Programme structure should be mailed to Prof. D. K. Jha , Prof. K. K. Baruah and Dr Aniruddha Deka for final approval.
 11. All expert comments were shown to esteemed members in the meeting and it was duly accepted.

Members present-

1. Prof. D. K. Jha, Dept. of Botany, Guwahati University
2. Prof. K. K. Baruah, Dean, RSLSC, RGU
3. Prof. Mamta Adhikary, Dept of Zoology, RGU
4. Prof. Minaram Nath, Dept of Botany, RGU
5. Dr Aniruddha Deka, HoD i/c, Dept. of Computer Science and Engineering, RGU
6. Ms. Moon Moon Ahmed, Academic Section, RGU
7. Dr Susmita Dey, Coordinator, Dept of Zoology, RGU
8. Dr Anushree Baruah, Coordinator, Dept of Botany, RGU
9. Ms. N. Seema Devi, Dept of Botany, RGU
10. Dr Mitrajit Deb, Dept of Zoology, RGU

Baruah

Moon Moon

Dey

Baruah

Deb.

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4TH MEETING OF THE BOS
13.05.2022

AGENDA

May 22

- Revision of Syllabus
- Structure of certificate course with career based subject like sericulture, floriculture, vermiculture, timber and wood biology.
- Internship or industry based research project with credit in 1st or 2nd year.
- Students feedback on syllabus.

Special Invitee - Prof M.K. Chaudhury *MS* 13/05/22

**ROYAL SCHOOL OF LIFE SCIENCES
THE ASSAM ROYAL GLOBAL UNIVERSITY**

Sl. No.	Name & Profile of Members	Category of Nomination	Designation in the Body	Signature
1.	Prof. (Dr.) K.K. Baruah, Professor & Dean, RSLSC	Ex-Officio	Chairperson	<i>K.K. Baruah</i> 13.5.
2.	Registrar or his nominees, Ms. Moon Moon Ahmed	Ex-Officio	Member-secretary	<i>Moon Moon</i> 13/05/2022
3.	Dr. Susmita Dey, HoD- Zoology & Coordinator, RSLSC Dr. Anushree Baruah, Coordinator, Botany	Ex-Officio	Member	<i>Susmita Dey</i> <i>Anushree Baruah</i>
4.	Prof. (Dr.) Dandadhar Borah, Professor Prof. (Dr.) Mina Ram Nath, Professor	Ex-Officio	Member	<i>Dandadhar Borah</i> <i>Mina Ram Nath</i>
One External Member (Academic)				
5.	Prof. D. K. Jha. Professor (Botany) and Coordinator (Microbiology), Dept. of Botany, Gauhati University.	Nominated member	Member.	<i>D.K. Jha</i> 13/5/22
One External Member (Industry)				
6.	Dr. Saurav Dey, Scientist, Guwahati Biotech Park (Science technology, and Climate change GOI)	Nominated member (proposed)	Member	<i>Saurav Dey</i> 13/5/22
Two Teachers of the School nominated by Vice-Chancellor				
7.	Dr. Mitrajit Deb, Assistant Professor, Zoology	Nominated member	Member	<i>Mitrajit Deb</i>
8.	Dr. N. Seema Devi, Assistant Professor, Botany	Nominated member	Member	<i>N. Seema Devi</i>

Minutes of meeting of BoS for Department of Zoology 2022

AGENDA

1. Revision of Syllabus
2. Internship or industry-based research projects with credits in 1st or 2nd year
3. Mandatory submission of one research paper for completion of MSc Degree as instructed by higher authorities of the University

MINUTES

1. The meeting started with Dr Susmita Dey, Coordinator, RSLSC and HoD, Zoology welcoming all the invited and internal members and appraised the august gathering regarding the agenda of the BoS.
2. Dr Susmita Dey presented the PPT of BoS on behalf of Dept. of Zoology
3. Inclusion of internship should be included as mandatory curriculum and it should be approved in the BoS of the School where the external members will be present.
4. As per suggestion given by the higher authorities of RGU to mandatorily submit a research paper for completion of the degree of MSc, the matter should be presented in the BoS and should be approved by the BoS Board members.
5. The minor changes in the DSE paper, Aquatic Biology of BSc 5th semester and inclusion of DSE paper, Entomology from MSc 4th Sem in MSc 2nd Sem should be approved in the BoS of the School where the external members will be present.
6. Three specializations should be offered depending upon the availability of the faculty instead of fixing on two specializations.

Minutes of meeting of BoS for Department of BOTANY 2022

Date: 13/05/2022

AGENDA

1. Revision of Syllabus
2. Internship or industry-based research projects with credits in 1st or 2nd year ✓
3. Mandatory submission of one research paper for completion of MSc Degree as instructed by higher authorities of the University ✓

MINUTES

1. The meeting started with Dr Susmita Dey, Coordinator, RSLSC and HoD, Zoology welcoming all the invited and internal members and appraised the august gathering regarding the agenda of the BoS.
2. Dr Anushree Baruah presented the PPT of BoS on behalf of Dept. of Botany
3. The panel discussed about inclusion of Vocational courses in the curriculum which should be precise and articulate so that the students find it accommodable for jobs.
4. The vocational courses should be amalgamated with the 4-year course.
5. Inclusion of internship or industry-based research project in 1st and 2nd year (B. Sc) should be made mandatory from next academic session after approval from the external members present in the BOS.
6. The total internship duration may range from 6-7 weeks and may be divided into two parts, half of the duration in 1st year and the remaining half in 2nd year.
7. Before introducing any vocational or certificate courses, time frame management with the concerned industries has to be envisioned and worked out precisely.
8. Credit distribution for internship programme has to be identified precisely, credit may go up to a maximum of 6 and should be adjusted from theory papers and not from practical papers.
9. Introduction of three special papers but would be offered only two based on availability of faculty. Taxonomy can be introduced as special paper provisionally.
10. As per the expert comments, project works started by M. Sc. Students can be carried forward by research scholars.
11. Theory papers having techniques should be exposed to practical through industrial internship. A list of all potential industries with whom can be collaborated should be made.
12. In special cases, internship and project work can be clubbed together. Internship in M. Sc. Level also should be made mandatory.
13. BOS has cleared subject to inclusion of internship in both M. Sc and B. Sc level under the condition that the total credit per semester remain unchanged.
14. As per suggestion given by the higher authorities of RGU to mandatorily submit a research paper for completion of the degree of MSc, the matter should be presented in the BoS and should be approved by the BoS Board members. ✓

Minutes of meeting
Department Board of Studies of Botany
Royal School Of Life Sciences
The Assam Royal Global University

The meeting of the school word of RSLSC was held on 12th December 2022 at the BOG room of D block ground floor.

Members present

1. Professor Nikhil Kumar Chrungoo
2. Professor Dandadhar Borah
3. Professor Mina ram Nath
4. Dr Anushree Baruah
5. Dr Upasna Chettry
6. Dr Manalee Paul

External Member: Prof. Nilakshi Devi, Dept of Botany, Gauhati University

Leave of absence: Prof Bhaben Tanti, Dept of Botany, Gauhati University

1. The Coordinator of Botany welcomed the members of the meeting and introduced the external expert as well as the members.
2. The external expert reviewed the revisions and modifications of the syllabus of both UG and PG and suggested the following:
 - a) the repeated topics in Angiosperm Taxonomy of PG syllabus to be omitted.
 - b) Ethical Component to be introduced in PG course
 - c) IPR and Biopiracy to be included in in both UG & PG syllabus
 - d) case studies related to biodiversity conservations to be included in the paper "Biodiversity and Conservation paper"
 - e) websites and software's to be included in the taxoncmly subject in all the courses.
3. The Department board of Studies approved the syllabus with minor modifications and suggested the same to be submitted to School Board for further approval.
4. The meeting ended with remarks from all the members of the board at 3.30 pm.

**DEPARTMENT OF ZOOLOGY
ROYAL SCHOOL OF LIFE SCIENCES
THE ASSAM ROYAL GLOBAL UNIVERSITY**

DEPARTMENT BOARD OF STUDIES

Sl. No.	Name & Profile of Members	Designation in the Body	Signature
1.	Dr Mitrajit Deb, Coordinator and Assistant Professor, Department of Zoology	Chairperson	<i>Deb.</i> 19.12.2022
2.	Dr Utsab Singha, Assistant Professor, Department of Zoology	Member	<i>Dr Utsab Singha</i> 19/12/22
3.	Dr Dharmesh Barhoi, Assistant Professor, Department of Zoology	Member	<i>D. Barhoi</i> 19/12/22 Dr. D. Barhoi
4.	Ms. Sangeeta Biswas, Teaching Assistant, Department of Zoology	Member	<i>Sangeeta Biswas</i> 19/12/22
5.	Mr. Anurudha Chakraborty, Teaching Assistant, Department of Zoology	Member	<i>Anurudha</i> 19/12 Anurudha Chakraborty
6.	Ms. Annu Kumari, Teaching Assistant, Department of Zoology	Member	<i>Annu Kumari</i> 19/12/2022 Annu Kumari
External Members			
7.	Dr. Rezina Ahmed, Associate Professor, Department of Zoology, Cotton University.	Member	<i>Rezina Ahmed</i> 19.12.2022 Dr. Rezina Ahmed.
8.	Prof. Mamata Goswami, Retd. HoD, Department of Zoology, Cotton University.	Member	<i>M. Goswami</i> 19.12.22

(14)

1st MEETING OF THE ZOOLOGY DEPARTMENTAL BOS
19.12.2022

AGENDA

- Discussion on BSc and MSc Syllabus Programme Structure
- Discussion on Field based research project with credit in in BSc 3rd Semester.
- Any other miscellaneous.

MINUTES

1. The meeting started with Dr Mitrajit Deb, Coordinator- Zoology welcoming all the invited and internal members and appraised the august gathering regarding the agenda of the BoS.
2. The syllabus for BSc and MSc was discussed and following changes were recommended. The members pointed out that syllabus for B. Sc Zoology is well prepared. The content in the theory as well as practical was reviewed thoroughly and minor modification/changes were suggested. The syllabus is approved with subject to following changes provided as comments.

Comments: B. Sc syllabus (Zoology)

- I. In B. Sc practical, cytochemical staining of DNA by fuelgen method will be difficult for B, Sc first semester student. Therefore, it is suggested to omit this practical from B.Sc 1st semester.
 - II. In B. Sc 1st semester, practical on identification of some parasites from various can be included.
 - III. In B. Sc 2nd semester practical, "arterial, venous and urinogenital system of frog" is to be replaced with "Demonstration of arterial, venous and urinogenital system of toad". Similarly, "Brain of pigeon and flight muscle" is to be corrected as "Demonstration of brain and flight muscles of pigeon".
 - IV. In B. Sc, the immunology and developmental biology practical paper can improved by adding more immunology and developmental biology based practical's like, study of splenocytes from spleen, Histological identification of primary and secondary lymphoid organs, Preparations developmental stages of chick embryo in fertilized eggs upon incubation at different time periods like 24, 48, 72, 96 h etc.
3. The members also reviewed the syllabus for MSc in Zoology. The board noted that syllabus content is good; and it will help the student to clear the competitive exams. The syllabus for M. Sc zoology is approved following the changes given as comments-

Comments: M. Sc syllabus (Zoology)

- I. In M. Sc 2nd semester, the reproductive biology may be replaced with developmental biology paper with subject to few changes in the content.
- II. In Molecular Biology paper, following topics will be best suited in cell biology paper- Chromatin structure- Euchromatin and Heterochromatin- Constitutive and Facultative heterochromatin; Regulation of Chromatin Structure and Nucleosome Assembly, Organization of Chromosomes. Therefore, it is suggested to shift these contents to Cell Biology and to add ribozymes in molecular biology paper.
- III. In M. Sc 3rd semester practical, include some immunology based practical. Also, the department can incorporate paramecium culture in the practical syllabus.

- IV. In M. Sc 3rd semester, PCR experiment is to be corrected as Demonstration of PCR.
 - V. In M. Sc 3rd semester practical, Lowry's method is a well known method for protein estimation. Therefore, the department may omit the Bradford assay as lowry's method is sufficient enough for the said experiment.
 - VI. Add few more enzyme assays in M. Sc 3rd semester practical.
 - VII. In M. Sc 4th semester, few more immunology based practical may be included.
4. The Coordinator, Zoology ended the meeting with thanks and regards to external and internal BoS members.

Deb.
19.12.2022

Dr. Nitrajit Deb
Coordinator, Zoology
RSLSC, Zooto RGU

Memb.

16

ROYAL SCHOOL OF LIFE SCIENCES
THE ASSAM ROYAL GLOBAL UNIVERSITY
BOS held on 22.12.22

Sl. No.	Name & Profile of Members	Designation in the Body	Signature
1	Prof. (Dr.) Nikhil Kr Chrungoo, Professor & Dean	Chairperson	<i>Nikhil</i>
2	Registrar or his nominees (Ms Moon Moon Ahmed)	Member-secretary	<i>Moon/Moon</i> 22/12/2022
3	Dr. Susmita Dey, Coordinator, RSLSC Dr. Anushree ^{Borah} Borah, Coordinator, Botany	Member	<i>Dr. Dey</i> 22/12/22
4	Prof. (Dr.) Dandadhar Borah, Professor Prof. (Dr.) Mina Ram Nath, Professor	Member	<i>Dr. Dandadhar</i> 22/12/22
	One External Member(Academic)		
5	Prof. D. K. Jha ,Professor (Botany) and Coordinator (Microbiology), Dept. of Botany, Gauhati University.	Member	leave of absence.
	One External Member (Industry)		
6	Dr. Saurav Dey, Scientist, Guwahati Biotech Park (Science technology, and Climate change GOI)	Member	<i>Saurav</i> 22/12/22
	Two Teachers of the School nominated by Vice-Chancellor		
7	Dr. Mitrajit Deb, Assistant Professor, Zoology	Member	<i>Deb</i>
8	Ms. N. Seema Devi, Assistant Professor, Botany	Member	<i>Seema</i> 22/12/22

7. Members invited by Dean.

9. Dr. Utsab Singha

10. Dr. Dharmeshwar Barhoi

Dr. Utsab
22/12/22

Dr. Barhoi
22/12/22

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(17)

Minutes of meeting

School Board of Studies of Royal School Of Life Sciences

The Assam Royal Global University

The meeting of the school board of RSLSC was held on 22nd December 2022 at the BOG room of D block ground floor.

Members present

1. Professor Nikhil Kumar Chrungoo
2. Professor Dandadhar Borah
3. Professor Mina ram Nath
4. Dr Anushree Baruah
5. Dr N Seema Devi
6. Dr Mitrajit Deb
7. Dr Dharmesh Barhoi
8. Ms Moonmoon Ahmed

External Member: Dr Sourav Dey, Scientist, Guwahati Biotech Park, Guwahati

Leave of absence: Prof Dhruv Kr Jha, Dept of Botany, Gauhati University

1. The Chairman welcomed the members of the meeting and introduced the external expert as well as the members.
 2. The minutes of the meeting of the school BOS held on 13.05.2022 were read and confirmed with the revision of the point no 14 that "The mandatory submission of the research paper by the students of MSC" maybe discussed at the departmental level before completion.
 3. The coordinators of the departments of Botany and Zoology, presented the syllabi of both undergraduate and postgraduate courses of the respective departments with revisions and modifications discussed in the departmental Board of Studies for the School board to be approved.
 4. The school board approved the syllabus with minor modifications and suggested the same to be submitted to the University authorities for further approval.
 5. The meeting ended with remarks from the members of the board at 3.30 pm
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Minutes of the Departmental Board of Studies (D-BoS)

held on 18th April, 2023

MINUTES

1. The Departmental Board of Studies (D-BoS) meeting was addressed by Dr. Mitrajit Deb, Chairperson of the D-BoS body and the agenda of the meeting was read to the other members of the body.
2. In the meeting, the syllabus and programme structure of the B. Sc 5th and 6th semester was discussed in length. All the members including the external experts suggested minor changes in the UG 5th semester Aquatic Biology Paper. All the suggestions were duly noted.
3. The inclusion of a new special paper (Environmental Toxicology) in the M. Sc Zoology course is suggested from the department end. The syllabus was discussed thoroughly and some minor modifications in the syllabus were also suggested by the esteemed external experts. The suggestions were approved by the other members of body and duly noted.
4. The meeting was ended with vote of thanks from the chairperson of the body.

Minutes of meeting
Department Board of Studies of Botany
Royal School Of Life Sciences
The Assam Royal Global University

The meeting of the Dept of Botany, RSLSC was held on 18th April 2023 at the BOG room of D block ground floor.

Members present

1. Professor Nikhil Kumar Chrungoo
2. Professor Dandadhar Borah
3. Dr Anushree Baruah
4. Dr N Seema Devi
5. Dr Upasna Chettry
6. Dr Manalee Paul

External Member: Prof. Nilakshi Devi, Dept of Botany, Gauhati University


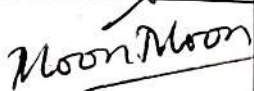

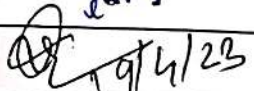
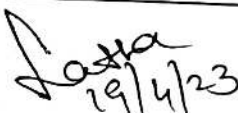
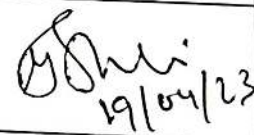



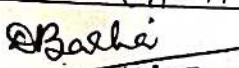
Prof Bhaben Tanti, Dept of Botany, Gauhati University

1. The Coordinator of Botany welcomed the members of the meeting and introduced the external expert as well as the members.
2. The Board reviewed the revisions and modifications of the syllabus of both UG (5th and 6th) and PG and suggested the following:
 - a) Cell and Molecular Biology paper in UG 3rd semester is to be shifted to UG 5th
 - b) Genetics and Plant Breeding of 5th semester is to be shifted to 3rd semester of BSC Botany.
3. Syllabus for Angiosperm Taxonomy – I and Angiosperm taxonomy – II are approved as proposed and forwarded to School BOS for further approval.
4. Plan of research of Ms. Rica Langstang and Ms. Himakshi Kalita are been approved and forwarded to school BOS for further approval.
5. List of External examiners for the upcoming practical exams (July 2023) are approved and forwarded to School BOS for further approval.
6. The Department Board of Studies approved the syllabus with minor modifications and suggested the same to be submitted to School Board for further approval.
7. The meeting ended with remarks from all the members of the board at 2.30 pm.

Prof Bhaben Tanti
18/4/23

20

ROYAL SCHOOL OF LIFE SCIENCES
THE ASSAM ROYAL GLOBAL UNIVERSITY
BOS held on 19.04.2023

Sl. No.	Name & Profile of Members	Designation in the Body	Signature
1	Prof. (Dr.) Nikhil Kr Chrungoo, Professor & Dean	Chairperson	
2	Registrar or his nominees	Member-secretary	
3	Dr. Susmita Dey, Associate Professor, RSLSC	Member	(On Lien)
4	Dr. Anushree Baruah, Coordinator, Botany	Member	
5	Prof. (Dr.) Dandadhar Borah, Professor, Botany	Member	 19/4/23
6	Prof. (Dr.) Mina Ram Nath, Professor, Botany	Member	
External Members (Academic)			
7	Prof. Latha Rangan, Dept of Biosciences & Bioengineering, IIT Guwahati	Member	 19/4/23
8	Dr Manuj Kr Bharali, Associate Professor, Dept of Zoology, Gauhati University		 19/04/23
External Member (Industry)			
9	Ms Sumi Barman, Technical Officer, Food Safety and Standard Authority of India (FSSAI)	Member	
Two Teachers of the School nominated by Vice-Chancellor			
10	Dr. Mitrajit Deb, Assistant Professor, Zoology	Member	
11	Dr. N. Seema Devi, Assistant Professor, Botany	Member	 19/04/23
12.	Dr. Dharmeswari Barchoi, Asst. Prof. Zoology.		 19/4/23.

The Assam Royal Global University

Guwahati

Agenda for the meeting of the School Board of Life Sciences to be held on 19.04.2023

- Brief Introduction about the University, School of Life Sciences and School Board of Life Sciences
- Confirmation of the minutes of the meeting of School Board of Life Sciences held on 22.12.2022
- Consideration of the UG of Dept. of Zoology
- Consideration of inclusion of a special paper on Environmental Toxicology I and II
- Consideration of the UG and PG syllabi of Dept. of Botany
- Consideration of the Research plan of Ms. Himakshi Kalita, Research Scholar, Dept. of Botany
- Consideration of the Research plan of Ms. Rica Langstang, Research Scholar, Dept. of Botany
- Consideration and approval of the panel of examiners for the IInd and IVth semesters of PG courses and IInd and IVth semesters of UG courses in Botany and II, IV and VIth semester of UG courses in Botany.
- Comments of the external experts

Any other matter with the permission of the chair

B.Sc. Botany (w.e.f. 2018-19)

Programme Structure

1st semester								2nd semester							
Sl. No	Subject Code	Names of subjects	L	T	P	C	TC P	Sl. No	Subject Code	Names of subjects	L	T	P	C	TC P
Core Subjects (please use rows as required)								Core Subjects (please use rows as required)							
1	BOT142C101	Microbiology and Phycology	4	0	0	6		1	BOT142C201	Archegoniatae	4	0	0	6	
2	BOT142C102	Mycology and Phtopathology	4	0	0	6		2	BOT142C202	Anatomy of Angiosperms	4	0	0	6	
3	BOT142C103	Biomolecules and Cell Biology	4	0	0	6		3	BOT142C203	Economic Botany	4	0	0	6	
4	BOT142C114	Practical I	0	0	6	6		4	BOT142C214	Practical II	0	0	6	6	
Ability Enhancement Compulsory Course (AECC)*								Ability Enhancement Compulsory Course (AECC)*							
4	CEN982A101	Communicative English - I	1	0	0	1		4	CEN982A201	Communicative English - II	1	0	0	1	
5	BHS982A104	Behavioural Science - I*	1	0	0	1		5	BHS982A204	Behavioural Science - II*	1	0	0	1	
Elective: Generic GE								Elective: Generic GE							
6		GE - 1				3		6		GE-1				3	
7		GE - 2				3		7		GE-2				3	

3rd semester								4th semester							
Sl. No	Subject Code	Names of subjects	L	T	P	C	TC P	Sl. No	Subject Code	Names of subjects	L	T	P	C	TC P
Core Subjects (please use rows as required)								Core Subjects (please use rows as required)							
1	BOT142C301	Genetics	4	0	2	6		1	BOT142C401	Plant Systematics	4	0	2	6	
2	BOT142C302	Ecology	4	0	2	6		2	BOT142C402	Reproductive Biology of Angiosperms	4	0	2	6	
Ability Enhancement Compulsory Course (AECC)*								Ability Enhancement Compulsory Course (AECC)*							
3	EVS982A303	Environmental Science	2	0	0	2									
4	CEN982A301	Comm English - III	1	0	0	1		3	CEN982A401	Comm English - IV	1	0	0	1	
Ability Enhancement Elective Course (AEEC) (Skill Based):								Ability Enhancement Elective Course (AEEC) (Skill Based):							
5		AEEC/SEC/-				2		4		AEEC/SEC/-				2	

		1*								2*				
Elective: Generic GE							Elective: Generic GE							
6		GE - 1				3		5		GE-1				3
7		GE - 2				3		6		GE-2				3

5th semester							6th semester								
Sl. No	Subject Code	Names of subjects	L	T	P	C	TC P	Sl. No	Subject Code	Names of subjects	L	T	P	C	TC P
Core Subjects (please use rows as required)							Core Subjects (please use rows as required)								
1	BOT142C5 01	Plant Physiology	4	0	2	6		1	BOT142C6 01	Plant Biotechnology	4	0	2	6	
2	BOT142C5 02	Plant Metabolism	4	0	2	6		2	BOT142C6 02	Molecular Biology	4	0	2	6	
Ability Enhancement Compulsory Course (AECC)*							Ability Enhancement Compulsory Course (AECC)*								
3	CEN982A5 01	Comm English - V				1		3	CEN982A6 01	Comm English - VI				1	
Elective: Discipline Specific DSE							Elective: Discipline Specific DSE								
4		DSE - 1				6		4		DSE - 3				6	
5		DSE - 2				6		5		DSE - 4				6	

I. Core courses may be of the following:

- (i) Theory (5) + Tutorial (1) = 6 for theory courses
- (i) Theory (4) + Tutorial (2) = 6 for theory courses
- (i) Theory (4) + Practical (2) = 6 for courses

Note: There may be variations in Core component of the structure from dept. to dept.

It is expected the variation should not be too large in terms of number of papers or in terms of credits.

II. Ability Enhancement Compulsory Course (AECC)

- (a) Communicative English : Six courses in all semester – Credit assigned: 1
- (ii) Developing Oral Communication & Listening Skills
- (iii) Career oriental communication
- (iv) Communication & Presentation Skills
- (v) Ethics and business communication
- (vi) Effective Workplace Communication

(Subjects may be offered after consultations with Royal School of Languages and requirements of the department.)

(b) Environmental science in third semester –Credits assigned: 2

(c) Behavioral science: 2 courses in 1st and 2nd semesters –Credits assigned: 1

- (i) Introduction to Behavioural science**
- (ii) Development of Individuals and Behavioural Skills**

(Subjects may be offered after consultations with Royal School of Behavioural & Allied Sciences and requirements of the department.)

III. Ability Enhancement Elective Course (AEEC)/ SEC (Skill Enhancement Elective Courses):

	AEEC/SEC-1 (in third semester) (Choose any one)	AEEC/SEC-2(in fourth semester) (Choose any one)
1	ILD-1	ILD-2
2	FRENCH-1	FRENCH-2
3	C++	LATEX
4	Any other course offered by other schools of RGU and opted by Student	Any other course offered by other schools of RGU and opted by Student

IV. Elective: Discipline Specific DSE in 3rd and 4th semesters (any two out of four or more choices)

	DSE 1-2(in 5th semester) (Choose any two)	DSE 3-4 (in 6th semester) (Choose any two)
1	DSE5-1	DSE6-1
2	DSE5-2	DSE6-2
3	DSE5-3	DSE6-3
4	DSE5-4	DSE6-4
5	DSE5-5	DSE6-5
6	Project	Project

Note: DSE5-1 – DSE 5-5 means 5 DSE papers are offered in 5th semester out of which any 2 may be chosen

Choice for DSE:
Biodiversity
Plant Ecology and Taxonomy
Plant Anatomy and Embryology
Economic Botany and Biotechnology
Plant Diversity and Human Welfare
Analytical Techniques in Plant Sciences
Biostatistics
Industrial and Environmental Microbiology
Bioinformatics
Research Methodology

Choice for GE:
Biodiversity (Microbes, Algae, Fungi and Archegoniate)
Plant Ecology and Taxonomy
Plant Anatomy and Embryology
Plant Physiology and Metabolism
Economic Botany and Biotechnology
Environmental Biotechnology

** These GE papers shall be provided when the students of other Honours will opt for the same.*

V.

(a). (i) Generic Elective Papers (GE) (any two) from other Departments/ Disciplines: (Credit: 03 each) for 1st to 4th Semester

Important Note: Students may add two courses of 3 credits in last two semesters from the Basket course if they wish to do so. (this is only applicable for the students who wishes to earn extra credits over and above the normal credits, as specified in CBCS system suggested by UGC.)

(b). Generic Elective Papers (GE) (two) for other departments/ Disciplines: (Credit: 03-06 each)


B.SC BOTANY PROGRAMME STRUCTURE (Batch 2019-20)

1ST SEMESTER

Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT142C101	Microbiology and Phycology	4	0	0	4	4
2	BOT142C102	Mycology and Phytopathology	4	0	0	4	4
3	BOT142C103	Biomolecules and Cell Biology	4	0	0	4	4
4	BOT142C114	Practical-I	0	0	12	6	12
Total credit for core papers						18	24
Ability Enhancement Compulsory Courses (AECC)							
5	CEN982A101	Communicative English - I	1	0	0	1	1
6	BHS982A104	Behavioural Science – I	1	0	0	1	1
Generic Elective							
7	BOT142G101	GE1	2	0	2	3	4
8	BOT142G102	GE2	2	0	2	3	4
TOTAL CREDIT FOR THE SEMESTER			18	0	8	26	36

2ND SEMESTER


Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT142C201	Archegoniatae	4	0	0	4	4


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 Royal School of Life Sciences
 The Assam Royal Global University
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2	BOT142C202	Anatomy of Angiosperms	4	0	0	4	4
3	BOT142C203	Economic Botany	4	0	0	4	4
4	BOT142C214	Practical-II	0	0	12	6	12
Total credit for core papers						18	24
Ability Enhancement Compulsory Courses (AECC)							
5	CEN982A101	Communicative English - I	1	0	0	1	1
6	BHS982A104	Behavioural Science – I	1	0	0	1	1
Generic Elective							
7	BOT142G201	GE-3:	2	0	2	3	4
8	BOT142G202	GE-4:	2	0	2	3	4
TOTAL CREDIT FOR THE SEMESTER			18	0	16	26	36
3RD SEMESTER							
Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT142C301	Genetics	4	0	0	4	4
2	BOT142C302	Plant Ecology and phytogeography	4	0	0	4	4
3	BOT144C313	Practical III	0	0	8	4	8
Total credit for core papers						12	16
Ability Enhancement Compulsory Courses (AECC)							
4	CEN982A301	Communicative English - III	1	0	0	1	1


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5	EVS982A303	Environmental Science	2	0	0	2	2
Ability Enhancement Elective Courses (AEEC)							
6		AEEC/SEC/-1*	2	0	0	2	2
Generic Elective							
7	BOT142G301	GE-5	2	0	2	3	4
8	BOT142G302	GE-6	2	0	2	3	4
TOTAL CREDIT FOR THE SEMESTER			17	0	12	23	29
4TH SEMESTER							
Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT142C401	Plant Systematics	4	1	0	5	5
2	BOT142C402	Reproductive Biology of Angiosperms	4	1	0	5	5
3	BOT142C413	Practical IV	0	0	8	4	8
Total credit for core papers						14	18
Ability Enhancement Compulsory Courses (AECC)							
4	CEN982A401	Communicative English - IV	1	0	0	1	1
Ability Enhancement Elective Courses (AEEC)							
5		AEEC/SEC/-2*	2	0	0	2	2
Generic Elective							
6	BOT142G401	GE-7:	2	0	2	3	4
7	BOT142G402	GE-8:	2	0	2	3	4


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TOTAL CREDIT OF THE SEMESTER			15	2	12	23	29
5TH SEMESTER							
Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT142C501	Plant Physiology	4	0	0	4	4
2	BOT142C502	Plant Metabolism	4	0	0	4	4
3	BOT142C513	Practical V	0	0	8	4	8
Total credit for core papers						12	16
Ability Enhancement Compulsory Courses (AECC)							
5	CEN982A501	Communicative English - V	1	0	0	1	1
Discipline Specific Elective (DSE) (Any One Theory or Project Work To Be Selected)							
6	BOT142D501	Research Methodology	4	0	4	6	8
7	BOT142D502	Analytical techniques in plant science.	4	0	4	6	8
8	BOT142D521	Project work (Minor)	0	0	18	6	18
TOTAL CREDIT OF THE SEMESTER						19	35
6TH SEMESTER							
Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT142C601	Plant Biotechnology	4	2	0	6	6
2	BOT142C602	Molecular Biology	4	2	0	6	6


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3	BOT142C613	Practical VI	0	0	12	6	12
Total credit for core papers						18	24
Ability Enhancement Compulsory Courses (AECC)							
4	CEN982A501	Communicative English - VI	1	0	0	1	1
Discipline Specific Elective (DSE) (Any Two Theory Paper Or Project Work To Be Selected)							
5	BOT142D601	Plant diversity and human welfare	4	0	4	6	8
6	BOT142D602	Industrial and environmental microbiology	4	0	4	6	8
	BOT142D603	Dendrology, Arboriculture and Agronomy	4	0	4	6	8
7	BOT142D621	Project work (Major)	0	0	36	12	36
TOTAL CREDIT OF THE SEMESTER						31	61
TOTAL CREDIT OF THE COURSE [26 (1st) + 26(2nd) + 23(3rd) + 23(4th) + 19(5th) +31(6th)] = 148							


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B.Sc. (HONOURS) BOTANY PROGRAMME STRUCTURE (w.e.f. 2022-23)

1ST SEMESTER

Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
CORE SUBJECTS							
1	BOT142C101	MICROBIOLOGY, MYCOLOGY & PLANT PATHOLOGY	4	0	0	4	4
2	BOT142C102	ALGAE, BRYOPHYTES, PTERIDOPHYTES	4	0	0	4	4
3	BOT142C113	MICROBIOLOGY, MYCOLOGY & CRYPTOGAMS (PRACTICAL)	0	0	8	4	8
TOTAL CREDIT FOR CORE PAPERS						14	16
SKILL ENHANCEMENT COURSE (SEC)							
4	BOT142S111	PLANT PROPAGATION & NURSERY MANAGEMENT	0	0	4	2	4
ABILITY ENHANCEMENT COMPULSORY COURSES (AECC)							
5	CEN982A101	COMMUNICATIVE ENGLISH – I	1	0	0	1	1
6	BHS982A104	BEHAVIORAL SCIENCE – I	1	0	0	1	1
VALUE ADDED COURSES (VAC)							
7		ONE COURSE FROM A BASKET OF AVAILABLE COURSES TO BE SELECTED	2	0	0	2	2
GENERIC ELECTIVE							
8	BOT142G101	GE1: BIODIVERSITY OF PLANTS	2	0	2	3	4
9	BOT142G102	GE2: NURSERY & GARDENING	2	0	2	3	4
TOTAL CREDITS FOR THE SEMESTER			17	0	14	24	32


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2ND SEMESTER							
Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
CORE SUBJECTS							
1	BOT142C201	GYMNOSPERMS & ANGIOSPERMS	4	0	0	4	4
2	BOT142C202	PLANT TAXONOMY & ANATOMY	4	0	0	4	4
3	BOT142C213	GYMNOSPERMS, ANGIOSPERMS, PLANT TAXONOMY, & ANATOMY (PRACTICAL)	0	0	8	4	8
TOTAL CREDIT FOR CORE PAPERS						12	16
SKILL ENHANCEMENT COURSE (SEC)							
4	BOT142S211	PLANT PROPAGATION & NURSERY MANAGEMENT: HORTICULTURE	0	0	4	2	4
ABILITY ENHANCEMENT COMPULSORY COURSES (AECC)							
5	CEN982A201	COMMUNICATIVE ENGLISH - II	1	0	0	1	1
6	BHS982A204	BEHAVIOURAL SCIENCE – II	1	0	0	1	1
VALUE ADDED COURSES (VAC)							
7		ONE COURSE FROM A BASKET OF AVAILABLE COURSES TO BE SELECTED	2	0	0	2	2
GENERIC ELECTIVE							
8	BOT142G201	GE-3: MUSHROOM CULTIVATION	2	0	2	3	4
9	BOT142G202	GE-4: PLANT ECOLOGY & ECONOMIC BOTANY	2	0	2	3	4
TOTAL CREDITS FOR THE SEMESTER			16	0	16	24	32


 HOD/Coordinator
 Department of Botany
 Royal School of Life Sciences
 The Assam Royal Global University
 Betkuchi, NH 37, Guwahati 781035

M.SC BOTANY w.e.f. 2018-19

Programme Structure

1ST SEMESTER

Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT144C101	Cell Biology	4	0	0	4	4
2	BOT144C102	Biology & Diversity of Virus, Bacteria & Fungi	4	0	0	4	4
3	BOT144C103	Biology & Diversity of Algae, Bryopyhtes & Pteridophytes	4	0	0	4	4
4	BOT144C114	Practical I	0	0	4	4	4
Ability Enhancement Compulsory Courses (AECC)							
5	CEN984A101	Communicative English - I				1	1
6	BHS984A103	Behavioural Science - I: Introduction to behavioural science				1	1
Discipline Specific Elective (DSE)							
7	BOT144D101	Research Methodology				4	4

2ND SEMESTER

Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT144C201	Cytology, Genetics & Evolution	4	0	0	4	4
2	BOT144C202	Biological diversity of Seed Plants	4	0	0	4	4
3	BOT144C203	Plant Physiology	4	0	0	4	4
4	BOT144C214	Practical II	0	0	4	4	4
Ability Enhancement Compulsory Courses (AECC)							
5	CEN984A201	Communicative English - II				1	1
6	BHS984A203	Behavioural Science - II: Development of Individuals and Behavioural Skills				1	1
Ability Enhancement Elective Courses (AEEC)							
7	AEEC/SEC/-1*				2		2
Discipline Specific Elective (DSE) (ANY ONE TO BE SELECTED)							
8	BOT144D202	Bioinstrumentaion, Laboratory Techniques and Biostatistics				4	4
9	BOT144D203	Angiosperm Taxonomy				4	4

3 RD SEMESTER							
Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT144C301	Plant Metabolism †	3	0	1	4	4
2	BOT144C302	Plant Development	3	0	1	4	4
Ability Enhancement Compulsory Courses (AECC)							
3	CEN984A301	Communicative English - II				1	1
Ability Enhancement Elective Courses (AEEC)							
4	AEEC/SEC/-1*				2		2
Discipline Specific Elective (DSE) (ANY THREE TO BE SELECTED)							
5	BOT144D304	Molecular Biology				4	4
6	BOT144D305	Virology				4	4
7	BOT144D306	Advanced Microbial Physiology				4	4
8	BOT144D307	Biodiversity and Evolution				4	4
PROJECT DISSERTATION							
9		Minor				4	4
4TH SEMESTER							
Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT144C401	Plant Metabolism ††	3	0	1	4	4
2	BOT144C402	Plant Development	3	0	1	4	4
Ability Enhancement Compulsory Courses (AECC)							
3	CEN984A401	Communicative English - II				1	1
Discipline Specific Elective (DSE) (ANY THREE TO BE SELECTED)							
5	BOT144D408	Funadamentals of Ecology				4	4
6	BOT144D409	Plant Biotechnology				4	4
7	BOT144D4010	Fungal Biology and Biotechnology				4	4
8	BOT144D4011	Plant Breeding				4	4
PROJECT DISSERTATION							
9		MAJOR				8	8

M.SC. BOTANY (W.E.F AY 2019-20) - Revised

1ST SEMESTER

Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT144C101	Cell Biology and Evolutionary Biology	3	0	0	3	3
2	BOT144C102	Microbiology	3	0	0	3	3
3	BOT144C103	Cryptogams	3	0	0	3	3
4	BOT144C104	Phanerogams	3	0	0	3	3
5	BOT144C115	Practical I	0	0	8	4	8
Total credit for core papers						16	20
Ability Enhancement Compulsory Courses (AECC)							
6	CEN984A101	Communicative English – I	1	0	0	1	1
7	BHS984A103	Behavioural Science – I: Introduction to behavioural science	1	0	0	1	1
Discipline Specific Elective (DSE) (ANY ONE TO BE SELECTED)							
8	BOT144D101	Research Methodology	3	0	2	4	5
9	BOT144D102	Ethnobotany And Phytogeography	3	0	2	4	5
TOTAL CREDIT OF THE SEMESTER			17	0	10	22	27

2ND SEMESTER

Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT144C201	Genetics and Plant Breeding	3	0	0	3	3
2	BOT144C202	Plant Physiology	3	0	0	3	3
3	BOT144C203	Plant anatomy and Embryology	3	0	0	3	3
4	BOT144C204	Plant Pathology	3	0	0	3	3
5	BOT144C215	Practical II	0	0	8	4	8
Total credit for core papers						16	20
Ability Enhancement Compulsory Courses (AECC)							
6	CEN984A201	Communicative English – II	1	0	0	1	1
7	BHS984A203	Behavioural Science – II: Development of Individuals and Behavioural Skills	1	0	0	1	1
Ability Enhancement Elective Courses (AECC)							
8	BOT144S221	Floriculture I	2	0	0	2	2

HOD/Coordinator

Department of Botany

Royal School of Life Sciences

The Assam Royal Global University

Discipline Specific Elective (DSE) (ANY ONE TO BE SELECTED)							
9	BOT144D201	Genomics And Proteomics	3	0	2	4	5
10	BOT144D202	Biodiversity And Conservation Biology	3	0	2	4	5
11	BOT144D203	Plant Biotechnology And Resource Utilization	3	0	2	4	5
TOTAL CREDIT OF THE SEMESTER			19	0	10	24	29

3RD SEMESTER

Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT144C301	Angiosperm taxonomy	3	0	0	3	3
2	BOT144C302	Plant Ecology And Environment	3	0	0	3	3
3	BOTC144C303	Plant Growth And Development	3	0	0	3	3
4	BOT144C314	PRACTICAL III	0	0	6	3	6
5	BOT144C321	PROJECT DISSERTATION (Minor)	0	0	12	4	12
Total credit for core papers						16	27

Ability Enhancement Compulsory Courses (AECC)

5	CEN984A301	Communicative English – II	1	0	0	1	1
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Ability Enhancement Elective Courses (AEEC)

6	BOT144S321	Floriculture II/ Mushroom cultivation (any one)	2	0	0	2	2
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Discipline Specific Elective (DSE) (ANY TWO TO BE SELECTED)

7	BOT144D301	Plant Genetic Engineering	3	1	0	4	4
8	BOT144D302	Molecular Biology	3	1	0	4	4
9	BOT144D303	Bioinformatics and computer science	3	1	0	4	4
10	BOT144D304	Paleobotany and Palynology	3	1	0	4	4
11	BOT144D305	Tools and techniques for plant science and biostatistics	3	1	0	4	4
TOTAL CREDIT OF THE SEMESTER			18	2	18	27	38


4TH SEMESTER

Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT144C401	Microbes and Microbial Technology	4	0	0	4	4
2	BOT144C402	Plant Biochemistry and Metabolism	4	0	0	4	4

3	BOT144C413	PRACTICAL IV	0	0	8	4	8
4	BOT144C421	PROJECT DISSERTATION (MAJOR)	0	0	30	10	30
Total credit for core papers						22	46
Ability Enhancement Compulsory Courses (AECC)							
5	CEN984A401	Communicative English – II	1	0	0	1	1
Discipline Specific Elective (DSE) (ANY TWO TO BE SELECTED)							
6	BOT144D401	Advanced Morphology and Economic Botany	3	0	0	3	3
7	BOT144D402	Advances in Microbiology, Plant Disease Control and Agronomy	3	0	0	3	3
8	BOT144D403	Advances in Plant Systematics	3	0	0	3	3
9	BOT144D404	Industrial Application in Plant Sciences	3	0	0	3	3
10	BOT144D405	Selected topics in plant physiology	3	0	0	3	3
TOTAL CREDIT OF THE SEMESTER			15	0	38	29	53
TOTAL CREDIT OF THE COURSE= 22 (1ST) + 24 (2ND) + 27 (3RD) + 29 (4TH) =102							

SEMESTER WISE DISTRIBUTION OF COURSES AND CREDITS:

Semester	No. Of Core papers	No. of DSE papers	No. of AECC papers	No. Of AECC papers	Project (Minor/Major)	Total credit
1 st	5	1	2	none	none	22
2nd	5	1	2	1	none	24
3rd	4	2	1	1	Minor	29
4th	3	2	1	none	Major	27
Total						102


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 Department of Botany
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 The Assam Royal Global University
 Betkuchi, NH 37, Guwahati 781035

M.SC. BOTANY (W.E.F AY 2021-22) Revised

1ST SEMESTER

Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT144C101	Plant pathology	3	0	0	3	3
2	BOT144C102	Microbiology	3	0	0	3	3
3	BOT144C103	Cryptogams	3	0	0	3	3
4	BOT144C104	Phanerogams	3	0	0	3	3
5	BOT144C115(A)	Practical I (Based on theory paper C101 & C102)	0	0	3	3	6
6	BOT144C115(B)	Practical I (Based on theory paper C103 & C104)	0	0	3	3	6
Total credit for core papers						18	24
Ability Enhancement Compulsory Courses (AECC)							
6	CEN984A101	Communicative English – I	1	0	0	1	1
7	BHS984A103	Behavioural Science – I: Introduction to behavioural science	1	0	0	1	1
Discipline Specific Elective (DSE) (ANY ONE TO BE SELECTED)							
8	BOT144D101	Research Methodology	3	0	0	3	3
9	BOT144D102	Ethnobotany And Phytogeography	3	0	0	3	3
TOTAL CREDIT OF THE SEMESTER			17	0	6	23	29

2ND SEMESTER

Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT144C201	Cell Biology and Evolutionary Biology	3	0	0	3	3
2	BOT144C202	Genetics and Plant Breeding	3	0	0	3	3
3	BOT144C203	Plant Physiology	3	0	0	3	3
4	BOT144C204	Angiosperm anatomy and Embryology	3	0	0	3	3
5	BOT144C215(A)	Practical II A (Based on theory paper C201 & C202)	0	0	3	3	6
6	BOT144C215(B)	Practical II B (Based on theory paper C203 & C204)	0	0	3	3	6
Total credit for core papers						18	24

Ability Enhancement Compulsory Courses (AECC)

HOD/Coordinator
 Department of Botany
 Royal School of Life Sciences
 The Assam Royal Global University
 Betkuchi, NH 37, Guwahati 781035

6	CEN984A201	Communicative English – II	1	0	0	1	1
7	BHS984A203	Behavioural Science – II: Development of Individuals and Behavioural Skills	1	0	0	1	1
Ability Enhancement Elective Courses (AEEC)							
8	BOT144S221	Floriculture	2	0	0	2	2
Discipline Specific Elective (DSE) (ANY ONE TO BE SELECTED)							
9	BOT144D201	Genomics And Proteomics	3	0	0	3	3
10	BOT144D202	Biodiversity And Conservation Biology	3	0	0	3	3
11	BOT144D203	Plant Biotechnology And Resource Utilization	3	0	0	3	3
TOTAL CREDIT OF THE SEMESTER			19	0	6	25	31

3RD SEMESTER

Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	BOT144C301	Angiosperm taxonomy	4	0	0	4	4
2	BOT144C302	Plant Ecology And Environment	4	0	0	4	4
3	BOTC144C303	Plant Growth And Development	4	0	0	4	4
4	BOT144C314	PRACTICAL III (Based on theory paper)	0	0	4	4	8
Total credit for core papers						16	20

Ability Enhancement Compulsory Courses (AECC)

4	CEN984A301	Communicative English – II	1	0	0	1	1
Ability Enhancement Elective Courses (AEEC)							
5	BOT144S321	Palynology and Evolution/ mushroom cultivation/ organic farming (anyone)	2	0	0	2	2

Discipline Specific Elective (DSE) (ANY TWO TO BE SELECTED)

6	BOT144D301	Plant Genetic Engineering	3	0	0	3	3
7	BOT144D302	Molecular Biology	3	0	0	3	3
8	BOT144D303	Herbal Technology	3	0	0	3	3
9	BOT144D304	Paleobotany, Palynology and Lichenology	3	0	0	3	3
10	BOT144D305	Tools and techniques for plant science	3	0	0	3	3
TOTAL CREDIT OF THE SEMESTER			21	0	4	25	29


4TH SEMESTER

Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
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Core Subjects							
1	BOT144C401	Advanced morphology & Economic Botany	3	0	0	3	3
2	BOT144C402	Bio Statistics and Bio Informatics	3	0	0	3	3
3	BOT144C413	PRACTICAL IV (Based on C401 AND C402)	0	0	4	4	8
Total credit for core papers						10	14
Ability Enhancement Compulsory Courses (AECC)							
3	CEN984A401	Communicative English – II	1	0	0	1	1
Special Paper (Any one specialization subject to be selected)							
4	BOT144D401	Microbiology/ Plant Physiology & Biochemistry/ Angiosperm Taxonomy	4	0	0	4	4
5	BOT144D402	Microbiology/ Plant Physiology & Biochemistry/ Angiosperm Taxonomy	4	0	0	4	4
6	BOT144D414	Practical V (on Special paper)	0	0	4	4	8
COMPULSORY PAPER							
7	BOT144P421	PROJECT DISSERTATION (based on Special paper)	0	0	6	6	12
TOTAL CREDIT OF THE SEMESTER			15	0	17	29	46
TOTAL CREDIT OF THE COURSE= 23(1ST) + 25(2ND) + 25 (3RD) + 29 (4TH) =102							

SEMESTER WISE DISTRIBUTION OF COURSES AND CREDITS:

Semester	No. Of Core papers	No. of DSE papers/ spl paper	No. of AECC papers	No. Of AECC papers	Project (Minor/Major)	Total credit
1 st	6	1	2	none	None	23
2nd	6	1	2	1	None	25
3rd	4	2	1	1	None	25
4th	3	3	1	none	Major	29
Total						102



 HOD/Coordinator
 Department of Botany
 Royal School of Life Sciences
 The Assam Royal Global University
 Betkuchi, NH 37, Guwahati 781035

M.Sc. BOTANY (W.E.F SEPT 2022), 2022 BATCH							
1 ST SEMESTER							
SL.N o.	Subject Code	Names of papers	L	T	P	C	TCP
Core Papers							
1	BOT144C101	Mycology & Plant pathology	4	0	0	4	4
2	BOT144C102	Microbiology	4	0	0	4	4
3	BOT144C103	Cryptogams: Algae, Bryophytes & Pteridophytes	4	0	0	4	4
4	BOT144C104	Gymnosperms and Advanced morphology	4	0	0	4	4
5	BOT144C115	Mycology, Plant pathology and Microbiology (Practical)	0	0	6	3	6
6	BOT144C116	Cryptogams Gymnosperms & Advanced Morphology (Practical)	0	0	6	3	6
Total credits for core papers						22	28
Ability Enhancement Compulsory Courses (AECC)							
6	CEN984A101	Communicative English – I	1	0	0	1	1
7	BHS984A101	Behavioural Science – I: Introduction to behavioural science	1	0	0	1	1
Discipline Specific Elective (DSE) (ANY ONE TO BE SELECTED)							
8	BOT144D101	Bioprocess Development	3	0	0	3	3
9	BOT144D102	Ethnobotany and Phytogeography	3	0	0	3	3
Total credits			17	0	6	27	33
2ND SEMESTER							
SL.N o.	Subject Code	Names of papers	L	T	P	C	TCP
Core Papers							
1	BOT144C201	Angiosperm Taxonomy	4	0	0	4	4
2	BOT144C202	Cytology, Genetics and Plant Breeding	4	0	0	4	4
3	BOT144C203	Plant Physiology	4	0	0	4	4
5	BOT144C215	Angiosperm taxonomy & Cytology (Practical)	0	0	6	3	6
6	BOT144C216	Plant physiology, genetics & plant breeding (Practical)	0	0	6	3	6
Total credits for core papers						18	24
Ability Enhancement Compulsory Courses (AECC)							
6	CEN984A201	Communicative English – II	1	0	0	1	1
7	BHS984A202	Behavioural Science – II: Development of Individuals and Behavioural Skills	1	0	0	1	1
Ability Enhancement Elective Courses (AEEC)							
8	BOT144S221	Floriculture	2	0	0	2	2

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 Department of Botany
 Royal School of Life Sciences
 The Assam Royal Global University
 Betkuchi, NH 37, Guwahati 781035

Discipline Specific Elective (DSE) (ANY ONE TO BE SELECTED)							
9	BOT144D201	Genomics and Proteomics	3	0	0	3	3
10	BOT144D202	Biodiversity and Conservation Biology	3	0	0	3	3
11	BOT144D203	Herbal Technology	3	0	0	3	3
Total credits			19	0	6	25	31
3 RD SEMESTER							
Sl.N o.	Subject Code	Name of papers	L	T	P	C	TCP
Core Papers							
1	BOT144C301	Angiosperm anatomy and Embryology	4	0	0	4	4
2	BOT144C302	Plant Biochemistry & Molecular Biology	4	0	0	4	4
4	BOT144C313	Angiosperm anatomy, Embryology, Biochemistry & Molecular Biology (Practical)	0	0	8	4	8
Total credits for core papers						12	16
Ability Enhancement Compulsory Courses (AECC)							
5	CEN984A301	Communicative English – II	1	0	0	1	1
Ability Enhancement Elective Courses (AEEC)							
6	BOT144S321	Mushroom cultivation	2	0	0	2	2
Discipline Specific Elective (DSE) (Any one to be selected)							
7	BOT144D301	Microbiology- I	2	0	2	4	5
8	BOT144D302	Advanced Plant Physiology & Biochemistry - I	2	0	2	4	5
9	BOT144D303	Angiosperm Taxonomy- I	2	0	2	4	5
COMPULSORY PAPER							
		Special paper through Dissertation based on research work (any 4 to be offered in a given semester) 1. Plant – soil microbe interactions 2. Microbial Ecology 3. Plant Molecular Biology 4. Advanced Plant Physiology 5. Taxonomy and diversity of angiosperms 6. Development and Reproduction of angiosperms 7. Plant Biotechnology 8. Lower plants					
10	BOT144C321		0	0	12	6	12
Total credits			13	0	22	25	35
4 TH SEMESTER							
Sl.N o.	Subject Code	Names of papers	L	T	P	C	TCP

Core Papers							
2	BOT144C401	Plant Ecology and Environment	4	0	0	4	4
3	BOT144C402	Bio Statistics and Bioinformatics	4	0	0	4	4
4	BOT144C413	Plant Ecology, Environment Biostatistics & Bioinformatics (Practical)	0	0	8	4	8
Total credits for core papers						12	16
Ability Enhancement Compulsory Courses (AECC)							
5	CEN984A401	Communicative English – II	1	0	0	1	1
Discipline Specific Elective (DSE) (Any one paper to be selected)							
6	BOT144D401	Microbiology - II	3	0	2	4	5
7	BOT144D402	Advanced Plant Physiology & Biochemistry - II	3	0	2	4	5
8	BOT144D403	Angiosperm Taxonomy- II	3	0	2	4	5
COMPULSORY PAPER							
9	BOT144C421	Special paper through Dissertation based on research work (continued from 3 rd semester) 1. Plant – soil microbe interactions 2. Microbial Ecology 3. Plant Molecular Biology 4. Advanced Plant Physiology 5. Taxonomy and diversity of angiosperms 6. Development and Reproduction of angiosperms 7. Plant Biotechnology 8. Lower plants	0	0	16	8	16
Total credits			12	0	26	25	38
Total credits of the course:						102	


 HOD/Coordinator
 Department of Botany
 Royal School of Life Sciences
 The Assam Royal Global University
 Betkuchi, NH 37, Guwahati 781035

SEMESTER WISE DISTRIBUTION OF COURSES AND CREDITS:

Semester	No. Of Core papers	No. of DSE papers	No. of AECC papers	No. Of AEEC papers	Project (Minor/Major)	Total credit
1 st	6	1	2	none	None	27
2 nd	6	1	2	1	None	25
3 rd	3	2	1	1	Major	25
4 th	3	1	1	none	Major	25
Total						102


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Royal School of Life Sciences
The Assam Royal Global University
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B.Sc. Zoology (w.e.f. 2018-19)

Programme Structure

1st semester								2nd semester							
Sl. No.	Subject Code	Names of subjects	L	T	P	C	TC P	Sl. No.	Subject Code	Names of subjects	L	T	P	C	TC P
Core Subjects (please use rows as required)								Core Subjects (please use rows as required)							
1	ZOO142C101	Introduction to Biology	4	0	0	6		1	ZOO142C201	Chordata-II	4	0	0	6	
2	ZOO142C102	Non-Chordata Protista to Coelomates	4	0	0	6		2	ZOO142C202	Cell Biology	4	0	0	6	
3	ZOO142C103	Chordata-I	4	0	0	6		3	ZOO142C203	Molecular Biology	4	0	0	6	
4	ZOO142C114	Practical I	0	0	6	6		4	ZOO142C214	Practical II	0	0	6	6	
Ability Enhancement Compulsory Course (AECC)*								Ability Enhancement Compulsory Course (AECC)*							
4	CEN982A101	Communicative English - I				1		4	CEN982A201	Communicative English - II				1	
5	BHS982A104	Behavioural Science - I*				1		5	BHS982A204	Behavioural Science - II*				1	
Elective: Generic GE								Elective: Generic GE							
6		GE - 1				3		6		GE-1				3	
7		GE - 2				3		7		GE-2				3	
3rd semester								4th semester							
Sl. No.	Subject Code	Names of subjects	L	T	P	C	TC P	Sl. No.	Subject Code	Names of subjects	L	T	P	C	TC P
Core Subjects (please use rows as required)								Core Subjects (please use rows as required)							
1	ZOO142C301	Animal Physiology and Functional Histology	4	0	2	6		1	ZOO142C401	Immunology	4	0	2	6	
2	ZOO142C302	Biochemistry	4	0	2	6		2	ZOO142C402	Developmental Biology	4	0	2	6	
Ability Enhancement Compulsory Course (AECC)*								Ability Enhancement Compulsory Course (AECC)*							
3	EVS982A303	Environmental Science				2									
4	CEN982A301	Comm English - III				1		3	CEN982A401	Comm English - IV				1	
Ability Enhancement Elective Course (AEEC) (Skill Based):								Ability Enhancement Elective Course (AEEC) (Skill Based):							
5		AEEC/SEC/-1*				2		4		AEEC/SEC/-2*				2	
Elective: Generic GE								Elective: Generic GE							
6		GE - 1				3		5		GE-1				3	
7		GE - 2				3		6		GE-2				3	

5th semester								6th semester							
Sl. No	Subject Code	Names of subjects	L	T	P	C	TC P	Sl. No	Subject Code	Names of subjects	L	T	P	C	TC P
Core Subjects (please use rows as required)								Core Subjects (please use rows as required)							
1	ZOO142C5 01	Ecology	4	0	2	6		1	ZOO142C6 01	Evolutionary Biology	4	0	2	6	
2	ZOO142C5 02	Genetics & Genomics	4	0	2	6		2	ZOO142C6 02	Biotechnology	4	0	2	6	
Ability Enhancement Compulsory Course (AECC)*								Ability Enhancement Compulsory Course (AECC)*							
3	CEN982A5 01	Comm English - V				1		3	CEN982A6 01	Comm English - VI				1	
Elective: Discipline Specific DSE								Elective: Discipline Specific DSE							
4		DSE - 1				6		4		DSE - 3				6	
5		DSE - 2				6		5		DSE - 4				6	

I. Core courses may be of the following:

- (i) Theory (5) + Tutorial (1) = 6 for theory courses
- (i) Theory (4) + Tutorial (2) = 6 for theory courses
- (i) Theory (4) + Practical (2) = 6 for courses

Note: There may be variations in Core component of the structure from dept. to dept.

It is expected the variation should not be too large in terms of number of papers or in terms of credits.

II. Ability Enhancement Compulsory Course (AECC)

- (a) Communicative English : Six courses in all semester – Credit assigned: 1
- (ii) Developing Oral Communication & Listening Skills
- (iii) Career oriental communication
- (iv) Communication & Presentation Skills
- (v) Ethics and business communication
- (vi) Effective Workplace Communication

(Subjects may be offered after consultations with Royal School of Languages and requirements of the department.)

(b) Environmental science in third semester –Credits assigned: 2

(c) Behavioral science: 2 courses in 1st and 2nd semesters –Credits assigned: 1

- (i) Introduction to behavioural science
- (ii) Development of Individuals and Behavioural Skills

(Subjects may be offered after consultations with Royal School of Behavioural & Allied Sciences and requirements of the department.)

III. Ability Enhancement Elective Course (AEEC)/ SEC (Skill Enhancement Elective Courses):

	AEEC/SEC-1 (in third semester) (Choose any one)	AEEC/SEC-2(in fourth semester) (Choose any one)
1	ILD-1	ILD-2
2	FRENCH-1	FRENCH-2

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3	C++	LATEX
4	Any other course offered by other schools of RGU and opted by Student	Any other course offered by other schools of RGU and opted by Student

IV. Elective: Discipline Specific DSE in 3rd and 4th semesters (any two out of four or more choices)

	DSE 1-2 (in 5th semester) (Choose any two)	DSE 3-4 (in 6th semester) (Choose any two)
1	DSE5-1	DSE6-1
2	DSE5-2	DSE6-2
3	DSE5-3	DSE6-3
4	DSE5-4	DSE6-4
5	DSE5-5	DSE6-5
6	Project	Project

Note: DSE5-1 – DSE 5-5 means 5 DSE papers are offered in 5th semester out of which any 2 may be chosen

Choice for DSE:
Animal Diversity
Food, Nutrition and Health
Insect Vectors and Diseases
Food, Nutrition and Health
Human Physiology
Wild Life Conservation and Management
Animal Biotechnology
Agrochemicals and Pest Management
Endocrinology
Fish and Fisheries
Research Methodology

Choice for GE:
Animal Diversity
Aquatic Biology
Environment and Public Health
Exploring the Brain: Structure and Function
Food, Nutrition and Health
Human Physiology
Insect Vectors and Diseases

** These GE papers shall be provided when the students of other Honours will opt for the same.*

V.

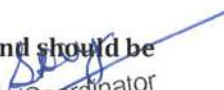
(a). (i) Generic Elective Papers (GE) (any two) from other Departments/ Disciplines: (Credit: 03 each) for 1st to 4th Semester

Important Note: Students may add two courses of 3 credits in last two semesters from the Basket course if they wish to do so. (this is only applicable for the students who wishes to earn extra credits over and above the normal credits, as specified in CBCS system suggested by UGC.)

(b). Generic Elective Papers (GE) (two) for other departments/ Disciplines: (Credit: 03-06 each)

List a number of courses offered by your school/department to other schools/departments which may be taken as a GE.

Note: The course structure shared is at par with the CBCS system of UGC. Any difference found should be brought to notice immediately


 HOD/Coordinator
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Programme Structure							
1st semester							
Sl. No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects (please use rows as required)							
1	ZOO142C101	Introduction to Biology	3	1	0	4	4
2	ZOO142C102	Non-chordata	3	1	0	4	4
3	ZOO142C103	Chordata	3	1	0	4	4
4	ZOO142C114	Practical I	0	0	12	6	12
Ability Enhancement Compulsory Course (AECC)*							
5	CEN982A101	Communicative English - I	1	0	0	1	1
6	BHS982A104	Behavioural Science - I	1	0	0	1	1
Generic Elective							
7	ZOO142G101	GE- Animal Diversity	2	1	0	3	3
8	ZOO142G102	GE-Human Biology - I	2	1	0	3	3
		Total				26	
2 nd Semester							
Sl. No.	Subject Code	Names of subjects	L	T	P	C	TCP
1	ZOO142C201	Comparative Anatomy	3	1	0	4	4
2	ZOO142C202	Cell Biology	3	1	0	4	4
3	ZOO142C203	Molecular Biology	3	1	0	4	4
4	ZOO142C214	Practical II	0	0	12	6	12
Ability Enhancement Compulsory Course (AECC)*							
5	CEN982A201	Communicative English - II	1	0	0	1	1
6	BHS982A204	Behavioural Science - II*	1	0	0	1	1
Generic Elective							
7	ZOO142G201	GE- Food Nutrition and Health	2	1	0	3	3
8	ZOO142G201	GE- Human Biology - II	2	1	0	3	3
		Total				26	
3 rd Semester							

Mr. Rajit Deb
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1	ZOO142C301	Animal Physiology	3	1	0	4	4
2	ZOO142C302	Biochemistry	3	1	0	4	4
3	ZOO142C313	Practical III	0	0	12	6	12
Ability Enhancement Compulsory Course (AECC)*							
4	CEN982A401	Comm English – IV	1	0	0	1	1
Ability Enhancement Elective Course (AEEC) (Skill Based):							
5	ZOO142S321	AEEC/SEC-1*Vermiculture	2	0	0	2	2
Generic Elective							
6	ZOO142G301	GE – Animal Physiology	2	1	0	3	3
7	ZOO142G306	GE – Aquaculture	2	1	0	3	3
		Total				23	
4th Semester							
1	ZOO142C401	Immunology and Functional Histology	3	1	0	4	4
2	ZOO142C402	Developmental Biology	3	1	0	4	4
3	ZOO142C413	Practical IV	0	0	8	4	8
Ability Enhancement Compulsory Course (AECC)*							
4	CEN984A401	Comm. Eng	1	0	0	1	1
Ability Enhancement Elective Course (AEEC) (Skill Based):							
5		AEEC/SEC/-2*	2	0	0	2	2
Generic Elective							
6	ZOO142G401	GE – Ecology	2	1	0	3	3
7	ZOO142G402	GE 8	2	1	0	3	3
		Total				21	

5th Semester							
1	ZOO142C501	Ecology	3	1	0	4	4
2	ZOO142C502	Genetics & Genomics	3	1	0	4	4
3	ZOO142C513	Practical V	0	0	8	4	8
Ability Enhancement Compulsory Course (AECC)*							

Mitrajit Deb
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Royal School of Life Sciences
The Assam Royal Global University
Betkuchi, NH 37, Guwahati 781035

4	CEN982A501	Comm English – V	1	0	0	1	1
Disciplinary Specific Elective							
5	ZOO142D502	DSE – Parasitology	2	1	0	3	3
6	ZOO142D503	DSE –Aquatic Biology	2	1	0	3	3
7	ZOO142C521	PROJECT	0	0	0	6	1/6
		Total				25	
6 th Semester							
1	ZOO142C601	Evolutionary Biology	3	1	0	4	4
2	ZOO142C602	Biotechnology	3	1	0	4	4
3	ZOO142C613	Practical VI	0	0	8	4	8
Ability Enhancement Compulsory Course (AECC)*							
4	CEN982A601	Comm. Eng VI	1	0	0	1	1
Discipline Specific Elective							
5	ZOO142D601	DSE – Entomology	2	1	0	3	3
6	ZOO142D602	DSE – Live stock management and Animal Husbandary	2	1	0	3	3
7	PROJECT	PROJECT	0	0	0	6	1/6
		Total				25	

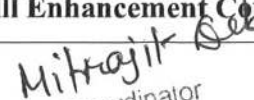
SEMESTER	CREDITS
I	26
II	26
III	23
IV	21
V	25
VI	25
Total	146

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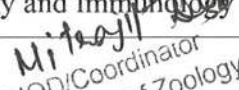
2. Learning Outcomes of different types of courses for BSc (Honours) in Zoology

BSc (H) Zoology
Programme Structure


1st semester							
Sl. No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	ZOO142C101	Cell Biology and Molecular Biology	3	1	0	4	4
2	ZOO142C102	Non-Chordates	3	1	0	4	4
3	ZOO142C113	Cell Biology, Molecular Biology and Non-Chordates (Practical)	0	0	8	4	8
Skill Enhancement Courses (SEC)							
4	ZOO142S121	Vermiculture	0	0	2	2	2
Value Added Courses (VAC)							
5	VAC992V103	Personality Development	2	0	0	2	2
Generic Elective Courses (GEC)							
6	ZOO142G101	Animal Diversity: Non- Chordates	2	1	0	3	3
7	ZOO142G102	Human Health and Disease	2	1	0	3	3
Ability Enhancement Compulsory Courses (AECC)							
8	CEN982A101	Communicative English-I	1	0	0	1	1
9	BHS982A104	Behavioural Science-I	1	0	0	1	1
		Total credits	24				28
2nd Semester							
Sl.No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	ZOO142C201	Comparative Anatomy of Animals	3	1	0	4	4
2	ZOO142C202	Chordates	3	1	0	4	4
3	ZOO142C213	Comparative Anatomy of Animals and Chordates (Practical)	0	0	8	4	8
Skill Enhancement Courses (SEC)							


 HOD/Coordinator
 Department of Zoology
 Royal School of Life Sciences
 The Assam Royal Global University
 Betkuchi, Nizal Guwahati 781035

4	ZOO142S221	Sericulture	0	0	2	2	2
Value Added Courses (VAC)							
5	VAC992V203	Science and Society	2	0	0	2	2
Generic Elective							
6	ZOO142G201	Animal Diversity: Chordates	2	1	0	3	3
7	ZOO142G202	Animal Parasites	2	1	0	3	3
Ability Enhancement Compulsory Courses (AECC)							
8	CEN982A201	Communicative English-II	1	0	0	1	1
9	BHS982A204	Behavioural Science-II	1	0	0	1	1
		Total credits	24				28
3rd Semester							
Sl. No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	ZOO142C301	Animal Physiology and Biochemistry	3	1	0	4	4
2	ZOO142C313	Animal Physiology and Biochemistry (Practical)	0	0	8	4	8
Discipline Specific Elective							
3	ZOO142D301	Endocrinology	3	1	0	4	4
Generic Elective							
4	ZOO142G301	Animal Physiology	2	1	0	3	3
5	ZOO142G302	Human Biology	2	1	0	3	3
Ability Enhancement Compulsory Courses (AECC)							
6	CEN982A301	Communicative English-III	1	0	0	1	1
7	BHS982A304	Behavioural Science-III	1	0	0	1	1
Field Study/ Project							
		4-week field study/ project after completion of 2 nd semester	0	0	0	0	4
		Total credits	24				28
4th Semester							
Sl. No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	ZOO142C401	Histology and Immunology	3	1	0	4	4


 HOD/Coordinator
 Department of Zoology
 Royal School of Life Sciences
 The Assam Royal Global University
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2	ZOO142C413	Histology, Immunology and Developmental Biology (Practical)	0	0	8	4	8
Discipline Specific Elective							
3	ZOO142D401	Developmental Biology	3	1	0	4	4
Skill Enhancement Courses (SEC)							
4	ZOO142S421	Introduction to Microscopy and Histology	0	0	2	2	2
Value Added Courses (VAC)							
5	VAC992V403	To be selected from a basket of courses	2	0	0	2	2
Generic Elective							
6	ZOO142G401	Ecology and Wildlife	2	1	0	3	3
7	ZOO142G202	Animal Parasites	2	1	0	3	3
Ability Enhancement Compulsory Courses (AECC)							
8	CEN982A401	Communicative English-IV	1	0	0	1	1
9	BHS982A404	Behavioural Science-IV	1	0	0	1	1
		Total credits	24				28
5th Semester							
Sl. No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	ZOO142C501	Genetics & Genomics	3	1	0	4	4
2	ZOO142C513	Genetics, Genomics (Practical)	0	0	8	4	8
Discipline Specific Elective (To select any 2)							
3	ZOO142D501	Parasitology	3	1	0	4	4
4	ZOO142D502	Aquatic Biology	3	1	0	4	4
5	ZOO142D503	Evolutionary Biology	3	1	0	4	4
6	ZOO142D504	Biostatistics	3	1	0	4	4
Value Added Courses (VAC)							
7		To be selected from a basket of courses	2	0	0	2	2
Ability Enhancement Compulsory Courses (AECC)							
8	CEN982A501	Communicative English- V	1	0	0	1	1
9	BHS982A504	Behavioural Science- V	1	0	0	1	1


 HOD/Coordinator
 Department of Zoology
 Royal School of Life Sciences
 The Assam Royal Global University
 Betkuchi, NH 37, Guwahati 781035

Internship							
		Mandatory 6-week internship after 4 semester exams	0	0	12	6	6
Total Credits						26	30
6 th Semester							
Sl. No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects							
1	ZOO142C601	Ecology and Wildlife Biology	3	1	0	4	4
2	ZOO142C613	Ecology (Practical)	0	0	8	4	8
Discipline Specific Elective (To select any 3)							
3	ZOO142D601	Agrochemicals and Pest Management	3	1	0	4	4
4	ZOO142D602	Livestock management and Animal Husbandry	3	1	0	4	4
5	ZOO142D603	Aqariculture	3	1	0	4	4
6	ZOO142D604	Biotechnology	3	1	0	4	4
7	ZOO142D605	Bioinformatics	3	1	0	4	4
8	ZOO142D606	Entomology	3	1	0	4	4
Skill Enhancement Course							
8	ZOO142S621	Wildlife Photography and Ecotourism	0	0	4	2	4
Value Added Courses (VAC)							
9		To be selected from a basket of courses	2	0	0	2	2
Ability Enhancement Compulsory Courses (AECC)							
9	CEN982A601	Communicative English- V	1	0	0	1	1
10	BHS982A604	Behavioural Science- V	1	0	0	1	1
Total credits						26	36

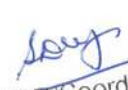
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M.Sc. Zoology (w.e.f. 2018-19)

Programme Structure

1st semester									2nd semester								
Sl. No.	Subject Code	Names of subjects	L	T	P	C	T C P		Sl. No.	Subject Code	Names of subjects	L	T	P	C	T C P	
Core Subjects (please use rows as required)									Core Subjects (please use rows as required)								
1	ZOO144 C101	Biosystematics & Taxonomy	4	0	0	4			1	ZOO144 C201	Population Genetics and Evolution	4	0	0	4		
2	ZOO144 C102	General & Comparative Endocrinology	4	0	0	4			2	ZOO144 C202	Gamete Biology	4	0	0	4		
3	ZOO144 C103	Molecular Cell Biology	4	0	0	4			3	ZOO144 C203	Environmental Physiology	4	0	0	4		
4	ZOO144 C114	Practical I	0	0	4	4			4	ZOO144 C214	Practical II	0	0	4	4		
Ability Enhancement Compulsory Course (AECC)*									Ability Enhancement Compulsory Course (AECC)*								
5	CEN98 4A101	Communicative English - I	1	0	0	1			5	CEN98 4A201	Communicative English - II	1	0	0	1		
6	BHS98 4A103	Behavioural Science - I	1	0	0	1			6	BHS98 4A203	Behavioural Science - II	1	0	0	1		
									Ability Enhancement Elective Course (AEEC) (Skill Based):								
									7		AEEC/SEC/-1*				2		
Elective: Discipline Specific DSE									Elective: Discipline Specific DSE								
7		Fish Biology	4	0	0	4			8		Molecular Endocrinology and Reproduction	4	0	0	4		
3rd semester									4th semester								
Sl. No.	Subject Code	Names of subjects	L	T	P	C	TC P		Sl. No.	Subject Code	Names of subjects	L	T	P	C	TC P	
Core Subjects (please use rows as required)									Core Subjects (please use rows as required)								
1	ZOO144C3 01	Genetics and Cytogenetics	3	0	1	4			1	ZOO144C4 01	Biochemistry of Metabolic processes	3	0	1	4		

2	ZOO144C3 02	Comparative Physiology	3	0	1	4		2	ZOO144C4 02	Ecology,Bio diversity Wildlife & Conservation	3	0	1	4	
Ability Enhancement Compulsory Course (AECC)*							Ability Enhancement Compulsory Course (AECC)*								
3	CEN984A3 01	Comm. Eng	1	0	0	1		3	CEN984A4 01	Comm. Eng	1	0	0	1	
Ability Enhancement Elective Course (AEEC) (Skill Based):															
4		AEEC/SEC/- 2*				2									
Elective: Discipline Specific DSE							Elective: Discipline Specific DSE								
5	ZOO144D3 01	Animal Behaviour	4	0	0	4		4	ZOO144D4 01	Etmolog y	4	0	0	4	
6	ZOO144D3 01	Chronobiolo gy	4	0	0	4		5	ZOO144D4 01	Biotechnolo y	4	0	0	4	
7	ZOO144D3 01	Medical Diagnosis Techniques	4	0	0	4		6	ZOO144D4 01	Molecular Cell Biology	4	0	0	4	
Project Dissertation							Project Dissertation								
8		Minor				4		7		Major				8	


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 Department of Zoology
 Royal School of Life Sciences
 The Assam Royal Global University
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M.Sc. Zoology (w.e.f. 2020-21)

Programme Structure

1st semester							
Sl. No.	Subject Code	Names of subjects	L	T	P	C	TCP
Core Subjects (please use rows as required)							
1	ZOO144C101	Biosystematics & Taxonomy	3	1	0	4	4
2	ZOO144C102	General & Comparative Endocrinology	3	1	0	4	4
3	ZOO144C103	Molecular Cell Biology	3	1	0	4	4
4	ZOO144C104	Immunology	3	1	0	4	4
5	ZOO144C115	General Practical I	0	0	8	4	8
Ability Enhancement Compulsory Course (AECC)*							
6	CEN984A101	Communicative English - I				1	1
7	BHS984A103	Behavioural Science – I				1	1
Elective: Discipline Specific (DSE)							
8	ZOO144D102	Parasitology	2	1	0	3	3
		Total				25	
2 nd Semester							
Sl. No.	Subject Code	Names of subjects	L	T	P	C	TCP
1	ZOO144C201	Population Genetics and Evolution	3	1	0	4	4
2	ZOO144C202	Gamete Biology	3	1	0	4	4
3	ZOO144C203	Environmental Physiology	3	1	0	4	4
4	ZOO144C204	Biostatistics and Bioinformatics	3	1	0	4	4
5	ZOO144C215	General Practical II	0	0	8	4	8
Ability Enhancement Compulsory Course (AECC)*							
6	CEN984A201	Communicative English – II				1	1


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 Department of Zoology
 Royal School of Life Sciences
 The Assam Royal Global University
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6	BHS984A203	Behavioural Science – II				1	1
Ability Enhancement Elective Course (AEEC) (Skill Based):							
7	ZOO144S222	Sericulture				2	2
Elective: Discipline Specific (DSE)							
8	ZOO144D202	Economic Zoology	2	1	0	3	3
		Total				27	
3 rd Semester							
1	ZOO144C301	Genetics and Cytogenetics	2	1	0	3	3
2	ZOO144C302	Comparative Animal Physiology	2	1	0	3	3
3	ZOO144C313/314 /315	Special Paper Practical I Fishery Practical I Entomology Practical I Ecology Practical I	0	0	6	3	6
Ability Enhancement Compulsory Course (AECC)*							
3	CEN984A301	Comm. Eng				1	1
Ability Enhancement Elective Course (AEEC) (Skill Based):							
4	ZOO144S321	Medical Diagnosis Technique	2	0	0	2	2
Elective: Discipline Specific (DSE)							
5	ZOO144D303	Research Methodology	2	1	0	3	3
6	ZOO144D304	Animal Behaviour	2	1	0	3	3
7	ZOO144D 305 306 307	Special paper I FISH BIOLOGY I ENTOMOLOGY I ECOLOGY I	2	1	0	3	3

Mitrajit Deb

		Total				21	
4 th Semester							
1	ZOO144C401	Biochemistry of Metabolic processes	2	1	0	3	4
2	ZOO144C402	Basics of Biotechnology	2	1	0	3	4
3	ZOO144C413/414 /415	Special Paper Practical II Fishery Practical II Entomology Practical II Ecology Practical II	0	0	6	3	6
Ability Enhancement Compulsory Course (AECC)*							
4	CEN984A401	Comm. Eng				1	1
Elective (Special Paper)							
5	ZOO144D 401 404 407	Special Paper II FISHERY II ENTOMOLOGY II ECOLOGY II	2	1	0	3	3
6	ZOO144D 402 405 408	Special Paper III FISHERY III ENTOMOLOGY III ECOLOGY III	2	1	0	3	3
7	ZOO144D 403 406 409	Special paper IV FISHERY IV ENTOMOLOGY IV ECOLOGY IV	2	1	0	3	3


 HOD/Coordinator
 Department of Zoology
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Dissertation in their selected special paper						
8	ZOO144C421	Dissertation and Viva voce	0	0	0	10
		Total				29

SEMESTER	CREDITS
I	25
II	27
III	21
IV	29
Total	102

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