

Sant Baba Bhag Singh University, Jalandhar
Department of Life Sciences and Allied Health Sciences

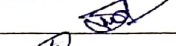
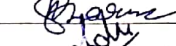
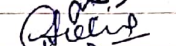
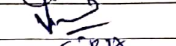

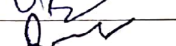

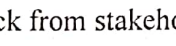
Ref. No. SBBSU/LS/2023/301

Date: 22/12/2023

Departmental Academic/Curriculum Development Committee (CDC) Meeting Proceeding

These was a meeting of Departmental Academic/Curriculum development committee of Life Sciences and Allied Health Sciences on 22nd December 2023 in HODOffice at 3:20pm.

Members present:

Name	Designation	Signature
Dr.Shweta Singh	HOD, Associate Professor	
Dr.Aksh Sharma	COD, Assistant Professor	
Dr Indu Sharma	Associate Professor	
Dr. Chetna Sharma	Assistant Professor	
Dr.Vivek	Assistant Professor	
Dr. Talib Hussain Dar	Assistant Professor	
Dr. Younis Hajam Ahmad	Assistant Professor	
Mr Rajdeep Singh	Assistant Professor	

Agenda for the Meeting:

- Revision in course curriculum of various programmes based on feedback from stakeholders.
- Introduction of new course.
- Finalization of schedule&Experts for BOS for different disciplines

Sr. No.	Agenda	Decision
1	Feedback of stakeholders	Final analysis report of feedback received from various stakeholders (Students, Teachers, Employers, Alumni) on curriculum have been discussed.
2	Revision in course Curriculum	2.1 As per the feedback on curriculum by various stakeholders, and analysed through IQAC, various aspects of revision in course curriculum have been discussed. 2.2 Syllabus for PG programmes could be revised as per current needs of competitive exams (NET/ SET), industry, technological aspects as well as to provide better employability & skills in concerned discipline. 2.3 All subject teachers should submit the due suggestions for syllabus revision so that it could be implemented in next academic year and approved through Board of Studies.
3	Introduction of new course	The introduction of the PG course in Medical Radiology and Imaging Technology from the upcoming semester.
3	BOS meeting	3.1 As per the orders from higher authorities, Meeting of Board of studies for approval of syllabus revision have to be conducted before the commencement of next academic session. Expert panel for different disciplines viz: B.Sc. MLS & M.Sc. Medical Microbiology have been discussed and finalized. 3.2 Tentative date for the same have been proposed on the basis of approval and availability of Experts.

The meeting ended with thanks to the chair.

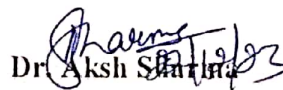
Dr. Shweta Singh

HOD



Dr. Aksh Sharma

COD





Sant Baba Bhag Singh UNIVERSITY

Village: Khiala: PO: Padhiana, Distt: Jalandhar 144030
Website: www.sbbsuniversity.ac.in Phone: 0181-2711163 Fax: 0181-2711555

Department of Life Sciences & Allied Health Sciences

Ref. No: SBBSU/UIS/LS/2023/ 17/

Date: 06/03/2023

To
The Vice Chancellor
SBBS University,
Jalandhar

Subject: For the approval of the expert for BOS of Life Sciences & Allied Health Sciences (Zoology)

Respected Sir,

It is submitted that Department of Life Sciences & Allied Health Sciences have to conduct BOS for discipline of Zoology for (B.Sc. Life Sciences 4 year UG programme, M.Sc. Hons. Zoology) on 10th March 2023 through offline mode. Kindly approve the subject Expert from the following panel.

S No.	Name	Designation	Affiliation (University/Institute)
1	Dr. Yogesh Kumar Rawal	HOE,	Department of Zoology Punjab University Chandigarh. E.Mail: ykrawal@pu.ac.in, Mob. No. 9876096196
2	Dr Onkar Singh	Associate Professor	Department of Zoology & Environment Punjabi University, Patiala E.Mail: onkarpsect@gmail.com, PH 8146583347
3	Dr. Mahabir Singh Rawat	Professor/ Zoology	Department of Zoology SDM Govt. P.G. College Doiwala, Dehradun Mob. 9412916792 Email- drmsrawat2@yahoo.co.in
4	Dr. Ajaz Ahmad Wani	Associate Professor	Department of Zoology, Govt. Degree College, Doda (J&K). Email- aahilajaz@gmail.com Mob. 9797588390

Kindly approve Honorarium (Rs 2000/-) & TA as per university norms for the expert as well.

Thanking you in anticipation:

Sharma 06/03/2023
Coordinator (Life Sciences & Allied Health Sciences)

[Signature]
Head (Life Sciences & Allied Health Sciences)

Recommended & forwarded
to Dean Academics
[Signature]
6/3/23.

Send 1st & 2nd
Dr Yogesh Kumar
Dr Onkar Singh
are approved.
[Signature]
7/3/23

Recommended
[Signature]
7/3/23



Sant Baba Bhag Singh UNIVERSITY

Village: Khiala: PO: Padhiana, Distt: Jalandhar 144030
Website: www.sbbsuniversity.ac.in Phone: 0181-2711163 Fax: 0181-2711555

Ref. No: SBBSU/LS/2022/174

Dated: 07/03/2023

Meeting Circular

It is my pleasure to inform you that you have been appointed as a member of Board of Studies (BOS) meeting of Zoology for following courses viz: (B.Sc. Life Sciences, M.Sc. (Hons) Zoology offered by Life Sciences and Allied Health Sciences (as per NEP)

List of the BOS members are given below:

S.No	Name	Subject	Designation	Institute	Position	Signature
1.	Dr Aneet Kumar	Education	Dean Academics	Sant Baba Bhag Singh University, Jalandhar	Chairperson	
2.	Dr Shweta Singh	Microbiology	Dean UIS	UIS	Member	
3.	Dr Yogesh Kumar Rawal	Zoology	HOD	Department of Zoology University Chandigarh Punjab	Expert Member	
4.	Dr Onkar Singh	Botany	Associate Professor	Department of Zoology & Environment Punjabi University, Patiala	Expert Member	
5.	Dr. Aksh Sharma	Biotechnology	Coordinator	Department of Life Sciences and Allied Health Sciences UIS	Member	
6.	Dr Talib Hussain Dar	Zoology	Assistant Professor	UIS	Internal Member	
7.	Dr Younis Ahmad Hajam	Zoology	Assistant Professor	UIS	Internal Member	
8.	Dr Vivek	Zoology	Assistant Professor	UIS	Internal Member	



Sant Baba Bhag Singh UNIVERSITY

Village: Khiala: PO: Padhiana, Distt: Jalandhar 144030

Website: www.sbbsuniversity.ac.in Phone: 0181-2711163 Fax: 0181-2711555

	Dr. Chetna Sharma	Biochemistry	Assistant Professor	UIS	Internal Member	<i>Chetna</i>
10	Dr. Ranjana Cheema	Zoology	Associate Professor	UIS	Internal Member	<i>Ranjana</i>
11	Dr. Vijay Dhir (Dean UIET)/ His representative				Member	<i>Vijay</i>
12	Dr. Aneet Kumar (Dean UIE)/ His representative				Member	<i>Aneet</i>
13	Dr. Seema Garg (Dean UIL, UICAS)/ Her representative				Member	<i>Seema</i>
14	Dr Ramandeep Kaur Chahal (Dean UICM)/Her representative				Member	<i>Ramandeep</i>

You are requested to attend the meeting on 10/03/2023 (Friday) at 2:00 PM onwards through offline mode at Conference room, block No. 5.

The following Agenda Items were discussed and approved in this BoS meeting:

1. Discussion and approval of course scheme and syllabus of B.Sc. Life Sciences 4year UG programme and M.Sc. (Hons.) Zoology, according to new education policy, 2020 for the admissions session 2023 onwards.
2. Incorporation and revision of vision, mission, PO, PEO, PSO, and CO into the syllabus.
3. Discussion and approval on curriculum aspects on the basis of Feedback of stakeholders.
4. Amendments of any suggestions by the experts regarding scheme and syllabu

Aksh
7/3/23
Dr Aksh Sharma
Coordinator (Life Sciences
Allied Health Sciences)

Shweta
7/3/23
Dr. Shweta Singh
Dean UIS, SBBSU



Sant Baba Bhag Singh UNIVERSITY

Department of Life Sciences and Allied Health Sciences

Ref. No : SBBSU/LS/2023/173A

Date : 10/03/2023

Minutes of BOS Meeting

Subject: Proceedings of the Meeting of Board of Studies (BoS) for discipline of Zoology in Department of Life Sciences and Allied Health Sciences.

As per circular wide no SBBSU/UIS/LS/2023/174 dated 07-03-2023, the Board of Studies (BOS) meetings for discipline of Zoology held on 10-03-2023 (Friday) at 2:00 pm onwards through offline mode for implementation of National Education Policy (NEP) 2020 and for approval of scheme and syllabus of B.Sc. Life Sciences 4 year programme. M.Sc. (Hons) Zoology & Interdisciplinary Course of Zoology offered by Life Sciences and Allied Health Sciences (as per NEP)

The following members were present in the meeting and approved the BOS agenda.

S. No.	Name	Subject	Designation	Institute	Position	Signature
1	Dr Aneet Kumar	Education	Dean Academics	Sant Baba Bhag Singh University, Jalandhar	Chairperson	
2	Dr Shweta Singh	Microbiology	Dean UIS	UIS	Member	
3	Dr Yogesh Kumar Rawal	Zoology	HOD	Department of Zoology Punjab University Chandigarh	Expert Member	 10/03/23
4	Dr Onkar Singh	Botany	Associate Professor	Department of Zoology & Environment Punjabi University, Patiala	Expert Member	 10/3/23
5	Dr. Aksh Sharma	Biotechnology	Coordinator	Department of Life Sciences and Allied Health Sciences, UIS	Member	
6	Dr Talib Hussain Dar	Zoology	Assistant Professor	UIS	Internal Member	
7.	Dr Younis Ahmad Hajam	Zoology	Assistant Professor	UIS	Internal Member	

8.	Dr. Ranjana Cheema	Zoology	Associate Professor	UIS	Internal Member	
9.	Dr Vivek	Zoology	Assistant Professor	UIS	Internal Member	
10.	Dr Chetna Sharma	Biochemistry	Assistant Professor	UIS	Internal Member	
11.	Dr Vijay Dhir (Dean UIET)/ His representative				Member	
12.	Dr Aneet Kumar (Dean UIE)/ His representative				Member	
13.	Dr Seema Garg (Dean UIL, UICAS)/ Her representative				Member	
14.	Dr Ramandeep Kaur Chahal (Dean UICM)/Her representative				Member	

The following Agenda Items were discussed and approved in this BoS meeting:

1. Discussion and approval of course scheme and syllabus of B.Sc. and M.Sc. (Hons.) Zoology, programme code, PG033 according to new education policy for the admissions session 2022 onwards.
2. Approval of revised Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) in the curriculum of B.Sc and M.Sc. (Hons.) Zoology.
3. Approval of interdisciplinary course viz Biology for (all branches).
4. Incorporation of amendments suggested by the experts regarding scheme and syllabus as per feedback of stakeholders.
5. Inclusion of new courses in the curriculum of M.Sc. (Hons.) Zoology as per competitive examination point of view.

Details of Proceedings of BoS Meeting

S.No	Programme Name/ Programme Code	Course code	Course Name	Remarks/Observations by Experts/Stakeholders/ OS Committee members	Action Taken (Batch 2023 onwards)
1	M.Sc.(Hons.) Zoology/ PG 033)	ZOO501	Comparative Anatomy of Vertebrates	New course has been introduced in M.Sc.	Incorporated in the curriculum and replacement of Biosystematics, Taxonomy & Evolution (ZOO501)
2	M.Sc.(Hons.) Zoology/ PG 033)	ZOO503	Cell Biology, communication and cell signaling	New course has been introduced in M.Sc.	Incorporated in the curriculum and replacement of Populations Ecology & Environmental Physiology (ZOO503)
3	M.Sc.(Hons.) Zoology/ PG 033)	ZOO505	Introduction to Immunology	Course needs to be shifted from Sem IV to Sem I.	Incorporated in the curriculum and replacement of Cell and Molecular Biology (ZOO505)

	033)				of Cell and Molecular Biology (ZOO505)
4	M.Sc.(Hons.) Zoology/ PG 033)	ZOO 507	Principles in Ecological	Course needs to be added as core course as per the CSIR-NET and feedback of stakeholder.	Incorporation of subject as core course in II semester Course content has been revised as per the requirement of UGC-CSIR NET and research purpose.
5	M.Sc.(Hons.) Zoology/ PG 033)	ZOO 509	Computational Biology	Course needs to be added as core course as per the feedback of stakeholder as per the demand of the current research requirement.	Incorporation of new subject as core course
6	M.Sc.(Hons.) Zoology/ PG 033)	ZOO 511	Biosystematics and Taxonomy	Course has been revised as per the CSIR NET to be added as minor course as per the feedback of stakeholder.	Incorporation of subject as core course in I semester in place of Structure and Functions of Animals Practical (ZOO512)
7	M.Sc.(Hons.) Zoology/ PG 033)	ZOO513	Natural Hazards and Disaster Management	Incorporation of multidisciplinary course in semester I as per the feedback of stakeholder and competitive view point.	Course has been transferred from Semester II to semester I.
8	M.Sc.(Hons.) Zoology/ PG 033)	ZOO502	Biochemistry and molecular biology	Course needs to be introduced as major course in semester II as per the feedback of stakeholder and competitive view point.	Incorporated in the curriculum with the replacement of General & Comparative Animal Physiology with same code
9	M.Sc.(Hons.) Zoology/ PG 033)	ZOO504	System physiology	Course needs to be introduced as major course in semester II as per the feedback of stakeholder and competitive view point.	Incorporated in curriculum and replacement of Basic Endocrinology with same code.

10	M.Sc.(Hons.) Zoology/ PG 033)	ZOO506	Development Biology and genetics	Course needs to be modified as per the competitive view point.	Updatationof the syllabus. And replacement of Biomolecules and structural biology (ZOO623)
11	M.Sc.(Hons.) Zoology/ PG 033)	ZOO608	Cellular Physiology	Incorporation of Major elective discipline specific course in semester II as per the feedback of stakeholder and competitive view point.	Incorporated in the curriculum and only code has been changed from (ZOO 608) to (ZOO508)
12	M.Sc.(Hons.) Zoology/ PG 033)	ZOO510	Animal Behaviors and evolution	Major elective discipline specific course in semester II as per the feedback of stakeholder and competitive view point. Two course has been merged into one	Incorporated in the curriculum major elective discipline specific course in semester II elective course has been transferred from Semester IV with course code (ZOO 605) with new code (ZOO510)
13	M.Sc.(Hons.) Zoology/ PG 033)	ZOO6	Apiculture and apicultural products	Incorporation of minor course in semester II as per employability and entrepreneurship development be view point and the feedback of stakeholder.	Incorporated in the curriculum. New major course have been added.

14	M.Sc.(Hons.) Zoology/ PG 033)	ZOO514	Biostatistical Methods	Course nomenclature needs to be revised and Course needs to be shifted from theory to practical in semester II	Incorporated in the curriculum Course has been shifted from I to semester II from 2023 onwards. Course code has been revised from MAT515 to MAT514
15	M.Sc.(Hons.) Zoology/ PG 033)	ZOO516	Biochemistry and inherent biology, system physiology practical	Practical needs to revised as per the revision made in the theory subjects	Incorporated in the curriculum.
16	M.Sc. (Hons.) Zoology/ PG 033)	ZOO518	Development and inherent biology practical	Practical needs to revised as per the revision made in the theory subjects	Incorporated in the curriculum.
17	M.Sc. (Hons.) Zoology/ PG 033)	ZOO601	Basics of Research Methodology	Subject has been introduced in semester III to inculcate the research temperament in the students. Genetics and Cytogenetics has been replaced by Basics of Research Methodology	New course has been incorporated in the curriculum in the replacement of Genetics and Cytogenetics with same course code to motivate the students towards the research.
18	M.Sc. (Hons.) Zoology/ PG 033)	ZOO603, 605, 607,609,6 11,613	Three major elective courses with two subjects in have been introduced under the category of specialization with two (General entomology and insect morphology,	Subject has been introduced in semester III to inculcate subject specific knowledge.	One specialization endocrinology (Introduction to endocrinology & Diabetes and metabolism). Entomology are already exists in the curriculum. However subject codes has been modified.

			Fish Morphology and anatomy, Introduction to endocrinology) and (Fish structure and function, Insect anatomy and physiology, Diabetes and metabolism) subjects in each subject student has to chose.		
19	M.Sc. (Hons.) Zoology/ PG 033)	ZOO615	Research Ethics	This course has been newly introduced in the M.Sc curriculum according to the UGC norms for the research development	Newly designed and introduced from 2023 onwards
20	M.Sc. (Hons.) Zoology/ PG 033)	ZOO617	Tools and techniques	This course has been introduced under the skill enhancement course to make the students familiar with techniques used in the biological sciences	Course has been shifted from Semester I (Tools and Techniques for Biology) bearing code ZOO 507 to shifted III (Tools and techniques) bearing code ZOO617
21	M.Sc. (Hons.) Zoology/ PG 033)	ZOO619	General entomology and insect morphology, and (Insect anatomy and physiology,	Practical has been designed as per the specialization subject of entomology	General entomology practical has been changed into General entomology and insect morphology, and (Insect anatomy and physiology (ZOO619)
22	M.Sc. (Hons.) Zoology/ PG 033)	ZOO621	Fish Morphology and anatomy, and Fish structure and function,	Practical has been designed as per the specialization subject of Fish Biology	Genetic, cytogenetics, development and differentiation practical has been replaced by Fish Morphology and anatomy, and Fish structure and function keeping the code same
23	M.Sc. (Hons.) Zoology/ PG 033)	ZOO623	Introduction to endocrinology) Diabetes and metabolism)	Practical has been designed as per the specialization subject of endocrinology	This practical has been newly designed as per the subject specialization of endocrinology.

24	M.Sc. (Hons.) Zoology/ PG 033)	ZOO625	Dissertation-I (Synopsis submission)	Major research course has been newly introduced by fulfilling the current demand.	Dissertation has been newly introduced by replacing the project report
25	M.Sc. (Hons.) Zoology/ PG 033)	ZOO627	Seminar	Time to evaluation of research work will be evaluated by conducting the PowerPoint presentations to develop presentation skills	Seminar has been shifted from Semester second to semester III
26	M.Sc. (Hons.) Zoology/ PG 033)	ZOO602	Recent trends in research methodology	Subject has been introduced in semester III to inculcate the research temperament in the students. Animal Behavior has been replaced by Recent trends in research methodology	New course has been introduced by replacing the Animal Behavior. However, course code remained same (ZOO602)
27	M.Sc. (Hons.) Zoology/ PG 033)	ZOO604, ZOO606, ZOO608, ZOO610, ZOO612, ZOO614	Three major elective courses with two subjects in have been introduced under the category of specialization with two papers in each specilization (Insect Taxonomy, (Ecology and development, Taxonomy, Systematics& Ecology of fishes, Reproductive Physiology in Males) (Applied Entomology, Pisciculture and Economic importance of fishes, Reproductive Physiology in	Subject has been introduced in semester IV to inculcate subject specific knowledge.	One specialization endocrinology (Reproductive Physiology in Males and females). Entomology are already exists in the curriculum. However subject codes has been modified.

			females) in specialization		
28	M.Sc. (Hons.) Zoology/ PG 033)	ZOO616	Research ethics has been introduced to fulfill the requirement of research rules and regulation.	This course has been newly introduced in the M.Sc curriculum according to the UGC norms for the research development	Newly designed and introduced from 2023 onwards
29	M.Sc. (Hons.) Zoology/ PG 033)	ZOO618	Scientific and technical writing	This subject has been introduced to inculcate the manuscript writing in students	Newly designed and introduced from 2023 onwards by replacing the Animal behavior and vertebrate immunology M.Sc. (Hons.) Zoology/ PG 033)practical. Code has been kept same.
30	M.Sc. (Hons.) Zoology/ PG 033)	ZOO620	Practical is based on theory subjects (Insect Taxonomy, Ecology and development and applied entomology)	Practical has been designed as per the specialization subject of entomology	General entomology practical has been changed into Taxonomy, Ecology and development and applied entomology) (ZOO604&610)
31	M.Sc. (Hons.) Zoology/ PG 033)	ZOO622	Practical is based on theory subjects (Taxonomy, systematics & ecology of fishes and pisciculture and economic importance of fishes)	Practical has been designed as per the specialization subject of fish biology	Cellular and mammalian physiology practical (ZOO622) has been replaced by Fish Morphology and anatomy, and Fish structure and function keeping the code same and same code has been assigned.
32	M.Sc. (Hons.) Zoology/ PG 033)	ZOO624	Practical is based on theory subjects (Reproductive physiology in females and males)	Practical has been designed as per the specialization subject of Endocrinology	Fish biology and fisheries Practical (ZOO624) Reproductive physiology in females and males) has been replaced by keeping the code same and same code has been assigned.
33	M.Sc. (Hons.) Zoology/ PG 033)	ZOO624	Dissertation-II (Final submission of dissertation followed by viva-voce) *dissertation	Major research course has been newly introduced by fulfilling the current demand.	Dissertation has been newly introduced by replacing the project report

must be
evaluated by
one external
examiners.

B.Sc. Life Sciences

1.	B.Sc. Life Sciences	ZOO161	Animal Biodiversity	Animal Biodiversity has been introduced as a major course to fulfill the criteria and basics of zoology	Animal diversity is the fundamental course of zoology. This course already exist in the previous three year UG programme only code has been changed from ZOO101 to ZOO161
2.	B.Sc. Life Sciences	ZOO165	Waste Management	Waste management has been added as a minor course.	This subject has is newly introduced in UG programme keeping in view the environmental
3.	B.Sc. Life Sciences	ZOO163	Animal Biodiversity Practical	The practical is based on major course ZOO161	
4.	B.Sc. Life Sciences	ZOO162	Structure and Function of Invertebrates	This course has been introduced as a major course	Structure and function of invertebrates (ZOO162) has been added by replacing the comparative anatomy and developmental biology of vertebrates (ZOO102)
5	B.Sc. Life Sciences	ZOO166	Apiculture	Apiculture has been introduced as a minor course. The course has been introduced to solve the employment.	Apiculture has been shifted from semester V (Apiculture and sericulture (ZOO315) to semester II. Moreover, syllabus has been revised. Sericulture part has been deleted.
6.	B.Sc. Life Sciences	ZOO164	Structure and Function of Invertebrates Practical	This course has been added on the basis of major course ZOO162	The ZOO104 has been replaced by ZOO164 (Structure and function of invertebrates Practical).
7.	B.Sc. Life Sciences	ZOO261	Structure and Function of Chordates	This course is newly introduced in the 4 year UG programme	ZOO201-Animal physiology and biochemistry has been replaced by Structure and function chordates
8.	B.Sc. Life Sciences	ZOO265	Medical Diagnostics	This course has introduced in the UG programme as a	This course has been upgraded as minor course instead of SEC in previous. Course code has been changed from (ZOO205) to ZOO265
	B.Sc. Life Sciences	ZOO263	Structure and Function of Chordates Practical	Practical is based on major course Structure and function chordates	This practical has bene introduced by replacing the ZOO203 (Animal physiology and biochemistry)

10	B.Sc. Life Sciences	ZOO262	Genetics and Evolutionary Biology	This course has been introduced as per competitive exam point of view	this course already exists in 3 year UG programme only code has been changed from ZOO202 to ZOO262.
11	B.Sc. Life Sciences	ZOO266	Sericulture	This is newly introduced in the category of minor. Aim behind the introduction of this course is to develop entrepreneurship.	This course is newly introduced course.
12	B.Sc. Life Sciences	ZOO264	Genetics and Evolutionary Biology Practical	Practical is based on major course Genetics and evolutionary biology Practical.	Only course code has been changed from ZOO2904 to ZOO264
13	B.Sc. Life Sciences	ZOO361	Cell Biology, Biotechnology and Reproductive Biology	This course introduced to aware the students about biotechnology as a major course advancement and cellular aspects. However, this course already exists in the 3year UG programme. Syllabus has been revised as per current demand.	Only course code has been changed from ZOO301 to ZOO361
14	B.Sc. Life Sciences	ZOO365	Animal Physiology and Biochemistry	This course was introduced as a major course. Syllabus has been updated	This course has been shifted from ZOO201 semester III semester V to maintain the hierarchy and advancement.
15	B.Sc. Life Sciences	ZOO369	Aquatic Biology	This course as DSE to ware students about the entrepreneurship avenues in aquatic biology	This course already exists in semester V, only course code has been changed from ZOO317 to ZOO369.
16	B.Sc. Life Sciences	ZOO373	Aquaculture	This a newly DSE course introduced in 4year	This is newly introduced course.
17	B.Sc. Life Sciences	ZOO363	Cell Biology, Biotechnology and Reproductive Biology Practical	Practical is based on major course Cell biology, Biotechnology and reproductive Practical.	This practical course already exists in the previous syllabus only course code has been changed, from ZOO303 to ZOO363
18	B.Sc. Life Sciences	ZOO367	Animal Physiology and Biochemistry Practical	Practical is based on major course Genetics and evolutionary biology Practical.	This practical has been shifted from semester III to semester V only course code has been changed from ZOO203 to ZOO367
19	B.Sc. Life Sciences	ZOO371	Aquatic Biology Practical	Practical is based on major course Genetics and evolutionary biology Practical.	This practical course has been assigned course code 309
20	B.Sc. Life Sciences	ZOO362	Immunology and Biostatistics	Immunology and biostatistics has been merged together as single course	In the previous syllabus Immunology was a separate subject having course code of ZOO302. Now biostatistics

					has been merged with immunology.
21	B.Sc. Life Sciences	ZOO366	Comparative Anatomy and Developmental Biology of Vertebrates	This course has been introduced to aware the students about the NET and higher studies	Course name has been modified and shifted from semester II to semester VI to maintain the hierarchy in the syllabus. Course code has been modified from ZOO102 to ZOO366
22	B.Sc. Life Sciences	ZOO370	Insect, Vector and Diseases	This is course was already present in previous syllabus only content has been modified.	This subject was already in the same semester only course code had been changed ZOO310 to ZOO370
23	B.Sc. Life Sciences	ZOO374	Aquarium Fish Keeping	This course was already present in the same semester as SEC, now it has been categorized as minor course	Only course code has been modified from ZOO314 to ZOO374
24	B.Sc. Life Sciences	ZOO364	Immunology and Biostatistics Practical	Practical is based on major course Immunology and biostatistics Practical.	This practical course has been updated from Immunology practical (ZOO304) to ZOO364
25	B.Sc. Life Sciences	ZOO368	Comparative Anatomy and Developmental Biology of Vertebrates Practical	Practical is based on major course Comparative anatomy and developmental biology of vertebrates Practical.	This practical has been updated from ZOO104 to ZOO368.
26	B.Sc. Life Sciences	ZOO372	Insect, Vector and Diseases Practical	Practical is based on major course Insect, vector and diseases Practical.	Only course code has been changed from ZOO312 from ZOO372
27	B.Sc. Life Sciences	ZOO461	Biosystematics, Taxonomy and Evolution	This is newly introduced course according to NEP sand competitive exams	This course has been newly introduced in the syllabus.
28	B.Sc. Life Sciences	ZOO463	Population Ecology and Environmental Physiology	This is newly introduced course according to NEP sand competitive exams	This course has been newly introduced in the syllabus.
29	B.Sc. Life Sciences	ZOO465	Tools and Techniques for Biology	This is newly introduced course according to NEP sand competitive exams.	This course has been newly introduced in the syllabus.
30	B.Sc. Life Sciences	ZOO467	Reproductive Biology	This course has been introduced from research point of view	This course has bene shifted from semester VI to semester VII. Only course code has been changed from 306 to ZOO46

31	B.Sc. Life Sciences	ZOO469	Applied Zoology	This course has been introduced to teach applied part of zoology	This course has been newly introduced in the syllabus.
32	B.Sc. Life Sciences	ZOO471	Ecology and Environmental Physiology, Systematics, Taxonomy and Evolution Practical	Practical based on (ecology and environmental physiology, systematics, taxonomy and evolution practical	This course has been newly introduced in the syllabus.
33	B.Sc. Life Sciences	ZOO473	Tools and Techniques for Biology Practical	Practical was designed on the current advancement on instrumentation	This course has been newly introduced in the syllabus.
34	B.Sc. Life Sciences	ZOO462	Basic Endocrinology	This is newly introduced course as per competitive exam	This subject has been newly introduced in the 4year UG programme
35	B.Sc. Life Sciences	ZOO464	Ichthyology	This is newly introduced course as per competitive exam and research	This subject has been newly introduced in the 4year UG programme
36	B.Sc. Life Sciences	ZOO466	General and Applied Entomology	This is newly introduced course as per competitive exam and research	This subject has been newly introduced in the 4year UG programme
37	B.Sc. Life Sciences	ZOO470	Cellular Neurobiology and Neuron Organization	This course was introduced as advanced course under minor category	This subject has been newly introduced in the 4year UG programme
38	B.Sc. Life Sciences	ZOO468	Wild life and its Conservation	This course has been introduced as minor as entrepreneurship.	This subject has been newly introduced in the 4year UG programme
39	B.Sc. Life Sciences	ZOO472	Endocrinology and Ichthyology practical	Subject has been developed by merging the basic endocrinology and ichthyology	Practical based on major courses.
40	B.Sc. Life Sciences	ZOO474	Practical based on General and Applied Entomology	Subject has been developed by merging the basic endocrinology and ichthyology	Practical based on major courses.

B.Sc. Life Sciences with Research

41	B.Sc. Life Sciences	ZOO461	Biosystematics, Taxonomy and Evolution	This is newly introduced course according to NEP sand competitive exams	This course has been newly introduced in the syllabus.
42	B.Sc. Life Sciences	ZOO463	Population Ecology and Environmental Physiology	This is newly introduced course according to NEP sand competitive exams	This course has been newly introduced in the syllabus.
43	B.Sc. Life Sciences	ZOO465	Tools and Techniques for Biology	This is newly introduced course according to NEP sand competitive exams.	This course has been newly introduced in the syllabus.

44	B.Sc. Life Sciences	RM401	Research Methodology and Research Ethics-I	This is newly introduced course according to NEP and research point of view	This course has been newly introduced in the syllabus.
45	B.Sc. Life Sciences	ZOO471	Ecology and Environmental Physiology, Systematics, Taxonomy and Evolution Practical	Practical based on (ecology and environmental physiology, systematics, taxonomy and evolution practical	This course has been newly introduced in the syllabus.
46	B.Sc. Life Sciences	RLS401	Dissertation-I (Review of Literature and Seminar).	Dissertation has been introduced to fulfil the current demand of research and NEP.	Dissertation is newly introduced as per the research perspective.
47	B.Sc. Life Sciences	ZOO462	Basic Endocrinology	This is newly introduced course as per competitive exam	This subject has been newly introduced in the 4year UG programme
48	B.Sc. Life Sciences	ZOO464	Ichthyology	This is newly introduced course as per competitive exam and research	This subject has been newly introduced in the 4year UG programme
49	B.Sc. Life Sciences	ZOO466	General and Applied Entomology	This is newly introduced course as per competitive exam and research	This subject has been newly introduced in the 4year UG programme
50	B.Sc. Life Sciences	RM402	Research Methodology and Research Ethics-II	This is newly introduced course according to NEP and research point of view	This course has been newly introduced in the syllabus.
51	B.Sc. Life Sciences	DPR 402	Dissertation-II (Project Report)	Dissertation is newly introduced as per the research perspective.	Dissertation is newly introduced as per the research perspective.
52	B.Sc. Life Sciences	ZOO472	Endocrinology and Ichthyology practical	Subject has been developed by merging the basic endocrinology and ichthyology	Practical based on major courses.
53	B.Sc. Life Sciences	ZOO474	Practical based on General and Applied Entomology	Subject has been developed by merging the basic endocrinology and ichthyology	Practical based on major courses.

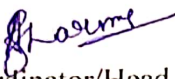
Other Suggestions of External Experts (Not covered above):

S. No.	Name of Expert	Designation/Address	Expert's suggestions	Action Taken
1.	Dr. Yogesh Kumar Rawal	Associate Professor/ Department of Zoology Punjab University Chandigarh	Draft has been made as per NEP	Suggestions have been incorporated as advised by the expert
2.	Dr. Onkar Singh	Associate Professor/	Draft has been made as per NEP	Suggestions have been incorporated

		Department of Zoology & Environment Punjabi University, Patiala		as advised by the expert
--	--	---	--	-----------------------------

Meeting ended with the thanks by Dean Academics.

Thank you in anticipation


In-Charge/Coordinator/Head of the Department


Dean of Institute



Sant Baba Bhag Singh University

(University Established under Punjab Act No.6 of 2015)
VIII. Khiala, P.O. Padhiana, Dist. Jalandhar, Punjab, INDIA

External Expert Review Performa For Board of Studies

Name of External Expert : Dr. Onkar Singh Barraich
 Discipline : Zoology
 Designation : Associate Prof.
 Organization (Name & Address) : Dept of Zoology, Environmental Sciences, Punjab Univ, Patiala,
 Contact No. : 81415-83347
 E-Mail ID : roy.onkar@yahoo.com
 Date of Visit/Meeting : 10-03-2023

Reviewer's Comments :- During the meeting various suggestions have been given as per AER

❖ Use extra sheet(s) if required.

[Signature] 10/03/23
Signature

Date 10/03/2023

[Signature]
Coordinator/HOD's/Dean's

Dean Academics



Sant Baba Bhag Singh University

(University Established under Punjab Act No.6 of 2015)
Vill. Khiala, P.O. Padhiana, Dist. Jalandhar, Punjab, INDIA

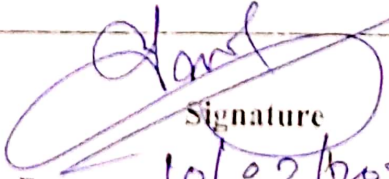
External Expert Review Performa For Board of Studies

Name of External Expert : DR. YOGESH KUMAR RAJAL
 Discipline : ZOOLOGY
 Designation : CHAIRPERSON & ASSISTANT PROF.
 Organization (Name & Address) : PANTAR UNIVERSITY, CHANDIGARH
 Contact No. : 9876096196
 E-Mail ID : y.k.rajal@gmail.com
 Date of Visit/Meeting : 10/03/2023

Reviewer's Comments :-

As per the NEP ISMART there has to be a balance of minor & major & accordingly the advice has been given.

❖ Use extra sheet(s) if required.


 Signature
 Date: 10/03/2023

Coordinator/HOD's/Dean's

Dean Academics