

**AGENDA FOR 3<sup>RD</sup> BOARD OF STUDIES MEETING**  
**OF**  
**DEPARTMENT OF BIOCHEMISTRY,**  
**SCHOOL OF LIFE SCIENCES ON 20.02.2019.**

**Item No. 1: Approval of the minutes of 2<sup>nd</sup> BOS meeting**

- The minutes of 2<sup>nd</sup> BOS meeting will be placed on the table. (Annexure-I)

**Item No. 2: Criteria of admission into P.G. course in Biochemistry.**

- The proposal will be placed on the table (Annexure- II)

**Item No. 3: Addition of three new Elective courses in Ph. D Course Work of Biochemistry.**

- The proposal will be placed on the table (Annexure- III)

**Item No. 4: Revised Syllabus of U.G. Courses offered by Biochemistry Department as per CBCS system.**

- The proposal will be placed on the table (Annexure- IV)

**Item No. 5: Approval of seats in Under Graduate (UG) and Post Graduate (PG) courses.**

- The proposal will be placed on the table (Annexure- V, VI)

**Any other point raised by Hon'ble members.**

## Minutes of 3<sup>rd</sup> BOS Meeting of Department of Biochemistry

held on 20<sup>th</sup> February 2019

The 3<sup>rd</sup> Board of Studies Meeting of the Department of Biochemistry, School of Life Sciences, H.N.B. Garhwal University (A Central University) was held on 20.02.2019 in the office of the Department of Biochemistry at 11 a.m.

The following members attended the meeting:

1. **Prof. N.S. Bisht**

*Dean, School of Life Sciences*

Convener

2. **Dr. Nisha Singh**

*Head (Incharge), Department of Biochemistry*

Member

3. **Prof. M.K. Singh**

*Professor, Department of Philosophy*

Member

4. **Dr. Sarla Saklani**

*HoD, Pharmaceutical Chemistry*

Member

5. **Dr. Manisha Nigam**

*Assistant Professor, Department of Biochemistry*

Member

In the beginning of the meeting the Chairman of the BOS welcomed all the members and briefed them about the progress of the Department of Biochemistry. The BOS members expressed their highly appreciation and satisfaction about the courses and activities of the Department.

After that the BOS discussed and resolved the following items:

### **Item No. 1: Approval of the minutes of 2<sup>nd</sup> BOS meeting**

The minutes of 2<sup>nd</sup> BOS meeting held on 6<sup>th</sup> February, 2018 were circulated among the BOS members. Since no comment has been received, this BOS has approved the minutes of the 2<sup>nd</sup> BOS meeting.

### **Item No. 2: Criteria of admission into P.G. course in Biochemistry.**

The BOS discussed and resolved that for admission into P.G. course in Biochemistry, the students must have B.Sc. (in any stream of Life Sciences) with 45% marks for general and for SC/ST as per University rules.

**Item No. 3: Addition of three new Elective courses in Ph. D Course Work of**

**Biochemistry.**

The BOS discussed the item and approved the following three new Elective courses in Ph. D Course Work of Biochemistry.

PBE-06-Current Concepts in Immunology.

PBE-07-Advanced Cancer Biology.

PBE-08-Tools and Techniques in Biochemistry.

**Item No. 4: Revised Syllabus of U.G. Courses offered by Biochemistry Department as per CBCS system.**

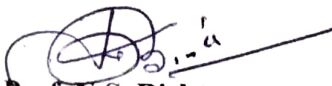
The BOS discussed the item and approved the revised syllabus of U.G Courses offered by Department of Biochemistry for the Degree of B.Sc. which is designed as per CBCS system.

**Item No. 5: Approval of seats in Under Graduate (UG) and Post Graduate (PG) courses.**


The BOS discussed the item and approved the following number of seats considering the University Prospectus for the Session 2018-19. As such, there are 120 seats in UG and 15 seats in PG.

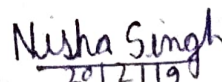
Department	Programme	Duration	Nature	Mode of admission	Seats Available		
					B.C. Srinagar	SRT Tehri	BGR Pauri
Biochemistry	B.Sc.	6 Sem.	Regular	Merit	120	x	x
	M.Sc. (Biochemistry)	4 Sem.	Regular	Ent. Test	15	x	x

There being no other matter, the meeting was concluded with a vote of thanks to the chair.

  
**Prof. N.S. Bisht**  
Dean,  
School of Life Sciences

  
**Dr. Sarla Saklani**  
HoD, Pharmaceutical Chemistry


  
**Prof. M.K. Singh**  
Professor, dept. of Philosophy

  
**Dr. Nisha Singh**

Head (Incharge) Dept. of Biochemistry

  
**Dr. Manisha Nigam**

Assistant Professor, Dept. of Biochemistry

Approved  
Chairman  
22.8.2019  


HE unopposed member  
22/8/19

**AGENDA FOR THE 5<sup>th</sup> MEETING OF BOARD OF STUDIES**  
**DEPARTMENT OF BIOCHEMISTRY**

**Agenda No.1**

**To Confirm the minutes of previous Board of Studies (BOS 4<sup>th</sup>) meeting.  
The proposal will be placed on the table. (Annexure-1)**

**Agenda No.2**

**To upgrade the Pre-Ph.D. syllabus of Biochemistry as per UGC.  
The proposal will be placed on the table. (Annex-2)**

**Agenda No.3**

**To conduct the interview for admission in Ph.D. (Biochemistry) for  
session 2019-20.**

**The proposal will be placed on the table. (Annex-3)**

**Agenda No. 4**

**To constitute the “Departmental Academic Integrity Panel” committee  
for plagiarism checking.**

**The proposal will be placed on the table. (Annex-4)**

**Agenda No. 5**

**To approve the Course and Programme outcomes for U.G. and P.G.**

**The proposal will be placed on the table. (Annex-5)**

**Any other point raised by Hon'ble members**

Minutes of the 5<sup>th</sup> Board of Studies of Department of Biochemistry

A meeting of the 5<sup>th</sup> Board of Studies of Department of Biochemistry was held on 27<sup>th</sup> Feb 2020 in the office of the Department of Biochemistry.

Following members attended the meeting:

- 1. **Prof. R. P. Bhatt**

Dean, School of Life Sciences, Chairperson

*[Signature]*  
27/02.2020

- 2. **Prof. P. C. Lakhera**

Dept. of Zoology & Biotechnology, Member

*[Signature]*  
27/2/2020

- 3. **Dr. Sarla Saklani,**

Dept of Pharmaceutical Chemistry, Member

*[Signature]*  
27/02/2020

- 4. **Dr. Daya Krishna Tamta**

Associate Professor, VCSGGMSR, Srinagar, Garhwal, Member

*[Signature]*  
27/02/2020

- 5. **Dr. Manisha Nigam**

Assistant Professor, Department of Biochemistry, Member

*[Signature]*  
27/2/20

**Chairperson, BOS** welcomed the members and placed the agenda for the discussion. Following decisions have been taken unanimously:

**Item No. 1 Approval of the minutes of previous Board of Studies (BOS 4<sup>th</sup>) meeting**

The minutes of the 4<sup>th</sup> BOS meeting held on 23-04-19 was circulated among the members. Since no comments has been received, this BOS has approved the minutes of 4<sup>th</sup> BOS meeting.

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✓ **Item No. 2 To upgrade the Pre-Ph.D. syllabus of Biochemistry as per UGC.**

As per university order No. Acad/2020/49 dated 11 Feb. 2020 in reference to UGC, New Delhi letter No. D.O.No. F.1-1/2018(Journal/ CARE) dated Dec. 2019, "Research and Publication Ethics" paper was included as a compulsory course for Pre-registration course work. BOS approved this course work.

**Item No. 3 To conduct the interview for admission in Ph.D. (Biochemistry) for session 2019-20.**

As per the result of the Ph.D. entrance examination 2019-20 declared by the university administration, 2 (two) candidates were found to be provisionally eligible for the interview.

Overall, 02 provisionally eligible candidates reported for interview at Department of Biochemistry, HNBGU. On verification of the documents as mentioned in INTERVIEW CALL LETTER, 02 candidates were found to be eligible for the interview by the BOS of the department. Thereafter, BOS conducted the interview.

On the basis of the combined performance in the entrance examination and interview, the BOS recommends and select the following candidate for admission in the Ph.D. programme in Biochemistry offered by the Dept. of Biochemistry, School of Life sciences:

**Selected Candidate:**

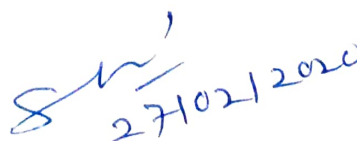
PRAVEEN KUMAR CHATURI

**Wait-Listed Candidate:**

PREETI





  
27/02/2020





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**Item No. 4 To constitute the "Departmental Academic Integrity Panel" committee for plagiarism checking**

As per university order No. Acad/2020/57 in reference to UGC, New Delhi letter No. D.O.No. F.1-18/2010(CPP-II) dated 06 Aug 2018, the "Departmental Academic Integrity Panel" committee is proposed to be constituted for plagiarism checking as follows:

**Chairperson:** Dean, School of Life Sciences

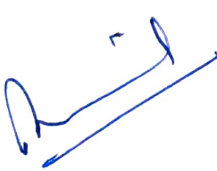

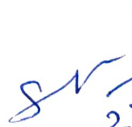
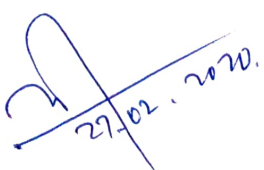

**Member:** ① Prof. P. C. Lakhera ② Prof. J. S. Chauhan  
(Senior academician from outside the department, to be nominated by the Hon'ble Vice Chancellor)

**Member:** Dr. Nisha Singh, Dept. of Biochemistry

✓ **Item No. 5 To approve the Course and Programme outcomes for U.G. and P.G.**

The BOS discussed the Course and Programme outcomes for U.G. and P.G. and approved the items.

**There being no other matter, the meeting was concluded with a vote of thanks to the chair.**

Hemvati Nandan Bahuguna Garhwal University (A Central University)  
Srinagar (Garhwal), Uttarakhand- 246 174, India



Ref: HNBGU/Biochem/2020/

Date: 27-02-20

To  
The Vice Chancellor  
HNB Garhwal University  
Srinagar

**Through Proper Channel**

(Subject: Approving the proceedings of the Board of studies of the Department of Biochemistry)

Hon'ble Madam,

This is to inform you that meeting of the Board of studies of the Department of Biochemistry had been conducted on 27-02-20. The minutes of the meeting has been attached herewith for the approval. It is requested to kindly accord your approval.

Thanking you

Sincerely

(Dr. Manisha Nigam)

(Dean, SLS)

(Deputy Registrar, Academic)



Signature .....



पाठ्यक्रम समिति कार्यकमिष्ट्री विषय की दृक 27.2.20

से लिखे गये निर्णयों में मद नं 02 स्कूल बोर्ड में प्रस्तुत  
मिा जाना है। शेष मद BOS की बैठक के ~~परि~~पत्र  
माननीया कुलपति जी के अनुमोदनार्थ प्रस्तुत।

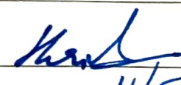
  
11/5/2020

Shamsh  
SO Acad

~~AREA~~

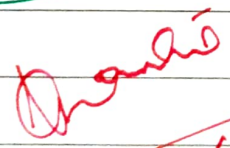
Agenda items no. 2, 4 & 5 needs approval of  
School Board.

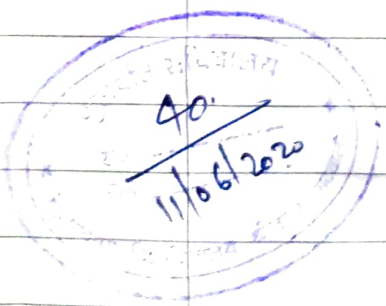
BOS minutes are submitted for kind  
approval please.

  
11/5/20

Registrar 10.06.2020

Hon'ble VC

  
12.6.2020



HNBGU Dated 25.02.2020. Further, in lieu of existing Elective Lab Courses two (02), four credits Courses have been incorporated.

The Revised Pre-Ph.D. syllabus for implementation w.e.f. 2019-2020, is placed before the BoS for approval as follows (**Annex. 18.22**):-

Code	Course	Credits	MM
Core-I	Research Methodology	04	100
Core-II	A. Research and Publication Ethics (RPE)	02	100
	B. Project Report	01	100
Elective-I	A. Tool and Techniques	04	100
	B. Bioinformatics & Intellectual Property Rights		
Elective-II	A. Microbial Biotechnology	04	100
	B. Plant Biotechnology		

**Resolution: Approved.**

18.23: In reference to letter No. Academic/2020/57 dated 12.02.2020, the Convener BoS proposed the **Departmental Academic Integrity Panel (DAIP)** for the Department of Biotechnology for approval of BoS as follows:-

- Chairman – Head of the Department (Prof. P. C. Lakhera)
- Member – Senior academician from outside the department, to be nominated by Hon'ble Vice Chancellor (proposed as under)
  - Prof. H.C. Nainwal, Department of Geology, Birla Campus, Srinagar
  - Prof. P. Prasad, HAPPRC, Birla Campus, Srinagar
- Member – A person well versed with anti plagiarism tools, to be nominated by Head (Dr. G.K. Joshi, Department of Biotechnology, Birla Campus, Srinagar).

**Resolution: The DAIP as proposed is Approved.**

✓ 18.24: The Committee recommended for construction of minimum requirement of Building for proper establishment and smooth functioning of the Department of Biotechnology. A proposal in this regard has already been submitted by Prof. Pramesh Lakhera to Hon'ble Vice Chancellor dated 02.02.2018 is placed before BoS for approval (**Annex. 18.24**).

**Resolution: Proposal for new Building for Department of Biotechnology is approved with request to the University for Early Construction of Building.**

18.25: List of Theory, Lab Course and Ph.D. Examiners of Biotechnology Courses is finalized by the Committee and tabled before the BoS, for approval. It is proposed that Chairperson, BoS, be authorized to modify the list of experts as per requirement and to submit to University as & when required (**Annex. 18.25**).

**Resolution: Approved.**

18.26: The Department is new but Biotechnology Courses has never received an annual grant from the University. The University is requested to make provision for Lab Grant (Chemicals & Glassware Rs 10,00,000), Equipment Grant Rs 10,00,000, Books Grant Rs 5,00,000 and other Contingent Grant Rs. 3,00,000 all annually for the Department of Biotechnology.

**Resolution: Approved & University is requested to make such provision for future.**

		IV Progress Report (14.05.2019-13.11.2019)
06.	Shreya Agarwal	I Progress Report (14.11.2017-13.05.2018). II Progress Report (14.05.2018-13.11.2018) III Progress Report (14.11.2018-13.05.2019) IV Progress Report (14.05.2019-13.11.2019)
07.	Shailesh Kumar	Fifth Progress Report
08.	Aadil Ayaz	1 <sup>st</sup> Progress Report Batch 2014*
09.	Amit Kumar	Sixth and Final Progress Report

\*the progress report Mr. Aadil Ayaz was submitted but it was not passed in the earlier meetings of BoS hence it is placed in this meeting.

**Resolution: Six monthly progress reports of candidates from S. No. 01 to 06 & Annual Progress report from S. No. 07 to 09 are Approved.**

✓ 18.18: Approval of "Ordinance for Integrated 5 Years Master Degree Program" prepared in accordance with CBCS Examination System. The ordinance is in view of implementation for "**Integrated 5 Years M. Sc. Biotechnology**" from 2020-21.

The Ordinance is prepared carefully by the committee approved by the Hon'ble Vice Chancellor and tabled before the BoS for examination, critical evaluation / modification & accordingly for approval (Annex. 18.18).

**Resolution: Approved. Send this Ordinance to Chairman, Ordinance Committee for critical evaluation / modification & approval by Ordinance Committee.**

✓ 18.19: The modified Syllabi of "**M.Sc. Biotechnology (all 4 semesters)**" is placed before the BoS for approval & implementation from session 2020-21. The syllabus is modified by the committee approved by Hon'ble Vice Chancellor (Annex. 18.19).

**Resolution: Approved.**

✓ 18.20: The modified Syllabi of "**Integrated 5 Years M.Sc. Biotechnology (all 10 semesters)**" is placed before the BoS for approval and implementation from session 2020-21. The syllabus is modified by the committee approved by the Hon'ble Vice Chancellor (Annex. 18.20).

**Resolution: Approved.**

✓ 18.21: The modified Syllabi of "**Biotechnology Course/ subject in B.Sc. Class (all 6 Semester)**" is placed before the BoS for approval & implementation from session 2020-21. The syllabus is modified by the committee approved by the Hon'ble Vice Chancellor (Annex. 18.21).

**Resolution: Approved.**

18.22: Changes were made in the Pre-Ph.D. syllabus w.r.t. letter No. Academic/2020/49, Dated 11.02.2020 to include two (02) Credit Course entitled "**Research and Publication Ethics (RPE)**" as Compulsory Core Course in Pre-PhD syllabus. The Credits have been allotted to Courses (Core/Elective) are as per the directions received by email from Prof. A.R. Nautiyal, Convener, Ordinance Committee.

## PROCEEDINGS

### BOARD OF STUDIES, DEPARTMENT OF BIOTECHNOLOGY HEMVATI NANDAN BAHUGUNA GARHWAL UNIVERSITY, SRINAGAR

Meeting: 18<sup>th</sup> Meeting

Dated: 23 May 2020

Venue: Through video Conferencing

Time: 11:00 am

In accordance with the relevant provisions of the Ordinances, the Registrar issued a notification with Ref. No. Acad./2020/165 dated 20.05.2020 to conduct meeting of Board of Studies, Department of Biotechnology through video conferencing. (Annex. 18.01)

Following members participated in the meeting:

- |                              |                         |
|------------------------------|-------------------------|
| 01. Prof. Pramesh C. Lakhera | Chairperson             |
| 02. Dr. Sudhir Kumar         | Member                  |
| 03. Dr. M. S. Chauhan        | External Expert         |
| 04. Prof. M. C. Nautiyal     | Vice Chancellor Nominee |
| 05. Prof. Y. S. Farswan      | Vice Chancellor Nominee |

Item Nos:

18.01: The Chair welcomed all Hon'ble members for sparing their valuable time and participating in this first meeting of BoS, Department of Biotechnology. The Chairperson gave sincere thanks to Hon'ble Vice Chancellor for granting permission to hold meeting through video conferencing. He also expressed deep gratitude to Hon'ble Vice Chancellor, Members of Executive Council & Committee of three Deans of Schools for giving independent status to Department of Biotechnology. As per the circulated agenda, items discussed and the following recommendations are made: -

18.02: Minutes of the 17<sup>th</sup> meeting of BoS, Biotechnology dated 9 September, 2019 are placed for confirmation (Annex. 18.02).

**Action Taken Report:** The proceeding was submitted to Joint Registrar (Academic) by the Chairperson through Dean, SLS for its approval in Academic Council.

**Resolution: Approved**

18.03: Consequent upon the letter No. HNBGU/RO/2020/04 dated 06.03/2020 and No. HNBGU/Adm(T)/2020/550 dated 07.03.2020, the Department of Biotechnology was separated from the Department of Zoology & Biotechnology. It is proposed to approve that the Department of Biotechnology kindly be listed as independent Department in all documents of University whenever & wherever it is required to be listed (e.g. list of Departments in School of Life Sciences, Prospectus, University website etc.).

**Resolution: Approved & requested to University as proposed.**

18.04: The following Committee of Faculty members of Department of Biotechnology was proposed and kindly approved by Hon'ble Vice Chancellor for completion of

**PROCEEDINGS**

**BOARD OF STUDIES, DEPARTMENT OF BIOTECHNOLOGY  
HEMVATI NANDAN BAHUGUNA GARHWAL UNIVERSITY, SRINAGAR**

Meeting: 21<sup>st</sup> Meeting

Dated: 01 April, 2022

Venue: Online and Offline (Blended) (Department of Biotechnology, Chauras Campus)  
Time: 11:30am

In accordance with the relevant provisions of the Ordinances, the Registrar issued a notification with Ref. No. Acad./2022/850 dated 16.03.2022 to conduct meeting of Board of Studies Department of Biotechnology.

Following members participated in the meeting: -

- |                         |                                  |
|-------------------------|----------------------------------|
| 01. Dr. Pooja Saklani   | Chairperson                      |
| 02. Dr.G.K. Joshi       | Member                           |
| 03. Dr. Mamta Arya      | Member                           |
| 04. Prof. Arvind Bhatt  | External Expert                  |
| 05. Prof. J.S. Chauhan  | Nominee, Hon'ble Vice Chancellor |
| 06. Prof. Y. S. Farswan | Nominee, Hon'ble Vice Chancellor |

The Chair heartily welcomed all Hon'ble participating members and briefly apprised them the purpose of the meeting. As circulated earlier, the agenda items were discussed and the following recommendations are made: -

Item Nos: -

21.01: The proceeding of 20<sup>th</sup> meeting of BoS dated 08.11.2021 placed for confirmation.

Action Taken Report: - The proceeding was submitted to Joint Registrar (Academic) by the Chairperson through Dean SoLS for its approval in Academic Council

Resolution: - Approved

21.02: Approval of Progress Report submitted by Ph.D. Scholars

The Six-monthly progress reports duly forwarded by respective supervisors, have been submitted by the following Ph.D. Scholars for approval.

	Name of the Student	Progress Report Duration
01	Babita Rana	8 <sup>th</sup> Progress Report (14-05-2021 to 13-11-2021)
02	Lokesh Kumar	8 <sup>th</sup> Progress Report (14-05-2021 to 13-11-2021)
03	Rahul Thakur	8 <sup>th</sup> Progress Report (14-05-2021 to 13-11-2021)
04	Saranya Joshi	8 <sup>th</sup> Progress Report (14-05-2021 to 13-11-2021)
05	Shreya Agarwal	8 <sup>th</sup> Progress Report (14-05-2021 to 13-11-2021)
06	Sachin Singh	8 <sup>th</sup> Progress Report (20-06-2021 to 19-12-2021)
07	Anjali Patil	5 <sup>th</sup> Progress Report (09-08-2021 to 08-02-2022)
08	Kanchan Rauthan	5 <sup>th</sup> Progress Report (09-08-2021 to 08-02-2022)
09	Atul Krishna Dev	5 <sup>th</sup> Progress Report (09-08-2021 to 08-02-2022)

*S* *Mamta* *BM* *S*

Dean  
PROF. A.K. (1)  
Dean, School  
BIOTECHNOLOGY  
GARHWAL UNIVERSITY  
SRINAGAR

Resolution: - Approved.

21.03 Regarding signing Memorandum of Understanding (MOU) with Regional Centre for Biotechnology, Faridabad for Academic and Scientific Collaboration in Areas of Mutual Interest

A proposal regarding signing of Memorandum of Understanding (MOU) with Regional Centre for Biotechnology, Faridabad for Academic and Scientific Collaboration in Areas of Mutual Interest was placed by the Head, Department of Biotechnology. She informed that Regional Centre for Biotechnology, Faridabad sent a proposal of MoU department agreed in principal for signing the MOU and the proposal has also been scrutinized by the Convener, RCC, HNBGU.

Resolution: The MOU proposal was discussed and approved by BOS

21.04 The modified Pre-Ph.D. syllabus is placed before BoS for Approval and implementation from 21-22 as follows

Pre - Ph.D. Biotechnology

Course Code	Course / Paper	Credits	MM
S0LS/PBT/C001	Research Methodology	04	100
S0LS/PBT/C002	Research and Publication Ethics (RPE) & General Biotechnology	03	100
S0LS/PBT/E 001	A). Tools & Techniques	04	100
	B). Bioinformatics and Intellectual Property Rights		
S0LS/PBT/E 002	A). Microbial Techniques	04	100
	B). Plant Biotechnology		
<b>Total</b>		<b>15</b>	<b>400</b>

Core Course  $4 + 3 = 7$  Credits

Elective Course  $4 + 4 = 8$  Credits

**Total 15 Credits**

Resolution: Approved

21.05 To conduct the interview for admission in Ph.D. (Biotechnology) for session 2021-22

Department of Biotechnology, H.N.B. Garhwal University, Srinagar, Garhwal

Prof. A.K. DOBRYAL  
 (2)  
 Dean, School of Life Sciences  
 H.N.B. GARHWAL UNIVERSITY  
 Srinagar Garhwal - 246179



<b>Semester VII (July to November)</b>			
IBTC 37	XXXVII	Biochemistry	100
IBTC 38	XXXVIII	Cell Biology & Membrane Biophysics	100
IBTC 39	XXXIX	Molecular Biology & Genetics	100
IBTC 40	XL	Bio-Analytical Techniques	100
IBTC 41	XLI	Lab Course based on paper XXXVII & XXXVIII	100
IBTC 42	XLII	Lab Course based on paper XXXIX & XL	100
<b>Total</b>			<b>600</b>
<b>Semester VIII (December to April)</b>			
IBTC 43	XLIII	Immunology	100
IBTC 44	XLIV	Microbiology & Microbial Genetics	100
IBTC 45	XLV	Genetic Engineering & Applications	100
IBTC 46	XLVI	Biostatistics & Bioinformatics	100
IBTC 47	XLVII	Lab Course based on paper XLIII & XLIV	100
IBTC 48	XLVIII	Lab Course based on paper XLV & XLVI	100
IBTSS 01		Epigenetics & Cancer Biology	100
IBTSS 02		Biomedical Technology	100
<b>Total</b>			<b>600</b>
<b>Semester IX (July to November)</b>			
IBTC 49	XLIX	Plant Biotechnology	100
IBTC 50	L	Intellectual Property Rights, Bioethics, Bio-Entrepreneurship	100
IBTE 01a	LI (a)	Protein engineering	100
IBTE 01b	LI (b)	Immunotechnology	100
IBTE 01c	LI(c)	Nanobiotechnology	100
IBTE 02a	LII(a)	Food & Beverages Biotechnology	100
IBTE 02b	LII(b)	Animal Biotechnology	100
IBTE 02c	LII(c)	Enzymology & Enzyme Technology	100
IBTC 51	LIII	Lab Course based on paper XLIX & L	100
IBTE 03	LIV	Lab Course based on paper LI & LII	100
IBTSS 03		Research Methodology: Tools & Techniques	100
IBTSS 04		Science Communication & Scientific Writing	100
<b>Total</b>			<b>600</b>
<b>Semester X (December to April)</b>			
IBTC 52	LV	Environmental Biotechnology	100
IBTC 53	LVI	Fermentation & Bioprocess Technology	100
IBTE 04a	LVII(a)	Advanced Bioinformatics	100
IBTE 04b	LVII(b)	Herbal Biotechnology	100
IBTE 04c	LVII(c)	Genomics & Proteomics	100
IBTC 54	LVIII	Lab Course based on course LV & LVI	100
IBTE 05	LIX	Dissertation	100
IBTSS 05		Vaccines & Drug Development	100
IBTSS 06		Molecular Virology	100
<b>Total</b>			<b>500</b>

**Max. Marks (MM) for each paper: 100 (two Sessional Tests of 20 each+ 60 End Term Test)**

**Sessional Tests** (Mid Term Test, Assignment, Tutorials, Classroom Seminar & Laboratory Work; Journal Club, Internship; Industrial/ Institutional Visits, winter/summer training based report writing & presentation)

**M. Sc. Biotechnology (Integrated 5 Years) Program will have the following components, viz.**

- Core Course (C)
- Electives Course (E)
- Self-study Course (SS)

(49)

**DEPARTMENT OF BOTANY AND MICROBIOLOGY**  
**H.N.B. GARHWAL UNIVERSITY (A CENTRAL UNIVERSITY)**  
**SRINAGAR GARHWAL-246174**

Meeting of Board of Studies in Botany and Microbiology was held on October 22, 2018 in the Department of Botany and Microbiology at Chauras Campus, Srinagar.

The following honorable members participated in the meeting:

Prof. D.P. Vashistha, Deptt. of Botany and Microbiology, Srinagar- Convener

Prof. R.P. Bhatt, Deptt. of Botany, Srinagar Campus- Member

Prof. C. M. Sharma, Deptt. of Botany, Srinagar Campus- Member

Prof. J.K. Tiwari, Deptt. of Botany, Srinagar Campus- Member

Dr. L.R. Dangwal, Deptt. of Botany, Tehri Campus- Member

Dr. Vineet K. Maurya, Deptt. of Botany and Microbiology, Srinagar- Member

Prof. M.C. Nautiyal, HAPRCC, Srinagar- Member

Prof. O.P. Gusain, Deptt. of Zoology and Biotech., Srinagar Campus- Member

The members discussed various academic issues as per agenda and following resolutions have been passed unanimously:

**Item No. 1: Confirmation of the minutes of earlier BOS meeting.**

**Resolution:** The honorable members of the BOS confirmed the minutes of the earlier meeting held on July 25<sup>th</sup>, 2018.

**Item No. 2: Approval of published book chapters by the faculty members of the department.**

**2.1. Dr. B. S. Bhandari (01)**

2.1.1. Poonam Gusain, Vir Singh, D. P. Uniyal and B. S. Bhandari (2018). Assessment of PGPR Bioinoculation in heavy metal contaminated agriculture soil and their impact on morphological, physiological and yield behavior of crop plants. In: A. Gautam and C. Pathak (Eds) Contamination in soil environment. Astral. pp 21-29.

**2.2. Dr. Rahul K. Singh (02)**

2.2.1. Sharma R., Srivastava R., Singh R. K. and Tiwari S. P. (2018). From Leuwenhoek to Craig Venter. In: Tiwari S. P. Sharma R. and Gautam N C (Eds) Recent Advances in Microbiology Vol. III. Nova Scientific Publishers. Inc. New York. USA.

2.2.2. Tyagi S., Singh P., and Singh R. K. (2018). Cyanobacteria: A new terminus for anti-infectious agents. In: Tripathi K. N., Kumar N. and Abraham G. (Eds) Role of Photosynthetic Microbes in Agriculture and Industry. Nova Scientific Publishers. Inc. New York. USA.



### 2.3. Dr. Vineet K Maurya (01)

2.3.1. Chauhan J, and Maurya VK. (2018). Microalgae as an effective tool for wastewater treatment and management. Chapter 03. *In: The Role of Photosynthetic Microbes in Agriculture and Industry* (Eds): Keshwanand Tripathi, Narendra Kumar, Gerard Abraham. Nova Scientific Publishers. Inc. New York. USA.

#### Item No. 3: Inclusion of new elective paper for M. Sc. (Botany) course.

Dr. D. Kumar, a member of teaching faculty has proposed to include two new elective paper entitled (i) Algal Biotechnology and (ii) Stress biology and Molecular Genetics of Cyanobacteria, for M. Sc. (Botany) students. The papers are designed considering that applied aspects of algae need to be taught to PG students. The syllabi of the proposed papers are annexed.

**Resolution:** The members agreed for inclusion of the said courses as elective papers for M. Sc. Botany as follows:

- (i) Algal Biotechnology: in first group of elective papers, with paper code SLS/BOT/E001F
- (ii) Stress biology and Molecular Genetics of Cyanobacteria: in second group of elective papers, with paper code SLS/BOT/E002F

#### Item No. 4: Request for extension/ re-registration by the Ph. D. Students.

4.1. Mr. Harish Kumar (LB-14188), in his application dated 19/09/2018, has applied for extension of six months with permission for re-registration.

The synopsis of the candidate has been approved in the BOS meeting held on 05/03/2013. Based on the synopsis approval date, the candidate has completed the period of 5 years on 04/03/2018, and should have applied for extension and re-registration prior to that.

**Resolution:** The members discussed the issue and decided to forward the matter to the University with request to allow him re-registration for continuation and completion of his research work.

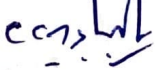
4.2. Mr. Shailesh Prasad Vashisth (LB 14184) has requested for six month extension with effect from 26/10/2018 to 25/04/2019.

The date of enrollment of candidate is 25/04/2013, as such he has completed the period of five years on 24/04/2018.

**Resolution:** The members discussed the issue and decided to forward the matter to the University with request to allow him re-registration for continuation and completion of his research work.

4.3. Ms. Neha Kukreti (LB 15179), has requested to grant of one year extension for submission of her thesis.

**Resolution:** The extension to Ms. Neha Kukreti may kindly be granted.





2











Department of Microbiology  
University

Ref. No. ....

University

Earlier, a meeting of Board of Studies (BOS) in Botany  
in the Department of Botany and Microbiology at Chauras  
to discuss various academic issues. The minutes are being  
for approval.

Date: 14<sup>th</sup> June, 2019

Forwarded

14-06-2019

Dean

(School of Life Sciences)

University, Srinagar (Garhwal) for

Dean

(School of Life Sciences)

DEAN  
School of Life Sciences  
Garhwal University  
(Garhwal, Uttarakhand - 246174)



A Meeting of the members of Board of Studies (BOS) in Botany and Microbiology was held  
on May 30<sup>th</sup>, 2019 in the Department of Botany and Microbiology at Chauras campus.  
Srinagar-Garhwal.  
The following members were present in the meeting

- |   |                     |   |
|---|---------------------|---|
| 1 | Prof. R.P. Bhatt    | Department of Botany and Microbiology, Chauras<br>Campus            |
| 2 | Prof. C.M. Sharma   | Department of Botany and Microbiology, Chauras<br>Campus            |
| 3 | Prof. A.R. Nautiyal | High Altitude Plant Physiology Research Centre,<br>Srinagar-Garhwal |
| 4 | Prof. M.C. Nautiyal | High Altitude Plant Physiology Research Centre,<br>Srinagar-Garhwal |
| 5 | Dr. Renu Negi       | Principal, Govt. PG College, Satpali                                |
| 6 | Dr. L.R. Dangwal    | Department of Botany, Tehri Campus                                  |
| 7 | Dr. Rahul K. Singh  | Department of Botany and Microbiology, Chauras<br>Campus            |

Convener

Member

Member  
(V.C. nominee)

Member

Member

Member

The members discussed various issues as per agenda items and following resolutions were  
passed unanimously:

**Item No. 1: Confirmation of the minutes of earlier BOS meeting**

**Resolution:** The members of the BOS confirmed the minutes of the meeting held on 25<sup>th</sup>  
Feb, 2019.

**Item No. 2: To conduct the interview of the candidates qualified the entrance  
test/exempted category for consideration of their admission in Pre-  
Ph.D. (Botany) and Pre- Ph.D. (Microbiology) program**

**Resolution:**

2.1. Total 33 candidates were called for the interview. Out of which five  
candidates were from exempted category and 13 from university entrance test  
appeared before the BOS. The candidates were interviewed for admission in  
Pre-Ph.D. (Botany). List of the students selected for admission in Pre-Ph.D.  
Course on the basis of merit is provided in annexure 1.

2.2. Total eight candidates were called for the interview. Out of which two  
candidates were from exempted category and three from university entrance  
test appeared before the BOS. The candidates were interviewed for admission  
in Pre-Ph.D. (Microbiology). List of the students selected for admission in Pre-  
Ph.D. Course on the basis of merit is provided in annexure 2

**Item No. 3: To consider the request of following Ph.D. students for change of  
Supervisor**

3.1: Ms. Asifa Mushtaq (Microbiology) has requested to allot Prof. J.K. Tiwari  
as her new supervisor and Dr. Seema Rawat (present supervisor) as Co-  
supervisor, as Dr. Rawat is on lien from the University for the last two years.

3.2: Ms. Pramila Verma (Microbiology) has requested to allot Prof. J.K. Tiwari  
as her new supervisor and Dr. Seema Rawat (present supervisor) as Co-  
supervisor, as Dr. Rawat is on lien from the University for the last two years.

3.3: Ms. Usha Devi (Botany-affiliated category) has requested to allot Prof. J.K. Tiwari  
as her new supervisor, as her current supervisor is on lien from the University and she is  
affiliated by the University, and to allot Dr. A.S. Singh as Co-supervisor  
Dehradun as her current supervisor.



A Meeting of the members of Board of Studies (BOS) in Botany and Microbiology was held on May 30<sup>th</sup>, 2019 in the Department of Botany and Microbiology at Chauras campus, Srinagar-Garhwal.

The following members were present in the meeting:

1	Prof. R.P. Bhatt	Department of Botany and Microbiology, Chauras Campus	Convener	
2	Prof. C.M. Sharma	Department of Botany and Microbiology, Chauras Campus	Member	
3	Prof. A.R. Nautiyal	High Altitude Plant Physiology Research Centre, Srinagar-Garhwal	Member (V.C. nominee)	
4	Prof. M.C. Nautiyal	High Altitude Plant Physiology Research Centre, Srinagar-Garhwal	Member	
5	Dr. Renu Negi	Principal, Govt. PG College, Satpuli	Member	
6	Dr. L.R. Dangwal	Department of Botany, Tehri Campus	Member	
7	Dr. Rahul K. Singh	Department of Botany and Microbiology, Chauras Campus	Member	

The members discussed various issues as per agenda items and following resolutions were passed unanimously:

**Item No. 1: Confirmation of the minutes of earlier BOS meeting**

**Resolution:** The members of the BOS confirmed the minutes of the meeting held on 25<sup>th</sup> Feb, 2019.

**Item No. 2: To conduct the interview of the candidates qualified the entrance test/exempted category for consideration of their admission in Pre-Ph.D. (Botany) and Pre- Ph.D. (Microbiology) program**

**Resolution:**

2.1. Total 33 candidates were called for the interview. Out of which five candidates were from exempted category and 13 from university entrance test appeared before the BOS. The candidates were interviewed for admission in Pre-Ph.D. (Botany). List of the students selected for admission in Pre-Ph.D. Course on the basis of merit is provided in annexure 1.

2.2. Total eight candidates were called for the interview. Out of which two candidates were from exempted category and three from university entrance test appeared before the BOS. The candidates were interviewed for admission in Pre-Ph.D. (Microbiology). List of the students selected for admission in Pre-Ph.D. Course on the basis of merit is provided in annexure 2.

**Item No. 3: To consider the request of following Ph.D. students for change of Supervisor**

3.1: Ms. Asifa Mushtaq (Microbiology) has requested to allot Prof. J.K. Tiwari as her new supervisor and Dr. Seema Rawat (present supervisor) as Co-supervisor, as Dr. Rawat is on lien from the University for the last two years.

3.2: Ms. Pramila Verma (Microbiology) has requested to allot Prof. J.K. Tiwari as her new supervisor and Dr. Seema Rawat (present supervisor) as Co-supervisor, as Dr. Rawat is on lien from the University for the last two years.

3.3: Ms. Usha Devi (Botany- affiliated college quota) has requested to change her supervisor, as her current supervisor and the institution have been de-affiliated by the University, and to allot Dr. A.B. Bajpai from DBS PG College, Dehradun as her new supervisor.



12	Jaffer Hussain	I <sup>st</sup> Progress Report	November, 2017- April, 2018
		II <sup>nd</sup> Progress Report	May, 2017- October, 2018
13	Rashmi Kala	I <sup>st</sup> Progress Report	Nov 2017- April 2018
		II <sup>nd</sup> Progress Report	May 2018- October, 2018

\*The progress report submitted by Ms. Shivani Jasrotiya was not on the prescribed format therefore she was asked to resubmit her progress report for the aforesaid period.

**Item No. 10: To consider the inclusion of UGC MOOCs in the PG syllabi as a self study/elective course.**

**Resolution:** The email from Hon'ble Vice Chancellor dated March 06, 2019 regarding inclusion of UGC MOOCs in the PG syllabi as a self study/elective course was discussed. BOS unanimously agreed to include two UGC MOOCs in the syllabus of both M.Sc. (Botany) and M.Sc. (Microbiology) programs as two different self study/elective courses. For the upcoming semester (July-Dec 2019), BOS decided to offer two UGC MOOCs namely 'Academic Writing' (hosted by HNBSGU) and 'Analytical techniques' (hosted by AIIMS, New Delhi) for M.Sc. (Botany) III semester students, and 'Academic Writing' (hosted by HNBSGU) and 'Biostatistics and Mathematical Biology' (hosted by CUP, Bhatinda) for M.Sc. (Microbiology) III semester students. Further, the members of BOS recommend the transfer of 03 credits for successful completion of each course in the same semester as per UGC (Credit framework for online learning courses through SWAYAM) regulations, 2016.

**Item No. 11: To consider the Course outcomes and Program specific outcomes for UG and PG courses in Botany and Microbiology**

**Resolution:** The Course outcomes and Program specific outcomes for Botany and Microbiology courses at UG and PG levels were discussed, approved and forwarded to IQAC.

**Item No. 12: To consider the suggestions of last year (2017-18) PG students on course curriculum**

**Resolution:** Points raised by the students have been discussed and BOS has decided to constitute a departmental committee to look into the matter and also to take necessary steps for revision of syllabus.

**Item No. 13: Implementation of reservation for EWS in UG and PG courses**

**Resolution:** As per the meeting of University Officers held on dated 31<sup>st</sup> Jan, 2019, the reservation for EWS has to be implemented in all the UG and PG courses in two phases. Therefore, the BOS recommended the following number of seats in UG and PG courses which are being run by the department:

**Category-wise distribution of seats in UG and PG classes after implementing EWS reservation**

Course	Category	Present intake	Targeted Intake after EWS implementation up to 2020-21	Phase-wise implementation of EWS	
		2018-19		2019-20	2020-21
B.Sc. Botany	SC	183	229 (+46)*	206 (+23)*	229 (+23)*
	ST	91	114 (+23)	103 (+12)	114 (+11)
	OBC	329	411 (+82)	370 (+41)	411 (+41)
	EWS	N/A	152 (+152)	76 (+76)	152 (+76)
	Gen	617	619 (+2)	618 (+1)	619 (+1)
	Total	1220	1525 (+305)	1373 (+153)	1525 (+152)
B.Sc. Microbiology	SC	16	21 (+5)	18 (+2)	21 (+3)
	ST	08	10 (+2)	09 (+1)	10 (+1)
	OBC	30	37 (+7)	34 (+4)	37 (+3)
	EWS	N/A	14 (+14)	07 (+7)	14 (+7)
	Gen	56	56 (+0)	56 (+0)	56 (+0)
	Total	110	138 (+28)	124 (+14)	138 (+14)

*[Handwritten signatures and initials at the bottom of the page]*



हेमवती नन्दन बहुगुणा गढ़वाल विश्वविद्यालय  
(केन्द्रीय विश्वविद्यालय)  
Hemvati Nandan Bahuguna Garhwal University  
(A Central University)  
वनस्पति विज्ञान एवं सूक्ष्म-जैविकी विभाग  
Department of Botany & Microbiology  
श्रीनगर, पौड़ी गढ़वाल 246 174, भारत  
Srinagar, Pauri Garhwal 246 174, India

Proceedings of the meeting of the Board of Studies in  
Botany and Microbiology

A meeting of the members of Board of Studies in Botany & Microbiology was held today on 24.04.2022 in the Department of Botany & Microbiology, Chauras Campus through offline/online mode. The following members attended the meeting:

1.	Prof. C. M. Sharma	Head, Department of Botany & Microbiology, HNBSGU, Srinagar Garhwal, Uttarakhand	Convener	
2.	Prof. R. C. Dubey	Dean Research, Gurukula Kangri University Haridwar	External expert member /Microbiology	
3.	Prof. Dinabandhu Sahoo	Director, Centre for Himalayan Studies, University of Delhi, Delhi	External expert member /Botany	
4.	Prof. Prakash Nautiyal	Head, Department of Zoology, HNBSGU, Srinagar, Garhwal Uttarakhand	Member	
5.	Prof. R. K. Maikhuri	Head, Department of Environmental Sciences, HNBSGUSrinagar, Garhwal, Uttarakhand	Member	
6.	Prof. J. K. Tiwari	Department of Botany & Microbiology, HNBSGU, Srinagar Garhwal, Uttarakhand	Member	
7.	Dr. Manjul Dhiman	Head, Department of Botany, KLDVA PG College Roorkee, Uttarakhand	Member	

Item No. 1: Confirmation of the minutes of previous meeting of the Board of Studies held on 25.02.2022.

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हेमवती नन्दन बहुगुणा गढ़वाल विश्वविद्यालय  
(केन्द्रीय विश्वविद्यालय)  
Hemvati Nandan Bahuguna Garhwal University  
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Department of Botany & Microbiology  
श्रीनगर, पौड़ी गढ़वाल २४६१७४, भारत  
Srinagar, Pauri Garhwal 246 174, India

**Resolution:** The hard copy of book was shown to the members of BOS and it was observed that the book was actually published.

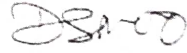
**Item No. 5: Approval of syllabi of B.Sc. Botany and B.Sc. Microbiology as per NEP 2020 framework**


**Resolution:** The syllabi of B.Sc. Botany and B.Sc. Microbiology as per framework of NEP 2020 were approved by the BOS.

The meeting ended with a vote of thanks to the Chair.

  
(Prof. C. M. Sharma)


  
(Prof. R. C. Dubey)

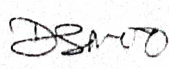
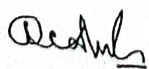

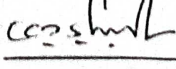
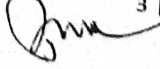

  
(Prof. D. Sahoo)

  
(Prof. P. Nautiyal)

  
(Prof. R. K. Maikhuri)

(Prof. J. K. Tiwari)

  
(Dr. M. Dhiman)

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**हेमवती नन्दन बहुगुणा गढ़वाल विश्वविद्यालय**  
(केन्द्रीय विश्वविद्यालय)  
**Hemvati Nandan Bahuguna Garhwal University**  
(A Central University)

**वनस्पति विज्ञान एवं सूक्ष्म-जैविकी विभाग**  
Department of Botany & Microbiology  
श्रीनगर, पौड़ी गढ़वाल २४६ १७४, भारत  
Srinagar, Pauri Garhwal 246 174, India

			2. Sixth Progress Report (July 2020 to June 2021)	
			3. Seventh Progress Report (July 2021 to December 2021)	

**Resolution:** The Progress reports of above-mentioned candidates were approved as per the details provided against their names.

**Item No. 6. Approval of Framework of NEP 2020**

**Description:** The outlines of the NEP 2020 along with broad structure of the papers in B.Sc. and M.Sc. classes of Botany and Microbiology have been prepared as directed by the Dean, School of Life Sciences. The same are being placed before the members of the BoS for approval.

**Resolution:** The BoS approved the outlines of the papers as proposed.

**Item No. 7. Approval of proposal for the curtailment of seats in UG and PG courses.**

**Description:** As per the University order the Central University Combined Entrance Test is to be conducted for admission in UG and PG courses from the forthcoming academic session. Thus, the University has directed for the curtailment of seats in UG and PG courses. In this regard, following number of seats are being proposed in different courses before the members of the BoS for consideration:

Campus	Course	Proposed Seats
Srinagar	M.Sc. Botany	25
	B.Sc. Botany	200
	M.Sc. Microbiology	25
	B.Sc. Microbiology	60
Pauri Campus	M. Sc. Botany	15
	B. Sc. Botany	150
Tehri Campus	M.Sc. Botany	15
	B. Sc. Botany	150

**Resolution:** The BoS has approved the number of seats in UG and PG courses of Botany and Microbiology as proposed. However, any provision for seats decided by the University can be accommodated at a later stage provided it is approved by the BoS.

**Item No. 8. Eligibility for admission in M. Sc. Botany and M. Sc. Microbiology courses**



शिवजी नन्दन बहुगुणा गढ़वाल विश्वविद्यालय  
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Srinagar, Pauri Garhwal 246 174, India

**Resolution:** The BoS has approved the number of seats in UG and PG courses of Botany and Microbiology as proposed. However, any provision for seats decided by the University can be accommodated at a later stage provided it is approved by the BoS.

✓ **Item No. 8. Eligibility for admission in M. Sc. Botany and M. Sc. Microbiology courses**

**Description:** Till date, the eligibility for admission in M. Sc. Botany and M. Sc. Microbiology is not well defined in the prospectus of the University. So every year, the department receives applications for admission in M. Sc. Botany and M. Sc. Microbiology from such students who have passed their U.G. examination in different disciplines like B.Sc. (Agriculture), B. Voc, B.Sc. MLT, etc. Thus, the eligibility criteria for admission in the above-mentioned courses should be well defined.

**Resolution:** The members discussed the matter and considering the nature of the courses- M.Sc. Botany and M.Sc. Microbiology, resolved that candidates having B.Sc. (Ag), B. Voc. and B.Sc. MLT degrees/diplomas are not eligible for admission in M.Sc. Botany and M.Sc. Microbiology courses. The BoS framed out eligibility criteria for admission in these courses as:

- M.Sc. Botany: B.Sc. with Botany as one of the subjects.
- M.Sc. Microbiology: B.Sc. with Microbiology as one of the subjects.

✓ **Item No. 9: Inclusion of a paper for the PhD students in the Pre-PhD course of Microbiology.**

**Description:** Dr. RK Singh, Assistant Professor Department of Botany & Microbiology has requested to incorporate a paper entitled "Advances in Cyanobacteriology" in the Pre-PhD course work of Microbiology. Therefore, placed before the Board of Studies for consideration.

**Resolution:** The BOS has suggested to incorporate a unit related to microalgae and their biotechnological applications in the contents of the proposed paper as the paper having only cyanobacteria will not do justice with the students. Therefore, the title of the proposed paper should also be revised as "Advances in Microalgae".

✓ **Item No. 10: Approval of Academic achievements of Faculty members for their promotion from Academic Level 11 to 12 under the CAS.**

**Description:** The following faculty members have applied for their promotion under CAS from Academic Level 11 to 12:

1. Dr. Rahul K. Singh



**Proposed Elective paper:  
PME-109. Advances in Microalgae**

**Unit I Cyanobacterial Diversity and Distribution:**

Origins of life and photosynthesis; General characters of cyanobacteria (cell structure, physiology, reproduction and genome organization); Ecological and Structural Diversity; Cyanobacteria in Extreme environments; Cyanobacterial diversity-alpha, beta and gamma; Diversity indices; Problems and limitations in cyanobacterial diversity studies; Culturable and unculturable cyanobacterial diversity; Exploration of unculturable cyanobacterial diversity

**Unit II Cyanobacterial Taxonomy and Systematics:**

Concepts of taxonomy (characterization, classification and nomenclature); Isolation and culturing of cyanobacteria; Conventional characterization cyanobacteria (Morphometry, Biochemistry and Ecology); Molecular characterization (16S rRNA gene, secondary structure of ITS region, G+C content, DNA-DNA hybridization); DNA bar-coding; Concept of Systematics; Polyphasic taxonomy; Methods for describing novel cyanobacteria; Culture collections and their significance

**Unit III Cyanobacterial Biotechnology:**

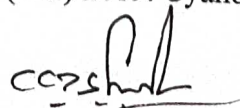
Outdoor and indoor mass cultivation of cyanobacteria; Cyanobacteria as a source of biomolecules (polysaccharides, pigments, antioxidants, polyunsaturated fatty acids); UVprotecting compounds; Cyanobacteria for Biofuel; Cyanobacteria for Bioremediation; Nutraceutical and pharmaceutical uses, Bioactive compounds (antimicrobial, anti-cancer); Green synthesis of nanoparticles; Cyanobacteria as biofertilizer for paddy cultivation. Hydrogen production by cyanobacteria

**Unit IV Cyanobacterial Bloom and Cyanotoxins:**

Types of aquatic habitat; Bloom forming cyanobacteria; Factors responsible for cyanobacterial bloom; Types of Cyanotoxins; Cyanobacterial taxa responsible for cyanotoxins production; Hazardous effects of cyanotoxins; Molecular regulation of cyanotoxins; Monitoring and management of cyanobacterial bloom

**Suggested Readings:**

1. Whitton, B. A. (Ed.). (2012). Ecology of cyanobacteria II: their diversity in space and time. Springer Science & Business Media
2. Flores, E. (Ed.). (2014). Cell Biology of Cyanobacteria. Caister Academic Press.
3. Zinicovscaia, I., & Cepoi, L. (Eds.). (2016). Cyanobacteria for bioremediation of wastewaters. Switzerland: Springer.
4. Hallenbeck, P. C. (2012). Hydrogen production by cyanobacteria. In Microbial technologies in advanced biofuels production (pp. 15-28). Springer, Boston, MA.
5. Sharma, N. K., Rai, A. K., & Stal, L. J. (2013). Cyanobacteria: an economic perspective. John Wiley & Sons.
6. Sarma, T. A. (2012). Handbook of cyanobacteria. CRC Press.
7. Newcombe, G. (2012). International guidance manual for the management of toxic cyanobacteria. IWA Publishing.
8. Chauvat, F., & Cassier-Chauvat, C. (2012). Genomics of cyanobacteria (Vol. 65). Academic Press.
9. Borowitzka, M. A., & Moheimani, N. R. (Eds.). (2013). Algae for biofuels and energy (Vol. 5). Dordrecht, The Netherlands: Springer.
10. Borowitzka, M. A. (2015). Algal biotechnology. In The Algae World (pp. 319-338). Springer, Dordrecht.
11. Mishra, A. K., Tiwari, D. N. & Rai, A. N. (Eds) 2019. Cyanobacteria: From Basic Science to Applications. Academic Press.



**Department of Environmental Sciences**  
H.N.B. Garhwal University (A Central University)  
Srinagar (Garhwal) -246174, Uttarakhand

19 February, 2020

**Minutes of the Meeting of the Board of Studies (BoS) in Environmental Sciences**

The meeting of the Board of Studies (BoS) in Environmental Sciences was held on 19 February 2020 at the Department of Environmental Sciences, HNB Garhwal University, Chauras Campus. The Chairman welcomed all the members of BoS in the meeting.

The following members were present:

1. Mr. Rajkamal Singh, HoD, Environmental Sciences
2. Prof. R.C. Sharma, External Expert, Member
3. Prof. H.B.S. Chauhan, Member
4. Prof. O.P. Gusain, Member

**The BoS took the following decisions unanimously.**

The minutes of the previous meeting of BoS held on 16.09.2019 is approved

**Item No. 1.** To consider application of Mr. Akash Deep, Research Scholar regarding approval of new Supervisor in place of Prof. Ramesh C. Sharma who has retired

**Resolution:** The BOS took note of the application dated 19.02.2020 of Akash Deep, Research Scholar who completed the Pre-Ph.D. Course in 2018. He has requested to allot him new supervisor from within the Department. A letter of consent to supervise has been given by Dr. Vidhu Gupta, Assistant Professor, (Annexure 1) who is already a registered supervisor.

The BoS recommends allotment of Dr. Vidhu Gupta as supervisor of Akash Deep.

**Item No. 2.** To consider application of Mr. Rajkamal Singh (HOD, Environmental Sciences) regarding his Pre-Ph.D. course done by him in 2014

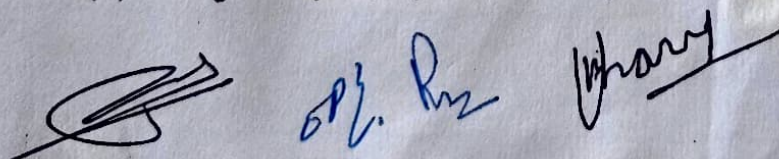
**Resolution:** The BoS taking note of the application dated 19.02.2020 of Mr. Rajkamal Tamta regarding adjustment of the time period of his Pre-Ph.D. course against his Accumulated Earned Leaves (Annexure 2).

The BoS recommends adjustment of 6 months period against his Earned Leaves (if available) so that he may pursue Ph.D. work for career advancement.

**Item No. 3.** To consider the Progress Reports of Ms. Lalita Bisht, Research Scholar

**Resolution:** The BoS approves the following progress reports of Ms. Lalita Bisht (Annexure 3)

- (i) Progress Report (Nov 2017-April 2018)
- (ii) Progress Report (May 2018-Oct 2018)
- (iii) Progress Report (Nov 2018-April 2019)
- (iv) Progress Report (May 2019-Oct 2019)





Date. 19.02.20

To

The Convener,  
BOS Committee  
HNB Garhwal University (A Central University)  
Srinagar Garhwal


**Subject: Application regarding my Ph.D. registration and allotment of Supervisor**

Respected Sir,

This is to bring to your kind notice that I, Akash Deep, selected as PhD student in the department of Environmental Sciences on 18.11.2017. Till now I have not been allotted any Supervisor which makes my position miserable and pointless as far as my Ph.D. is concern so I would like to kindly request to the BOS Committee to allot me a guide from the department of Environmental Science only as been specifically mentioned in the university ordinance regarding supervisor for Ph.D. course.

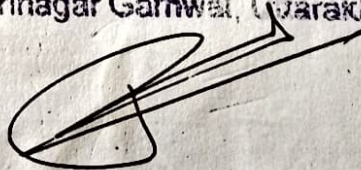
Kindly consider my request.

Thanking you

Akash Deep   
Research Scholar  
Environmental Sciences

HEAD

Department of Environmental Sciences  
H.N.B. Garhwal (Central) University  
Srinagar Garhwal, Uttarakhand



December 23, 2019

To,  
Dr. Vidhu Gupta  
Assistant Professor  
Department of Environmental Sciences  
H.N.B Garhwal University  
Srinagar Garhwal, Uttarakhand

Subject: Regarding my Ph.D. supervisorship

Respected mam.

This is bringing into your kind notice that I, Akash Deep Research scholar in the Department of Environmental Sciences, HNBSGU got <sup>admission</sup> admitted for Ph.D. on November 18, 2017. I had successfully completed my six months Pre-Ph.D. course. Department conducted a Board of Studies (BOS) meeting on October 30, 2018, in which Prof. Ramesh C. Sharma, Department of Environmental Sciences had been appointed as my Ph.D. Supervisor who has retired on December 31, 2018. As per University norms, a retired Professor can't supervise a research scholar.

After this, current head of the Department (Mr. Rajkamal Singh) organized a BOS meeting on September 16, 2019 in which the BOS committee recommended Dr. Deepak Singh (Assistant professor, Department of Zoology, HNBSGU) as my Research supervisor which is objected by the convener of the school board (Dean, School of Life Sciences) saying that how a faculty from other department can be my research supervisor.

Madam now I am willing to continue my research work under your supervision. I request you to kindly consider my request for the same.

I will be very grateful to you.

Thanking you.

Sincerely Yours

Akash Deep  
Research scholar  
Department of Environmental Sciences

Agreed to supervise as per University Norms.

Vidhu Gupta  
23.12.19

(Dr. Vidhu Gupta)  
Assistant Professor  
Dept. of Environmental Sciences  
HNBSGU


21 29


पाठ्यक्रम समिति की बैठक दिनांक - 19.2.2020  
श्री. आननाया कुलपति जी की आस्था का अवलोकन  
करने की वृत्त है।

समित द्वारा संलग्न विधि जोड़े विवरण -  
01,03,04 का अनुमोदन किया जाना है।  
02 पर श्री. रामकमल सिंह का सिन्डिकेट के  
अवकाश सुझाव है जिल्ला शिक्षा अधिकारी से  
पेशालन शैक्षिक क फेलिटी की गरी प्राप्ति पर  
आवश्यक कार्रवाई संभव है।

पता का 'अ' पर पाठ्यक्रम समिति द्वारा  
शोधार्थी अवकाश लेने का शोध पर्यवेक्षण वगैरह की  
संज्ञा है।

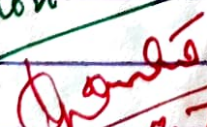
अतः आननाया कुलपति जी का अनुमोदन  
प्रति।

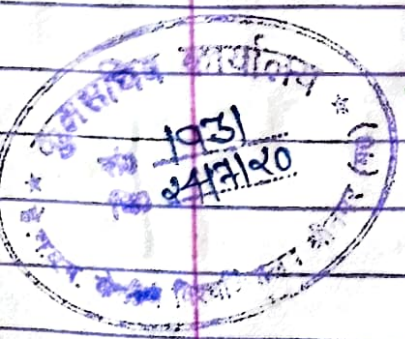
  
22/7/20

JRC/Head  
  
22/7/20

Registrar

Trinkle VC

  
28.7.2020

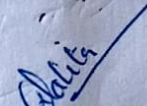




Annexure 3

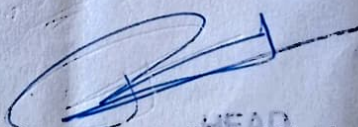
**FIRST PROGRESS REPORT**  
**NOVEMBER 2017- APRIL 2018**

1. **Thesis Title:** Study of heavy metal concentration found in road dust and its health risk assessment over Dehradun city, Garhwal Himalaya, India.
2. **Name of Candidate:** Ms. Lalita Bisht
3. **Name of the Supervisor:** Dr. Vidhu Gupta, Assistant Professor, Environmental Sciences
4. **Registration Number :** LE- 17257
5. **Work Performed During Year:** November 2017 – April 2018
  - a. Completed Pre-Ph.D. course work of six months according to Ph.D. Regulation 2009 of University Grants Commission.
  - b. Collection of research papers and literature
6. **Conference, workshops and training programs attended**
  - National Training programme 'Aquifer mapping through participatory approach and local ground water issue' or held at H.N.B. Garhwal University, Srinagar, Pauri Garhwal, December 9, 2017.

  
Ms. Lalita Bisht  
(Research Scholar)

7. **Forward and Comments on the Progress Report by the Supervisor**

Dr. Vidhu Gupta  
(Supervisor)

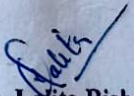
  
Mr. Rajkamal Singh  
HEAD  
HOD, Environmental Sciences  
H.N.B. Garhwal (Central) University  
Srinagar Garhwal, Uttarakhand

Forwarded  
and forwarded  
for approval  
Dr. Vidhu Gupta



**SECOND PROGRESS REPORT**  
**MAY 2018 - OCTOBER 2018**


1. **Thesis Title:** Study of heavy metal concentration found in road dust and its health risk assessment over Dehradun city, Garhwal Himalaya, India.
2. **Name of Candidate:** Ms. Lalita Bisht
3. **Name of the Supervisor:** Dr. Vidhu Gupta, Assistant Professor, Environmental Sciences
4. **Registration Number :** LE- 17257
5. **Work Performed During Year:** May 2018 – October 2018
  - a. Preparation and submission of Synopsis
  - b. Collected related research papers and literature
  - c. Field visit for identification and selection of study area.
  - d. Standardization of sampling methodology.
6. **Conference, workshops and training programs attended**
  - National Symposium on “Promotion of public awareness on water development, conservation and management in Uttarakhand” organised by Department of Environmental Sciences, H.N.B. Garhwal University (A Central University), Srinagar Garhwal, Uttarakhand.
  - Five day national workshop on “Research Methodology in Management and Social Sciences” organised by Department of Business Management, H.N.B. Garhwal University (A Central University), Srinagar Garhwal, Uttarakhand.

  
Ms. Lalita Bisht  
(Research Scholar)

7. **Forward and Comments on the Progress Report by the Supervisor**

Dr. Vidhu Gupta  
(Supervisor)

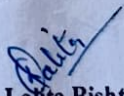
*Found Satisfactory  
and forwarded  
for Approval  
to the BOS*



Mr. Rajkamal Singh  
HOD, Environmental Sciences  
Department of Environmental Sciences  
H.N.B. Garhwal (Central) University  
Srinagar Garhwal, Uttarakhand

**THIRD PROGRESS REPORT**  
**NOVEMBER 2018 - APRIL 2019**


1. **Thesis Title:** Study of heavy metal concentration found in road dust and its health risk assessment over Dehradun city, Garhwal Himalaya, India.
2. **Name of Candidate:** Ms. Lalita Bisht
3. **Name of the Supervisor:** Dr. Vidhu Gupta, Assistant Professor, Environmental Sciences
4. **Registration Number :** LE- 17257
5. **Work Performed During Year:** November 2018 – April 2019
  - a. Collection of relevant literature and research papers
  - b. Collection of road dust samples (winter season) completed.
  - c. Processing of dust samples (winter season) for the assessment of heavy metal analysis have been successfully completed.
  - d. Calculation and statistical analysis of data
6. **Conference, workshops and training programs attended**
  - One day Training & Capacity Building Program on “Remote Sensing and Geographic Information System” organised by Uttarakhand Space Application Centre (USAC), held at H.N.B. Garhwal University, Srinagar, Pauri Garhwal.

  
Ms. Lalita Bisht  
(Research Scholar)

**7. Forward and Comments on the Progress Report by the Supervisor**

Dr. Vidhu Gupta  
(Supervisor)


I find satisfactory  
Forward for  
Approval

  
Mr. Rajkamal Singh  
HOD, Environmental Sciences  
Department of Environmental Sciences  
H.N.B. Garhwal (Central) University  
Srinagar Garhwal, Uttarakhand

## FOURTH PROGRESS REPORT

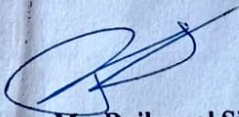
MAY 2019- OCTOBER 2019

1. **Thesis Title:** Study of heavy metal concentration found in road dust and its health risk assessment over Dehradun city, Garhwal Himalaya, India.
2. **Name of Candidate:** Ms. Lalita Bisht
3. **Name of the Supervisor:** Dr. Vidhu Gupta, Assistant Professor, Environmental Sciences
4. **Registration Number :** LE- 17257
5. **Work Performed During Year:** May 2019 – October 2019
  - a. Road dust sample collection from the study area (Summer season & Monsoon season) have been successfully completed.
  - b. Processing of dust samples (Summer season and Monsoon season) for the assessment of heavy metal analysis have been successfully completed.
  - c. Calculation and statistical analysis of data

  
Ms. Lalita Bisht  
(Research Scholar)

### 6. Forward and Comments on the Progress Report by the Supervisor

Dr. Vidhu Gupta  
(Supervisor)

  
Mr. Rajkamal Singh  
HOD, Environmental Sciences  
Department of Environmental Sciences  
H.N.B. Garhwal (Central) University  
Srinagar Garhwal, Uttarakhand

Found Satisfactory  
and  
forwarded for  
Approval

**कार्यालय आदेश**

विश्वविद्यालय अनुदान आयोग, नई दिल्ली के पत्र सं० D.O.No.F.1-1/2018(Journal/CARE) दिसम्बर, 2019 की प्रति समस्त संकायाध्यक्ष/समस्त पाठ्यक्रम समिति (B.O.S) के संयोजकों को इस आशय के साथ संलग्न कर प्रेषित की जा रही है कि पत्र में वर्णित निर्देशों के आधार पर आगामी पाठ्यक्रम समिति (B.O.S) की बैठक में उक्त पत्र के अनुसार अनुपालन सुनिश्चित करते हुए आगामी पी०एच०डी० के शोधार्थियों के पी०एच०डी० कोर्स वर्क हेतु लागू करना सुनिश्चित करें।

आज्ञा से,  
कुलपति

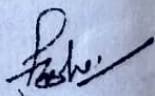
हेमवती नन्दन बहुगुणा गढ़वाल विश्वविद्यालय, श्रीनगर गढ़वाल

संदर्भ सं० : शैक्षणिक/2020/49

दिनांक : 11 फरवरी, 2020

प्रतिलिपि निम्नलिखित के सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :-

1. समस्त संकायाध्यक्ष/समस्त संयोजक-पाठ्यक्रम समिति, हे०न०ब० गढ़वाल विश्वविद्यालय, श्रीनगर गढ़वाल।
2. परिसर निदेशक, बादशाहीथौल, टिहरी/पौड़ी/चौरास परिसर।
3. निदेशक-आई०क्यू०ए०सी०/एफ०डी०सी०।
4. पुस्तकालयाध्यक्ष, हे०न०ब० गढ़वाल विश्वविद्यालय, श्रीनगर गढ़वाल।
5. संयुक्त कुलसचिव/समस्त उप कुलसचिव/सहायक कुलसचिव।
6. सिस्टम मैनेजर को इस आशय के साथ प्रेषित कि उक्त अधिसूचना को विश्वविद्यालय की वेबसाइट पर अपलोड करना सुनिश्चित करें।
7. निजी सचिव-कुलपति, माननीय कुलपति महोदया के सादर सूचनार्थ।
8. निजी सचिव-कुलसचिव।

  
डा० (ए०के० झा)  
कुलसचिव



ज्ञान-विज्ञान विभूक्तये

प्रो. रजनीश जैन  
सचिव

Prof. Rajnish Jain  
Secretary



सत्यमेव जयते

विश्वविद्यालय अनुदान आयोग  
University Grants Commission

(मानव संसाधन विकास विभाग, भारत सरकार)  
(Ministry of Human Resource Development, Govt. of India)

बहादुरशाह जफर मार्ग, नई दिल्ली-110002  
Bahadur Shah Zafar Marg, New Delhi-110002

Ph.: 011-23236288/23239337

Fax: 011-2323 8858

E-mail: secy.ugc@nic.in

D.G.No.F.1-1/2018(Journal/CARE)

December, 2019

Respected Sir/Madam,

University Grants Commission in its 543<sup>rd</sup> meeting held on 9<sup>th</sup> August, 2019 approved two Credit Courses for awareness about publication ethics and publication misconducts entitled "Research and Publication Ethics (RPE)" to be made compulsory for all Ph.D. students for pre-registration course work (attached as Annexure).

In view of the above, you are requested to ensure that the above two Credit courses may be made compulsory for all Ph.D. students for pre-registration course work undertaken in your University from the forthcoming academic session.

With regards,

Yours sincerely,

(Rajnish Jain)

TO THE VICE-CHANCELLORS OF ALL UNIVERSITIES

## ANNEXURE

### **Course Title:**

- **Research and Publication Ethics (RPE)**-Course for awareness about the publication ethics and publication misconducts.

### **Course Level:**

- 2 Credit course (30 hrs.)

### **Eligibility:**

- M.Phil., Ph.D. students and interested faculty members (It will be made available to post graduate students at later date)

### **Fees:**

- As per University Rules

### **Faculty:**

- Interdisciplinary Studies

### **Qualifications of faculty members of the course:**

- Ph.D. in relevant subject areas having more than 10 years' of teaching experience

### About the course

#### **Course Code: CPE- RPE**

#### **Overview**

- This course has total 6 units focusing on basics of philosophy of science and ethics, research integrity, publication ethics. Hands-on-sessions are designed to identify research misconduct and predatory publications. Indexing and citation databases, open access publications, research metrics (citations, h-index, Impact Factor, etc.) and plagiarism tools will be introduced in this course.

#### **Pedagogy:**

- Class room teaching, guest lectures, group discussions, and practical sessions.

#### **Evaluation**

- Continuous assessment will be done through tutorials, assignments, quizzes, and group discussions. Weightage will be given for active participation. Final written examination will be conducted at the end of the course.

## Course structure

- The course comprises of six modules listed in table below. Each module has 4-5 units.

Modules	Unit title	Teaching hours
<b>Theory</b>		
RPE 01	Philosophy and Ethics	4
RPE 02	Scientific Conduct	4
RPE 03	Publication Ethics	7
<b>Practice</b>		
RPE 04	Open Access Publishing	4
RPE 05	Publication Misconduct	4
RPE 06	Databases and Research Metrics	7
	<b>Total</b>	<b>30</b>

## Syllabus in detail

### THEORY

- RPE 01: PHILOSOPHY AND ETHICS (3 hrs.)**

- Introduction to philosophy: definition, nature and scope, concept, branches
- Ethics: definition, moral philosophy, nature of moral judgements and reactions

- RPE 02: SCIENTIFIC CONDUCT (5hrs.)**

- Ethics with respect to science and research
- Intellectual honesty and research integrity
- Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP)
- Redundant publications: duplicate and overlapping publications, salami slicing
- Selective reporting and misrepresentation of data

- RPE 03: PUBLICATION ETHICS (7 hrs.)**

- Publication ethics: definition, introduction and importance
- Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.
- Conflicts of interest
- Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types
- Violation of publication ethics, authorship and contributorship
- Identification of publication misconduct, complaints and appeals
- Predatory publishers and journals

### PRACTICE

- RPE 04: OPEN ACCESS PUBLISHING(4 hrs.)**

- Open access publications and initiatives

2. SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies
3. Software tool to identify predatory publications developed by SPPU
4. Journal finder / journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc.

• **RPE 05: PUBLICATION MISCONDUCT (4hrs.)**

**A. Group Discussions (2 hrs.)**

1. Subject specific ethical issues, FFP, authorship
2. Conflicts of interest
3. Complaints and appeals: examples and fraud from India and abroad

**B. Software tools (2 hrs.)**

Use of plagiarism software like Turnitin, Urkund and other open source software tools

• **RPE 06: DATABASES AND RESEARCH METRICS (7hrs.)**

**A. Databases (4 hrs.)**

1. Indexing databases
2. Citation databases: Web of Science, Scopus, etc.

**B. Research Metrics (3 hrs.)**

1. Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score
2. Metrics: h-index, g index, i10 index, altmetrics

\*\*\*\*\*

~~प्राध्यापक समिति पर्यावरण विज्ञान की वेबसाइट~~





Ref: Acad/2020/ 376

Dated: 13-10-2020

सेवा में,

संयोजक / विभागाध्यक्ष  
पाठ्यक्रम समिति, पर्यावरण विज्ञान विभाग  
चौरास परिसर।

महोदय,

कृपया अपने पत्र दिनांक 01.10.2020 का सन्दर्भ ग्रहण करने का कष्ट करें, जिसमें आपके द्वारा विभागीय पाठ्यक्रम समिति पर्यावरण विज्ञान विभाग के गठन से सम्बन्धित अधिनियम के परिनियम 2(i), 2(ii)(3), 2(ii)(4), 2(ii)(5), 2(ii)(6) के अन्तर्गत पूर्व में कुलपति महोदय द्वारा नामित सदस्यों का कार्यकाल समाप्त होने के फलस्वरूप पुनः नये सदस्यों को नामित किये जाने का उल्लेख किया गया है।

कुलपति महोदय द्वारा पाठ्यक्रम समिति के गठन से सम्बन्धित अधिनियम 2(i), 2(ii)(3), 2(ii)(4), 2(ii)(5), 2(ii)(6) के परिनियम के अन्तर्गत निम्नलिखित सदस्यों को पाठ्यक्रम समिति पर्यावरण विज्ञान विभाग का सदस्य नामित किये जाने की सहर्ष स्वीकृति प्रदान की गई है।

परिनियम 2 (i)

1-Prof. R. K Maikhuri, Convener of BoS

परिनियम 2 (ii)(3) के अन्तर्गत एक वर्ष हेतु

1-Dr. Vidhu Gupta, Assistant Professor, DOES,

परिनियम 2 (ii)(4) के अन्तर्गत दो वर्ष हेतु

1-Prof Sunil Nautiyal, Centre for Ecological Economics and Natural Resources, Institute for Social and Economic Change, (ISEC, Mo Education, Govt. Of India), Bangalore 560072.

2-Dr.J.M.S. Tomar, Principal Scientist, Central Soil and Water Conservation Research and Training Institute,(CSWCRTI-ICAR), Dehradun

परिनियम 2 (ii)(5) के अन्तर्गत एक वर्ष हेतु

1-Dr. J.S. Chauhan, HOD, Himalayan Aquatic Biodiversity, Chauras Campus.

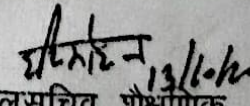
2-.Prof. R.C.Sundriyal, Deptt, of Forestry, Chauras Campus.

परिनियम 2 (ii)(6) के अन्तर्गत एक वर्ष हेतु

1- Dr. Yogendra Singh, RMP, PG College, Roorkee, Uttarakhand

अतः कृपया भविष्य में होने वाली पाठ्यक्रम समिति पर्यावरण विज्ञान विभाग की बैठक में उपर्युक्त अधिनियम के अन्तर्गत नामित सदस्यों को आमंत्रित करने का कष्ट करें।

भवदीय

  
उप कुलसचिव, शैक्षणिक



Ref: Acad/2021/78

Dated. 9-2-2021

OFFICE ORDER

A Meeting of Board of Studies, Department of Environmental Science has been scheduled to be held on date 13-02-2021 in Chauras campus from 11:00 AM/PM. Onward.

All the hon'ble members are requested to attend to the meeting as per schedule.

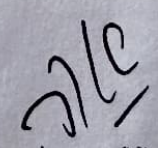
This is issued on the recommendation of the convener, Board of Studies, Department of Environmental Science

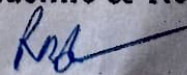
As per order of Hon,ble vc in futuer only 3 BOS meeting be conducted in one year,

Registrar

Copy To:

1. Chairman BoS, Department of Environmental Science with a request to contact the members of Bos.
2. All members of the Board of Studies of Environmental Science
3. Dean, School of Life Sciences
4. P.A. to Finance officer.

  
Section officer  
Academic & Research



FTS No: 28644  
Date: 29/03/2022

**Department of Environmental Sciences  
H.N.B. Garhwal University (A Central University)  
Srinagar (Garhwal) -246174, Uttarakhand**

**Date: 28 February 2022**

**Minutes of the Meeting of the Board of Studies (BOS) in Environmental Sciences**

The meeting of the Board of Studies (BOS) in Environmental Sciences was held on 28 February, 2021 via online mode at the Department of Environmental Sciences, HNB Garhwal University, Chauras Campus.

The Convenor welcomed all the members of BOS in the meeting.

The following members were present in the meeting

1. Prof R.K. Maikhuri, HOD Dept. of Environmental Sciences, HNB Garhwal University, Srinagar, Garhwal (Convenor)
2. Prof. R.C. Sundriyal, Dept of Forestry and Natural Resources, HNB Garhwal University, Srinagar, Garhwal
3. Prof. Sunil Nautiyal, Head, Centre for Ecological Economics and Natural Resources, ISEC, Bangalore, Karnataka
4. Dr. Jagmohan Singh Tomar, Principal Scientist, Centre Soil and Water Conservation Research and Training Institute, Dehradun, Uttarakhand
5. Dr. Jaspal Singh Chauhan, HOD, Himalayan Aquatic Biodiversity, HNB Garhwal University, Srinagar, Garhwal
6. Dr. Jogendra Singh, Head & Assistant Professor, Dept. of Agricultural Chemistry, RMP, PG College, Roorkee, Uttarakhand
7. Dr. Vidhu Gupta, Assistant Professor, Dept. of Environmental Sciences, HNB Garhwal University, Srinagar, Garhwal

**The BOS took the following decisions unanimously.**

**Item No. 1.** Approval of the minutes of the last meeting of BOS held on 13.02.2021.

**Resolution:** The board approved the item no 1.

**Item No. 2.** To consider the Minutes of the previous BOS (13.02.2021) in the meeting of school board of Life Sciences, HNB Garhwal University, Srinagar, Garhwal

**Resolution:** The board approved the item no 2.

**Item No. 3.** To consider the 7<sup>th</sup> and 8<sup>th</sup> Progress Reports of Ms. Lalita Bisht, Research Scholar (Reg. No. LE- 17257)

**Resolution:** The BOS approved the progress reports of Ms. Lalita Bisht (Annexure [1] attached).

Item No. 4. To consider the 7<sup>th</sup> and 8<sup>th</sup> Progress Reports of Mr. Akash Deep, Research Scholar (Reg. No. LE- 17260)

Resolution: The BOS approved the progress reports of Mr. Akash Deep (Annexure [2] attached).

Item No. 5. To consider the Ph.D. synopsis and progress report of Mr. Ashok Kumar Meena, (Presentation of synopsis for the registration in the Ph.D programme in Environmental Sciences)

Resolution: The BOS approved the of Ph.D. synopsis and progress report of Mr. Ashok Kumar Meena (Annexure [3] attached).

Item No. 6. To consider the revised and modified Pre Ph.D. syllabus.

Resolution: The BOS committee approved therevised Pre Ph.D. syllabus (Annexure [4] attached).

Item No. 7. To consider the revised and modified syllabus of M.Sc. Environmental Sciences and PG Diploma in Environmental management.

Resolution: The BOS committee approved the revised syllabus of M.Sc. Environmental Sciences and PG Diploma in Environmental management (Annexure [5] attached).

Item No. 8. To consider the enhancement of seats in the course of M.Sc. Environmental Sciences from 22 to 35 in both regular and sponsored categories. (under regular category from 17 to 25 seats and under sponsored category from 5 to 10).

Resolution: The BOS committee gave their approval for the same and suggest to put the matter in to the school board of life sciences (Annexure [6] Attached).

Item No. 9. To consider the request for the recruitment of new faculty members in the Dept. of Environmental Sciences, HNB Garhwal University, Srinagar, Garhwal.

Resolution: The BOS committees gave their approval for the same and suggest to put the matter in to the school board of Life Sciences. (Annexure [7] attached)

Item No. 10. To consider the request for utilizing the funds (for developing minor facilities and meeting other necessary requirements) generated by the Dept. of Environmental Sciences from sponsored seats as per the university norms.

Resolution: The board approved this matter and suggested to put the matter in School board of Life Sciences.

Item No. 11. To consider the application for constitution of Plagiarism Committee and Library Committee of Dept. of Environmental Sciences.

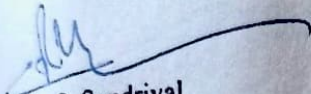
Resolution: The Board Approved the constituted committee (Annexure [8] Attached).

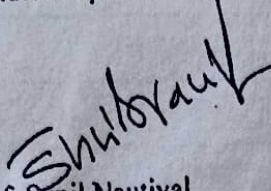
Item No. 12. To approve the Panel of Experts/ Examiners for evaluation of the Ph.D. thesis in Environmental Sciences.

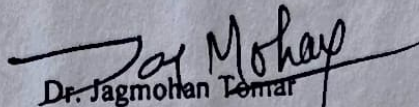
Resolution: The Board Approved the panel of Experts / Examiners for evaluation of the Ph.D. thesis in Environmental Sciences (Annexure [9] attached).

Item No. 13. Any other points/issues with the permission of chair.


The board forwarded the minutes of present BOS (28.02.2022) in to the school board of Life Sciences.

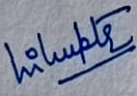
  
Prof. R. C. Sundriyal  
Member

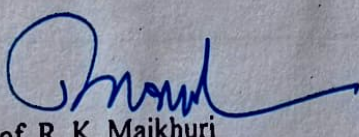
  
Prof. Sunil Nautiyal  
External Expert, Member

  
Dr. Jagmohan Tomar  
External Expert Member

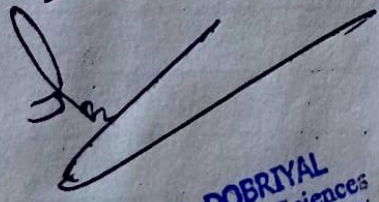
Dr. Jogendra Singh  
External Expert Member

  
Dr. Jashpal Singh Chauhan  
Member


  
Dr. Vidhu Gupta  
Member

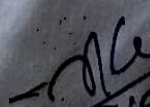
  
Prof. R. K. Maikhuri  
Convenor  
HOD, Environmental Sciences

Forwarded for  
School Board



PROF. A.K. DOBRIYAL  
Dean, School of Life Sciences  
H.N.B. GARHWAL UNIVERSITY  
SRINAGAR GARHWAL - 245174

B.O.S. रजिस्ट्रर दिनांक 19/4/2022 को Academic Section में प्राल किया गया है।  
  
19/4/2022


  
19/4/2022

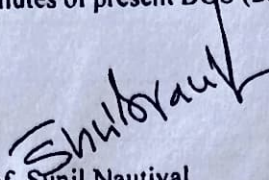
Item No. 12. To approve the Panel of Experts/ Examiners for evaluation of the Ph.D. thesis in Environmental Sciences.


Resolution: The Board Approved the panel of Experts / Examiners for evaluation of the Ph.D. thesis in Environmental Sciences (Annexure [9] attached).


Item No. 13. Any other points/issues with the permission of chair.


The board forwarded the minutes of present BOS (28.02.2022) in to the school board of Life Sciences.

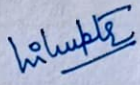
  
Prof. R. C. Sundriyal  
Member


  
Prof. Sunil Nautiyal  
External Expert, Member

  
Dr. Jagmohan Tomar  
External Expert Member

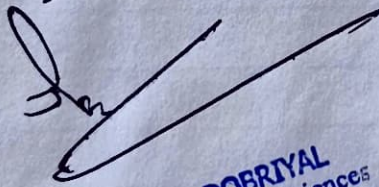
  
Dr. Jogendra Singh  
External Expert Member

  
Dr. Jashpal Singh Chauhan  
Member

  
Dr. Vidhu Gupta  
Member


  
Prof. R. K. Maikhuri  
Convenor  
HOD, Environmental Sciences

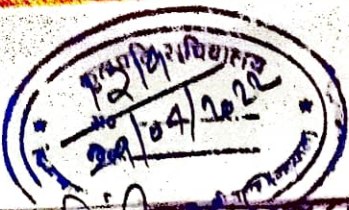
Forwarded for  
School Board



PROF. A.K. DOBRIYAL  
Dean, School of Life Sciences  
H.N.B. GARHWAL UNIVERSITY  
SRINAGAR GARHWAL - 246174

B.O.S. रजिस्ट्रि दिनांक 19/4/2022 को Academic Section में प्राप्त किया गया है।

  
19/4/2022 - 19/4/2022



पाठ्यक्रम समिति का कार्य दिनांक 29/04/2022  
 में सभी मद 6.0.5 से संस्तुत है मद सं. 06.07.08.09  
 व 10 को स्कूल बोर्ड में रखा जाना है तथा डी। ए. मद  
 कुलपति को दया के आनुमोदनार्थ प्रस्ताव

~~DR(A)~~

~~19/4/22~~

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19/4/2022

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Am. Box PVC

~~19/4/22~~  
~~19/4/22~~



हेमवती नन्दन बहुगुणा गढ़वाल विश्वविद्यालय  
Hemvati Nandan Bahuguna Garhwal University  
श्रीनगर गढ़वाल (उत्तराखण्ड)-246174  
Srinagar (Garhwal), Uttarakhand-246174  
(केन्द्रीय विश्वविद्यालय)  
(A Central University)

E-mail: Registrar,hnbgu@gmail.com  
Website: www.hnbgu.ac.in

Ref: Acad / 2022/933

Date 30-3-22

OFFICE ORDER

A meeting of Board of Studies, Department of Environmental Sciences has been scheduled to be held on date 5-4-2022 in Chaura campus from 11.00 AM onwards.

All the Hon'ble members are requested to attend to the meeting as per schedule.

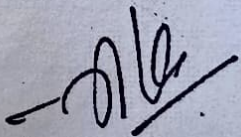
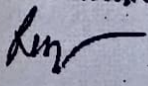
This is issued on the recommendation of the convener, Board of Studies, Department of Environmental Sciences is mandatory to have one external expert in the BOS meeting.

As per order of Hon,ble V.C in future only 3 BOS Meeting be conducted in one year,

Registrar

Copy to:

1. Chairman BoS, Department of Environmental Sciences with a request to intimate the members of BoS member at Department level also.
2. All members of the Board of Studies of Department of Environmental Sciences.
3. Dean School of Life Sciences.....
4. Finance officer.

  
Section officer, Academic  




**Department of Environmental Sciences**  
H.N.B. Garhwal University (A Central University)  
Srinagar (Garhwal) -246174, Uttarakhand

13 February, 2021

**Minutes of the of the 14<sup>th</sup> Board of Studies (BOS) Meeting of Environmental Sciences**

The meeting of the Board of Studies (BOS) in Environmental Sciences was held on **13 February, 2021 via online mode** at the Department of Environmental Sciences, HNB Garhwal University, Chauras Campus.

The meeting started with the opening remarks of the Chairperson extending the warm welcome to all members and expressed his thankfulness for sparing their valuable time for meeting.

The following members were present:

1. Prof R.K Maikhuri, HOD, Environmental Science, Convenor
2. Prof. R. C. Sundriyal, Forestry and Natural Resources
3. Prof. Sunil Nautiyal, Centre for Ecological Economics and Natural Resources, ISEC, Bangalore
4. Dr. Jagmohan Tomar, Centre Soil and Water Conservation Research and Training Institute, Dehradun
5. Dr. Jas pal Singh Chauhan, HOD, Department of Himalayan Aquatic Biodiversity
6. Dr. Vidhu Gupta, Assistant Professor, Environmental Sciences

**The various agenda items were discussed and resolved. The BOS took the following decisions unanimously as under:**

**Item No. 1.** Approval of the minutes of the last meeting of BOS held on 19.02.2020.

**Resolution:** The BOS committee gave its approval for the Approval of the minutes of the last meeting of BOS held on 19.02.2020.

**Item No. 2.** To Consider the Progress Reports of Ms. Lalita Bisht, Research Scholar (Reg. No. LE- 17257)

**Resolution:** The BOS approves the following progress reports of Ms. Lalita Bisht (Annexure 3)

- (i) Progress Report (Nov 2019-April 2020)
- (ii) Progress Report (May 2019-Oct 2020)

**Item No. 3.** To Consider the Progress Reports of Mr Akash Deep, Research Scholar (Reg. No. LE- 17260)

**Resolution:** The BOS approves the following progress reports of Mr Akash Deep (Annexure 3)

- (i) Progress Report (Nov 2017-April 2018)
- (ii) Progress Report (May 2018-Oct 2018)
- (iii) Progress Report (Nov 2018-April 2019)
- (iv) Progress Report (May 2019-Oct 2019)
- (v) Progress Report (Nov 2019-April 2020)
- (vi) Progress Report (May 2019-Oct 2020)

✓ **Item No. 4.** To consider the application regarding establishment of Journal Club in department of Environmental Sciences.

**Resolution:** The BOS committee gave its approval to establish the **Journal Club** in the Department and also approved the following member name for this committee

1. Prof R.K Maikhuri, HOD, Dept. of Environmental Science, IINBGU
2. Dr. Vidhu Gupta, Assistant Professor, Dept. of Environmental Science, HNBGU.

✓ **Item No. 5.** To consider the application for revision and modification of Pre-Ph.D. syllabus as per University letter no. Sekshnik/2020/4911, dated 11-2-2020.

**Resolution:** BOS gave its approval for revision and modification of Pre-PhD syllabus as per University letter no. Sekshnik /2020/4911, dated 11-2-2020 and also gave its approval for including this paper in ongoing Pre-Ph.D. course work for session 2021-22.

✓ **Item No. 6.** To consider the application for revision and modification of M.Sc. Environmental Sciences syllabus.

**Resolution:** Approved.

**Item No. 7.** Constitution of Departmental Academic Integrity Penal (DAIP) committee in the Department.

**Resolution:** BOS Committee gave its approval for the constitution of the DIAP committee in the department and also approved the following member name for this committee.

1. Prof R.K Maikhuri, HOD, Dept. of Environmental Science, IINBGU
2. Dr. Vidhu Gupta, Assistant Professor, Dept. of Environmental Science, HNBGU
3. Prof. R. C. Sundriyal, Forestry and Natural Resources, IINBGU

✓ **Item No. 8.** To consider the application for development of Memorandum of Understanding (MOU) between CSIR – National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur and Centre for Ecological Economics and Natural Institute Resources, Institute for Social and Economic Change, (ISEC, Mo Education, Govt. of India), Bangalore.

**Resolution:** Approved.

FTS No: 28644  
Date: 29/03/2022

**Department of Environmental Sciences  
H.N.B. Garhwal University (A Central University)  
Srinagar (Garhwal) -246174, Uttarakhand**

**Date: 28 February 2022**

**Minutes of the Meeting of the Board of Studies (BOS) in Environmental Sciences**

The meeting of the Board of Studies (BOS) in Environmental Sciences was held on 28 February, 2021 via online mode at the Department of Environmental Sciences, HNB Garhwal University, Chauras Campus.

**The Convenor welcomed all the members of BOS in the meeting.**

The following members were present in the meeting

1. Prof R.K. Maikhuri, HOD Dept. of Environmental Sciences, HNB Garhwal University, Srinagar, Garhwal (Convenor)
2. Prof. R.C. Sundriyal, Dept of Forestry and Natural Resources, HNB Garhwal University, Srinagar, Garhwal
3. Prof. Sunil Nautiyal, Head, Centre for Ecological Economics and Natural Resources, ISEC, Bangalore, Karnataka
4. Dr. Jagmohan Singh Tomar, Principal Scientist, Centre Soil and Water Conservation Research and Training Institute, Dehradun, Uttarakhand
5. Dr. Jaspal Singh Chauhan, HOD, Himalayan Aquatic Biodiversity, HNB Garhwal University, Srinagar, Garhwal
6. Dr. Jogendra Singh, Head & Assistant Professor, Dept. of Agricultural Chemistry, RMP, PG College, Roorkee, Uttarakhand
7. Dr. Vidhu Gupta, Assistant Professor, Dept. of Environmental Sciences, HNB Garhwal University, Srinagar, Garhwal

**The BOS took the following decisions unanimously.**

**Item No. 1.** Approval of the minutes of the last meeting of BOS held on 13.02.2021.

**Resolution:** The board approved the item no 1.

**Item No. 2.** To consider the Minutes of the previous BOS (13.02.2021) in the meeting of school board of Life Sciences, HNB Garhwal University, Srinagar, Garhwal

**Resolution:** The board approved the item no 2.

**Item No. 3.** To consider the 7<sup>th</sup> and 8<sup>th</sup> Progress Reports of Ms. Lalita Bisht, Research Scholar (Reg. No. LE- 17257)

**Resolution:** The BOS approved the progress reports of Ms. Lalita Bisht (Annexure [1] attached).

Item No. 4. To consider the 7<sup>th</sup> and 8<sup>th</sup> Progress Reports of Mr. Akash Deep, Research Scholar (Reg. No. LE- 17260)

Resolution: The BOS approved the progress reports of Mr. Akash Deep (Annexure [2] attached).

Item No. 5. To consider the Ph.D. synopsis and progress report of Mr. Ashok Kumar Meena, (Presentation of synopsis for the registration in the Ph.D. programme in Environmental Sciences)

Resolution: The BOS approved the of Ph.D. synopsis and progress report of Mr. Ashok Kumar Meena (Annexure [3] attached).

Item No. 6. To consider the revised and modified Pre Ph.D. syllabus.

Resolution: The BOS committee approved the revised Pre Ph.D. syllabus (Annexure [4] attached).

Item No. 7. To consider the revised and modified syllabus of M.Sc. Environmental Sciences and PG Diploma in Environmental management.

Resolution: The BOS committee approved the revised syllabus of M.Sc. Environmental Sciences and PG Diploma in Environmental management (Annexure [5] attached).

Item No. 8. To consider the enhancement of seats in the course of M.Sc. Environmental Sciences from 22 to 35 in both regular and sponsored categories. (under regular category from 17 to 25 seats and under sponsored category from 5 to 10).

Resolution: The BOS committee gave their approval for the same and suggest to put the matter in to the school board of life sciences (Annexure [6] Attached).

Item No. 9. To consider the request for the recruitment of new faculty members in the Dept. of Environmental Sciences, HNB Garhwal University, Srinagar, Garhwal.

Resolution: The BOS committees gave their approval for the same and suggest to put the matter in to the school board of Life Sciences. (Annexure [7] attached)

Item No. 10. To consider the request for utilizing the funds (for developing minor facilities and meeting other necessary requirements) generated by the Dept. of Environmental Sciences from sponsored seats as per the university norms.

Resolution: The board approved this matter and suggested to put the matter in School board of Life Sciences.

Item No. 11. To consider the application for constitution of Plagiarism Committee and Library Committee of Dept. of Environmental Sciences.

Resolution: The Board Approved the constituted committee (Annexure [8] Attached).

**DEPARTMENT OF HIMALAYAN AQUATIC BIODIVERSITY,**  
**HNB GARHWAL UNIVERSITY, SRINAGAR**

**MINUTES OF PROCEEDINGS OF THE FIRST BOARD OF STUDIES IN HIMALAYAN AQUATIC BIODIVERSITY**

A meeting of the members of the Board of Studies in Himalayan Aquatic Biodiversity was held today on 13-04-2018 in the Dean Life Science office, Birla, Srinagar. Following members attended the meeting:

1. **Prof. N.S. Bisht**, Dean, School of Life Sciences, Convener
2. **Prof. Y.S. Farswan**, Dept. of History, Culture and Archaeology, Member
3. **Dr. R.K. Maikhuri**, GB Pant National Institute of Himalayan Environment & Sustainable development, member
4. **Dr. Jaspal Singh Chauhan**, department of Himalayan Aquatic Biodiversity, member

**Dr. Jaspal Singh Chauhan** welcomed the members and placed the agenda for the discussion. Following decisions have been taken unanimously:

**1. To approve the revised syllabus of M.Sc. 'Himalayan Aquatic Biodiversity'**

Submitted for discussion and further approval.

**Resolution:** The revised M.Sc. syllabus was approved with minor modifications by the members.

**2. Requirement of building for Himalayan Aquatic Biodiversity department.**

Submitted for consideration

**Resolution:** The members accord their consent for building requirement of Himalayan Aquatic Biodiversity department. Dr J S Chauhan is advised to submit the requirement of Laboratory, Classrooms, Faculty rooms, seminar hall, office room and furniture to the engineering section of University. Also he will send a proposal to the University for Equipment and consumables

**3. Requirement of Staff for Himalayan Aquatic Biodiversity department.**

Submitted for consideration

**Resolution:** The members accord their consent for Staff requirement in Himalayan Aquatic Biodiversity department and Dr J S Chauhan is asked to send a letter to Honorable VC/Registrar for teaching and Non teaching staff.

**DEPARTMENT OF HIMALAYAN AQUATIC BIODIVERSITY,**  
**HNB GARHWAL UNIVERSITY, SRINAGAR**

**MINUTES OF PROCEEDINGS OF THE 4th BOARD OF STUDIES IN  
HIMALAYAN AQUATIC BIODIVERSITY**

A meeting of the members of the Board of Studies in Himalayan Aquatic Biodiversity was held today on 27-02- 2020 in the department of Himalayan Aquatic Biodiversity, Chauras. Following members attended the meeting:

1. **Prof. R.P. Bhatt**, Dean, School of Life Sciences, Convener
2. **Dr. R.S. Negi**, Head, Dept. of Rural Technology, Member
3. **Dr. R.K. Maikhuri**, GB Pant National Institute of Himalayan Environment & Sustainable development, member
4. **Dr. Deepak Bhandari**, Dept. of Zoology and Biotechnology, Member
5. **Dr. Jaspal Singh Chauhan**, department of Himalayan Aquatic Biodiversity, member

**Chairperson BOS** welcomed the members and placed the agenda for the discussion. Following decisions have been taken unanimously:

**1. Approval of the minutes of 3<sup>rd</sup> BOS meeting**

The minutes of the 3rd BOS meeting held on 25-05-2019 was circulated among the BOS members. Since no comment has been received, this BOS has approved the minutes of 3rd BOS meeting

**Resolution:** The BOS has approved the minutes of the 3rd BOS meeting.

2. To add the new paper "Research and Publication Ethics in Ph.D. programme of Himalayan Aquatic Biodiversity and update the course structure.

Submitted for discussion and further approval.

**Resolution:** As per the UGC guidelines a new paper "Research and Publication Ethics (2 credit)" was given approval to be added in the Pre-Ph.D. programme. Further, paper titled 'Review of literature and presentation of a seminar on a research theme related topic' (3 credit) was changed as 'Review of literature' (1 credit) with the consent of members.

3. To consider Dr. Jaspal Singh Chauhan as a regular Head of Department of Himalayan Aquatic Biodiversity.

Submitted for consideration and further discussion

**Resolution:** The case of Dr. Jaspal Singh Chauhan was discussed and the members accord their consent for considering him as a regular Head of Department.

4. To approve Dr. Jaspal Singh Chauhan as a Ph.D. supervisor of Kumari Neha

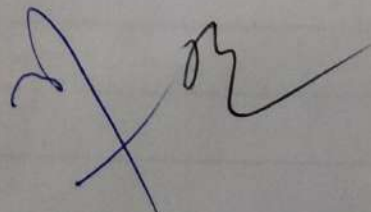
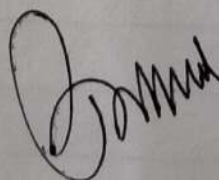
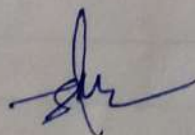
Submitted for discussion and further approval.

**Resolution:** The members approved Dr Jaspal Singh Chauhan as the Ph.D. supervisor of Kumari Neha

5. To constitute departmental Academic Integrity Panel (DAIP) for plagiarism control.

As per university order no. Acad/2020/57 in reference to UGC letter no. D.O.No. F.1-18/2010 (CPP-II) dated 06 Aug, 2018 the departmental academic integrity panel committee is proposed to be constituted for plagiarism checking as follows

1) Chair person: Dean School of Life Sciences



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**BOARD OF STUDIES**

**DEPARTMENT OF HIMALAYAN AQUATIC BIODIVERSITY**

**HEMVATI NANDAN BAHUGUNA GARHWAL UNIVERSITY, SRINAGAR**

Meeting: 5th Meeting

Dated: 26 February, 2021

Venue: Through video Conferencing

Time: 11:00 am

Ref: office order No2021/08 dated 16/02/21

In accordance with the relevant provisions of the Ordinances, the 5<sup>th</sup> Meeting of the Board of Studies (Department of Himalayan Aquatic Biodiversity) is held as per schedule.

Following members participated:

1. Dean, School of Life Sciences -----Chairperson
2. Dr. Jaspal Singh Chauhan-----Member
3. Prof. Yuvraj Singh Negi-----External member
4. Dr. Soban Singh Rawat-----External Member
5. Prof. PC Lakhera..... Cognate Members
6. Prof. R.K. Maikhuri..... Cognate Members

The meeting commenced with opening remarks of Chairperson. He wholeheartedly welcomed all participating members and appreciated their online availability despite their busy schedule elsewhere. It was hoped of valuable contribution of all esteemed members for the success of the meeting. The valuable contributions made by outgoing chairpersons and members (Prof. J.P. Bhatt, Prof. R.P. Bhatt, Dr. R.S. Negi and Dr. Deepak Bhandari) whose tenure came to an end at different time, are sincerely recorded and appreciated.

**Various items listed on agenda were taken up for deliberations.**

**Agenda item No. 1. To confirm the minutes of previous Board of Studies (4<sup>th</sup> BOS) meeting held on 27-02- 2020**

The minutes of the 4<sup>th</sup> BOS meeting held on 27-02- 2020 were circulated among the BOS members for their comments and finalized afterwards.

**Action taken Report-**The proceeding was submitted to Joint Registrar (Academic) by the Chairperson through Dean, SLS for further action by the concerned section of the university.

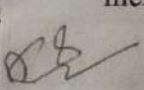
**Resolution:** Approved

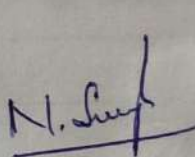
**Agenda item No. 2. Establishment of Journal Club as per Director, Internal Quality Assessment Cell (IQAC) email dt. 01.12.2020.**

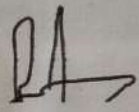
In compliance with directive email received from Director, IQAC on date 01/12/2020 the constitution of the Journal Club is proposed as under (**Annexure2**).

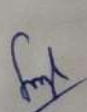
Director of Journal Club: Head of the Department

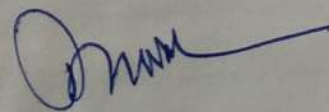
Members – All Research Supervisors (at present there is only one regular faculty/research supervisor functioning in the department, therefore, all research scholars are proposed to be co-opted as members).













be invited for discussion in the interest of overall growth of the department as well as the journal club more informative and meaningful.  
**Resolution:** Approved as proposed.

**Agenda item No. 3. Revision of syllabus in M.Sc. Himalayan Aquatic Biodiversity IVth semester. (Annexure 3)**

(In view of the availability of the single faculty and occasionally guest faculty, it is not possible to justify the dissertation to be offered to all students in the fourth semester, and to get the quality work done as the purpose of dissertation. Few changes in the syllabus are proposed).

It is envisaged that there will be two sets of the students:

- 3.1. It is proposed to offer the dissertation to selective 3-4 students depending upon their willingness. For such students the present scheme of dissertation will continue which already exist in the syllabus content.

**And/or**

- 3.2. If no student is willing to work for dissertation, all students in the Fourth semesters will be offered two Elective Courses. For these, the following changes are proposed

- The line "the dissertation is a semester long elective course of 06 credits and is mandatory for every student" in the M.Sc. Fourth Semester (Himalayan Aquatic Biodiversity) syllabus be read as "in fourth semester two theory Elective Courses out of 03 Credits (out of following three proposed elective courses) each will be offered to every student in lieu of dissertation of 06 Credits". The titles and syllabi of the proposed theory elective courses are as under (Annexure 3.A)

- 1) Freshwater Aquaculture
- 2) Aquaculture Biotechnology
- 3) Himalayan rivers: Status, Destruction and Management

The detailed theory course structures of these optional elective courses are enclosed in Annexure 3.A

The scheme will be effective from batch 2018-19

**Resolution:** Approved (The In-Charge HOD is directed to rationally streamline the contents of the syllabi in consultation with Dr. Deepak Bhandari and Dr. Pooja Saklani). The structure/contents of new syllabi and examination scheme will suitably be modified accordingly.

**Agenda item No. 4. Compliance of office order No. 16/2021 (Meeting of the academic council held on 10-10-2020). (Annexure 4)**

It was directed to prepare the panel of names/address of 30 experts (approve through BOS/School Board) to be submitted to the Hon'ble Vice Chancellor for one year for the purpose evaluation of Ph.D. thesis.

However, in the department of Himalayan Aquatic Biodiversity, one scholar is pursuing Ph.D. since 2019 and another scholar joined in August 2020. There will not be any need of such panel of examiners for Ph.D. thesis evaluation for coming two years at least. Therefore, such panel will be prepared/ processed well in time almost 6 months before the likely submission of Ph.D. thesis of the scholar.

**Resolution:** Noted

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Hemvati Nandan Bahuguna Garhwal University, Srinagar (Garhwal), Uttarakhand-244 174

Head  
Department of Zoology & Biotechnology



E-mail: hodzoobiotech@gmail.com

Ref. HNBSGU/Zoobiotech/2020

28 February 2020

To  
The Dy. Registrar (Acad.)  
HNB Garhwal University  
Srinagar Garhwal

Subject: Proceeding of BoS Zoology for approval

R/Sir,

The Proceedings of 17<sup>th</sup> Meeting of BoS (Zoology) along with report of selection committee of Ph.D. students is enclosed herewith for your kind perusal and approval.

Kindly do the needful and oblige.

Faithfully yours

Head &  
Chairperson  
BOS (Zoology)

Encl: a a

13 sheets

**PROCEEDINGS**  
**DEPARTMENT OF ZOOLOGY AND BIOTECHNOLOGY**  
**BOARD OF STUDIES (ZOOLOGY)**

17<sup>th</sup> Meeting







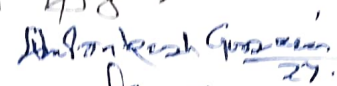

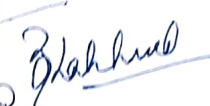



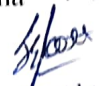



27 February, 2020

Venue: Departmental Conference Hall

Time: 11am

In accordance of the relevant provisions of the Ordinances, the Registrar issued the notification Ref. No. Acad/2020/86, dated 20/02/2019 to conduct BoS (Zoology) (Annexure 17.01)

Following members participated in the meeting:

1. Prof. BS Bisht Chairperson 
2. Prof. N Singh
3. Prof. AK Dobriyal 
4. Prof. SN Bahuguna 
10. Prof. MS Bisht 
11. Prof. P Nautiyal 
12. Prof. NK Agarwal 
13. Prof. OP Gusain   
27.02.2020
14. Prof. Manju P Gusain 
10. Prof. PC Lakhera 
11. Prof. DK Sharma 
12. Prof. DR Khanna 
13. Prof. KK Sharma 
14. Prof. SC Bhatt 
15. Prof. JS Jagwan 
16. Dr. RS Fartyal 
17. Dr. Tajendar Kaur 

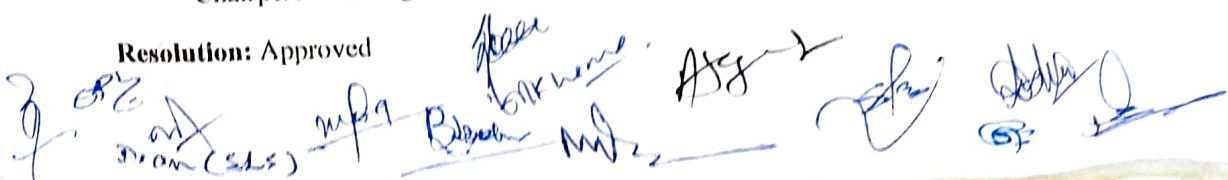
**Item Nos:**

17.01: The Chair welcomed all Hon'ble members for sparing their valuable time and participating in the meeting. As circulated earlier, the agenda items were discussed and following recommendations were made:

17.02: Minutes of the 16<sup>th</sup> meeting of BoS (Zoology), dated 9 September, 2019 are placed for confirmation (Annexure 16.02).

**Action Taken Report:** The proceeding was submitted to Joint Registrar (Academic) by the Chairperson through Dean, SIS for its approval in Academic Council.

**Resolution:** Approved



**17.03: Interview for selection of candidates for Ph.D. (2019-20).**

In all Thirty (30) candidates appeared in the interview for selection to the Ph.D program in Zoology. The list of selected candidates against the allotted seats is enclosed for approval of Hon'ble Vice Chancellor (**Annexure 17.03**).

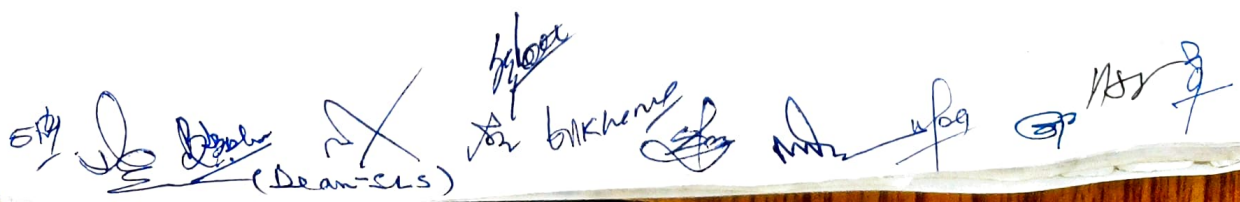
**17.04: Six month Progress Report submitted by respective Research Scholars (Batch 2017)**

**Resolution:** Six monthly progress report (Ph.D.) submitted by the following research students have been approved.

Sr. No.	Name of the student	Report/Duration
1	Deepa Saini	I Progress Report (14.11.2017-13.05.2018) II Progress Report (14.05.2018-13.11.2018) III Progress Report (14.11.2018-13.05.2019) IV Progress Report (14.05.2019-13.11.2019)
2.	Iftikhar Ul Haq	I Progress Report (14.11.2017-13.05.2018) II Progress Report (14.05.2018-13.11.2018) III Progress Report (14.11.2018-13.05.2019) IV Progress Report (14.05.2019-13.11.2019)
3.	Mohd Tariq	I Progress Report (18.11.2017-17.05.2018) II Progress Report (18.05.2018-17.11.2018) III Progress Report (18.11.2018-17.05.2019) IV Progress Report (18.05.2019-17.11.2019)
4.	Neelam Nautiyal	I Progress Report (14.11.2017-13.05.2018) II Progress Report (14.05.2018-13.11.2018) III Progress Report (14.11.2018-13.05.2019) IV Progress Report (14.05.2019-13.11.2019)
5.	Neetika Sharma	I Progress Report (14.11.2017-13.05.2018) II Progress Report (14.05.2018-13.11.2018) III Progress Report (14.11.2018-13.05.2019) IV Progress Report (14.05.2019-13.11.2019)
6.	Prashansha Bachhwan	I Progress Report (14.11.2017-13.05.2018). II Progress Report (14.05.2018-13.11.2018) III Progress Report (14.11.2018-13.05.2019) IV Progress Report (14.05.2019-13.11.2019)
7.	Priyanka	I Progress Report (14.11.2017-13.05.2018) II Progress Report (14.05.2018-13.11.2018) III Progress Report (14.11.2018-13.05.2019) IV Progress Report (14.05.2019-13.11.2019)

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Dean (SLS)  
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8.	Shailza Negi	I Progress Report (20.12.2017-19.06.2018) II Progress Report (20.06.2018-19.12.2018) III Progress Report (20.12.2018-19.06.2019) IV Progress Report (20.06.2019-19.12.2019)
9.	Shivani Pharaswan	I Progress Report (21.12.2017-20.06.2018) II Progress Report (21.06.2018-20.12.2018) III Progress Report (21.12.2018-20.06.2019) IV Progress Report (21.06.2019-20.12.2019)
10	Shriya Purohit	I Progress Report (14.11.2017-13.05.2018) II Progress Report (14.05.2018-13.11.2018) III Progress Report (14.11.2018-13.05.2019) IV Progress Report (14.05.2019-13.11.2019)
11	Smita Dangwal	I Progress Report (14.11.2017-13.05.2018) II Progress Report (14.05.2018-13.11.2018) III Progress Report (14.11.2018-13.05.2019) IV Progress Report (14.05.2019-13.11.2019)
12	Sonali Khali	I Progress Report (14.11.2017-13.05.2018) II Progress Report (14.05.2018-13.11.2018) III Progress Report (14.11.2018-13.05.2019) IV Progress Report (14.05.2019-13.11.2019)
13	Sonika Rayal	I Progress Report (14.11.2017-13.05.2018) II Progress Report (14.05.2018-13.11.2018) III Progress Report (14.11.2018-13.05.2019) IV Progress Report (14.05.2019-13.11.2019)
14	Vivek Kumar	I Progress Report (14.11.2017-13.05.2018) II Progress Report (14.05.2018-13.11.2018) III Progress Report (14.11.2018-13.05.2019) IV Progress Report (14.05.2019-13.11.2019)
15	Sharali Sharma	V and Final Report
✓16	Mushraff Gul	V and Final Report
17	Sandeep Kumar	V and Final Report
18	Asha Rani	IV Progress Report (11.07.2018-10.07.2019) V and Final Report
19	Bijendra Kumar	VI and Final Report
✓20	Sapana Rani Charak	V and Final Report

5/19  
  
 (Dean-SCS)  
 Bikram  
 15/19

**17.05: Syllabi for approval (Pre-Ph.D. Zoology, M.Sc. Zoology & B.Sc. Zoology).**

**17.05.1.** Changes were made in the **Pre-Ph.D. syllabus** w.r.t. letter no. Academic/2020/49, Dated 11.02.2020 to include **two (02) Credit Course** entitled **“Research and Publication Ethics (RPE)”** a Core Compulsory Course in Pre-PhD syllabus. The Credits have been allotted to Courses (Core/Elective) are as per the directions received by email, Dated 25.02.2020 from Prof. A.R. Nautiyal, Convener, Ordinance Committee, HNBGU. Further, in lieu of existing Elective Lab Courses two (02), four credits Courses have been incorporated. The Revised Pre-Ph.D. syllabus (w.e.f. 2019-2020) approved as follows (**Annexure 17.05.1**):

Code	Course	Credits	MM
Core-I	Research Methodology	04	100
Core-II	A. Research and Publication ethics (RPE)	02	100
	B. Project Report	01	100
Elective I	A. Tool and Techniques	04	100
	B. Environmental Biology	04	100
Elective II	A. Freshwater Biology, Aquaculture, Fish Biology and Fisheries Science	04	100
	B. Animal Behaviour and Conservation	04	100

✓ **17.05.02:** Revision in various courses in the M.Sc. Zoology syllabus was approved (**Annexure 17.05.02**).

✓ **17.05.03:** Two (02) Credits Skill Enhancement Paper entitled “Basic Laboratory Techniques in Zoology” approved for addition in B.Sc. syllabus w.e.f. 2020-21 (**Annexure 17.05.03**).

✓ **17.05.04:** With reference to letter No. HNBGU/Acad/2019/2096, Dated: 13 November, 2019 as per the minutes of the Academic Council held on 23.10.2019, one Elective Course/Paper in B.Sc. under Discipline Specific Elective Courses (DSE) entitled “Himalayan Faunal Diversity” has been approved for addition to the syllabus (**Annexure 17.05.04**).

**17.06:** Any other matter by the permission of chair.

**17.06.01:** Request put up by Ms. Shreya Purohit, Ph.D. student working under the supervision of Dr. Indrashis Bhattacharya, regarding modification in synopsis and addition of a Co-supervisor from NBFGR, Lucknow (**Annexure 17.06.01**).

**Resolution:** The modifications proposed in title and objective by Ms. Shreya Purohit are approved. The candidate is directed to submit a modified synopsis for approval and all relevant documents required for approval of Dr. Mahendra Singh, Principal Scientist NBFGR as Co-supervisor be submitted. The BoS further, resolved to authorise the Convener of BoS to approve the same on behalf of BoS.

*[Handwritten signatures and initials at the bottom of the page]*

**17.06.02:** Request put up by Sonika Rayal, Ph.D. student under the supervision of Prof. Manju Prakash Gusain regarding modifications in the objectives of the synopsis (**Annexure 17.06.02**).

**Resolution:** The modification proposed by Sonika Rayal was approved. The candidate is directed to submit revised synopsis for approval. The BoS further, resolved to authorize the Convener of BoS to approve the same on behalf of BoS.

**17.06.03:** In reference to letter no. Academic/2020/57, Dated 12.02.2020, the Convener BoS proposed the **Departmental Academic Integrity Panel (DAIP)** for the Department of Zoology & Biotechnology for approval of the BoS as follows (**Annexure 17.06.03**):

- a. Chairman – Head of the Department (Prof. B.S. Bisht)
- b. Member – Senior academician from outside the department, to be nominated by Hon'ble Vice Chancellor
  - (i). Prof. S.C. Bhatt, Department of Physics, Birla Campus, Srinagar
  - (ii). Prof. C.M. Sharma, Department of Botany & Microbiology, Birla Campus, Srinagar
- c. Member – A person well versed with anti plagiarism tools, to be nominated by Head of the Department (Prof. A.K. Dobriyal, Zoology Department BGR Campus, Pauri)

**Resolution:** The BoS approved the DAIP as proposed by the Convener BoS.

**17.06.04:** The application submitted by Asha Rani, Research Scholar, Regarding granting approval for the maternity leave to her. (**Annexure 17.06.04**).

**Resolution:** The maternity leave to Asha Rani approved.

**17.06.05:** The BoS unanimously allotted supervisors to the research scholars of batch 2018-19 as follows:

Sr. No.	Name of the Ph.D. Scholar	Name of the Supervisor
1.	Devendra Singh Rawat	Prof. N.K. Agrawal, SRT Campus
2.	Pragya Topal	Dr. R.S. Fartyal, Birla Campus
3.	Priyanka Rana	Prof. P. Nautiyal, Birla Campus
4.	Rakesh Kumar	Prof. O.P. Gusain, Birla Campus

**17.06.06:** A request letter regarding allotment of two research scholars was submitted to the BOS by Dr Indrashis Bhattacharya. (**Annexure 17.06.06**)

**Resolution:** The BOS has taken a note of it for consideration in the next allotment.

*[Handwritten signatures and initials at the bottom of the page]*

17.07: Vote of thanks- The meeting concluded with the vote of thanks to the chair.

*[Signature]*  
Chairperson/HOD, BoS Zoology

(Prof. N Singh)

(Prof. AK Dobriyal)

*[Signature]*  
(Prof. SN Bahuguna)

(Prof. MS Bisht)

*[Signature]*  
(Prof. P Nautiyal)

(Prof. NK Agarwal)

*[Signature]*  
(Prof. OP Gusain) 27.02.2020

(Prof. Manju P Gusain)

*[Signature]*  
(Prof. PC Lakhera) 27/02/20

(Prof. DK Sharma)

(Prof. DR Khanna) *[Signature]*

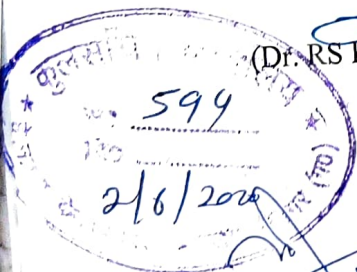
Absent  
(Prof. KK Sharma)

*[Signature]*  
(Prof. SC Bhatt)

Absent  
(Prof. JS Jagwan)

(Dr. RS Fartyal)

Absent  
(Dr. Tajendar Kaur)



*[Signature]*  
(Prof. B.S. Bisht)

Prof R.P. Bhatt  
(Dean-School of Life Sciences)

School of Life Sciences  
H.N.B. Garhwal University  
(A Central University)  
Srinagar (Garhwal)-262274  
Uttarakhand

Agenda item no. 17.5.01, 02, 03 & 04  
needs approval of School Board.  
Submitted for approval on  
minutes of BOS please.

*[Signature]*  
Registrar  
14/5/20

पाठ्यक्रम समिति जन्तु विज्ञान विभाग  
को बैठक दिनांक 27-2-2022 में जोर देकर  
निर्णयों में संशोधन 17.05.22, 03.04  
स्कूल कोड में रखा जाना है। शेष मद  
BOS में संशुद्ध है।  
उत्तः माननीय कुलपति जी के  
आनुमोदन पर प्रस्तुत।  
*[Signature]*  
SAC/Secy  
14/5/20



Office Order

A meeting of Board of Studies, Department of <sup>Zoology</sup> Zoology & Biotechnology, been scheduled to be held on 27-2-2020 in Chauras campus from 10:00 A.M/P.M onward. All the hon'ble members are requested to attend the meeting as per the schedule.

This is issued on the recommendation of the Convenor, Board of Studies, Department of Zoology & Biotechnology after approval of hon'ble VC. Only three meeting in an academic session is allowed as per order of hon'ble Vice Chancellor. As such, Department should not hold any further meeting of BOS, if three meetings, including the meeting of this BOS has been conveyed by the Department in this current academic session.

Section Officer  
(Academic & Research)

Hemvati Nandan Bahuguna Garhwal University, Srinagar Garhwal

Date: 20.2.2020

Ref.No: Academic/2020/ 26

Copy to :-

- 1- Convenor-BOS, Department of Zoology & Biotechnology with a request to contact the members of the BOS.
- 2- All members of the Board of Studies of Zoology & Biotechnology
- 3- Dean School Life Sciences
- 4- PS to VC- For kind information of Hon'ble VC.

Swami  
Section Officer  
(Academic & Research)  
KSR

## AGENDA

### Department of Zoology & Biotechnology Board of Studies (Zoology)

**17<sup>th</sup> Meeting**

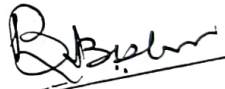
**27 February, 2020**

**Venue: Departmental Conference Hall**

**Time: 11 AM**

**Items Nos:**

- 17.01:** Welcome of fellow members by the chair.
- 17.02:** Proceedings of 16<sup>th</sup> meeting of BOS (Zoology) dated 9 September, 2019 for confirmation.
- 17.03:** Interview for selection of candidates for Ph.D (2019-20).
- 17.04:** Six month Progress Report submitted by respective Research Scholars (Batch 2017).
- 17.05:** Syllabi for approval (Pre Ph.D, M.Sc. Zoology etc).
- 17.06:** Any other matter by the permission of chair.
- 17.07:** Vote of thanks.

  
Chairperson/HOD  
BoS Zoology Course

**Copy to:-**  
All Hon'ble Members and other concerned

Name of Department: Zoology Department

1.1.2

Metric No.	Information required	Date of change as per BoS minutes				
		July 2017- June 2018	July 2018- June 2019	July 2019- June 2020	July 2020- June 2021	July 2021-June 2022
1.1.2	1. Name of programme in which syllabus of any paper was changes or new paper was introduced between July 2017 to June 2022.					
Category of programme	U.G.			27 Feb. 2020		29 April, 2022
	P.G.			27 Feb. 2020		30 Oct 2021
	M.Phil					
	Ph.D			27 Feb. 2020		
	Certificate or Diploma course					
Please mention the exact date for each academic session (as per Bos minutes) in which program was modified						

1.2.1

Metric No.	Information required	Date of introduction of new course (paper) and its name(s) as per BoS minutes				
		July 2017- June 2018	July 2018- June 2019	July 2019- June 2020	July 2020- June 2021	July 2021-June 2022
1.2.1	1. Name of new courses(papers) in which were introduced between July 2017 to June 2022.					
Category of programme	U.G.					
	P.G.					
	M.Phil					
	Ph.D					
	Certificate or Diploma course					
Please mention the exact date for each academic session (as per Bos minutes) in which program was modified						

1.3.2

Nil

Metric No.	Information required	Name of value-added course(s)** offered
1.2.1	1. Number of value-added courses for imparting transferable and life skills offered between July 2017	Between July 2017 to June 2022

	to June 2022.	
Category of programme	U.G.	
	P.G.	
	M.Phil	
	Ph.D	
	Certificate or Diploma course	

**\*\*Value added courses: Example- courses related to personality development, soft and communication skills development, language courses, environmental awareness courses, courses related to ethics, courses related to community participation and social engagement.**

1.3.3 None

Metric No.	Information required	Appx. No. of students enrolled in the value-added courses offered under each program				
		July 2017- June 2018	July 2018- June 2019	July 2019- June 2020	July 2020- June 2021	July 2021-June 2022
1.3.3	1. No. of students enrolled between July 2017 to June 2022.					
Category of programme	U.G.					
	P.G.					
	M.Phil					
	Ph.D					
	Certificate or Diploma course					

1.3.4 None

Metric No.	Information required	Appx. No. of students undertaking field project or research projects or internships under each program				
		July 2017- June 2018	July 2018- June 2019	July 2019- June 2020	July 2020- June 2021	July 2021-June 2022
1.3.4	1. No. of students enrolled between July 2017 to June 2022.					
Category of programme	U.G.					
	P.G.					
	M.Phil					
	Ph.D					
	Certificate or Diploma course					

  
Signature

Professor and Head  
Ecology Department  
B.T.S., Garhwal University  
Sitnagar Garhwal - 246171

29 Feb 2020

15: Syllabi for approval (Pre-Ph.D. Zoology, M.Sc. Zoology & B.Sc. Zoology).

17.05.1. Changes were made in the **Pre-Ph.D. syllabus** w.r.t. letter no. Academic/2020/49, Dated 11.02.2020 to include **two (02) Credit Course** entitled "**Research and Publication Ethics (RPE)**" a Core Compulsory Course in Pre-PhD syllabus.

The Credits have been allotted to Courses (Core/Elective) are as per the directions received by email, Dated 25.02.2020 from Prof. A.R. Nautiyal, Convener, Ordinance Committee, HNBGU. Further, in lieu of existing Elective Lab Courses two (02), four credits Courses have been incorporated.

The Revised Pre-Ph.D. syllabus (w.e.f. 2019-2020) approved as follows (**Annexure 17.05.1**):

Code	Course	Credits	MM
Core-I	Research Methodology	04	100
Core-II	A. Research and Publication ethics (RPE)	02	100
	B. Project Report	01	100
Elective I	A. Tool and Techniques	04	100
	B. Environmental Biology	04	100
Elective II	A. Freshwater Biology, Aquaculture, Fish Biology and Fisheries Science	04	100
	B. Animal Behaviour and Conservation	04	100

17.05.02: Revision in various courses in the M.Sc. Zoology syllabus was approved (**Annexure 17.05.02**).

17.05.03: Two (02) Credits Skill Enhancement Paper entitled "Basic Laboratory Techniques in Zoology" approved for addition in B.Sc. syllabus w.e.f. 2020-21 (**Annexure 17.05.03**).

17.05.04: With reference to letter No. HNBGU/Acad/2019/2096, Dated: 13 November, 2019 as per the minutes of the Academic Council held on 23.10.2019, one Elective Course/Paper in B.Sc. under Discipline Specific Elective Courses (DSE) entitled "Himalayan Faunal Diversity" has been approved for addition to the syllabus (**Annexure 17.05.04**).

17.06: Any other matter by the permission of chair.

17.06.01: Request put up by Ms. Shreya Purohit, Ph.D. student working under the supervision of Dr. Indrashi's Bhattacharya, regarding modification in synopsis and addition of a Co-supervisor from NBFGR, Lucknow (**Annexure 17.06.01**).

**Resolution:** The modifications proposed in title and objective by Ms. Shreya Purohit are approved. The candidate is directed to submit a modified synopsis for approval and all relevant documents required for approval of Dr. Mahendra Singh, Principal Scientist NBFGR as Co-supervisor be submitted. The BoS further, resolved to authorise the Convener of BoS to approve the same on behalf of BoS.

*[Handwritten signatures and initials at the bottom of the page]*

29 April 2022

		III Progress Report (09.08.2021-08.02.2022)
10	Akriti Mamgain	I Progress Report (06.08.2020-05.02.2021) II Progress Report (06.02.2021-05.08.2021) III Progress Report (06.08.2021-05.02.2022)
11	Jatinder Singh	I Progress Report (06.08.2020-05.02.2021) II Progress Report (06.02.2021-05.08.2021) III Progress Report (06.08.2021-05.02.2022)

**22.06:** Pre-submission presentation Batch 2017 (Annexure 22.06)

1. Deepa Saini
2. Shailza Negi

**Resolution:** Ms. Deepa Saini (Registration No. LZ-17252) and Ms. Shailza Negi (Registration No. LZ-17202) made power point presentation of their PhD thesis work before the BoS. The members made some suggestions for incorporating into the thesis. The thesis may be submitted after having incorporated the suggestions.

**22.07:** To considers the proposed UG & PG programmes framework in Zoology as per NEP for implementation from academic year 2022-23 onwards (Annexure 22.07).

**Resolution:** The BoS after detailed discussion approved the course content and syllabus of UG Four Year Degree Programme in Zoology along with the with few suggestions/modifications to be incorporated by HoD Zoology.

The BoS was of the opinion that the syllabus for PG Programme may be deferred for the subsequent BoS meetings.

**22.08:** Interview for selection of candidates for Ph.D. (2021-22)


In all 27 candidates appeared in the interview for selection to the Ph.D. programme in Zoology. The list of selected candidates against the allotted seats is enclosed for approval of Hon'ble Vice-Chancellor (Annexure 22.08)


**22.09:** Any other matter by the permission of chair

No any matter.

**22.10:** Vote of thanks

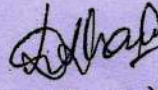
The meeting concluded with the vote of thanks to the chair.

  
(Prof. AK Dobriyal)

  
(Prof. OP Gusain) 29.04.22

  
Chairperson/ Convener, BoS Zoology

  
(Prof. MS Bisht)

  
(Prof. DK Sharma)

30 Oct. 2021

- Mr Tariq: Specify stream order at selected sampling locations and give appropriate reasons for taking up this study/explain the necessity of taking up this study.
- Mr Vivek: To remove speculative part in the conclusions regarding its dispersal and support by citing relevant literature.

21.04: Six months Progress Report submitted by respective Research Scholars (Batch 2017)

**Resolution:** Six monthly progress report (Ph.D.) submitted by the following research students have been approved.

Sr. No.	Name of the student	Report/Duration
<b>Batch 2017</b>		
1.	Mohd Tariq	VII Progress Report (14.11.2020-13-05-2021) VIII Progress Report (14.05.2021 to till date)
2.	Vivek Kumar	VII Progress Report (14.11.2020-13-05-2021) VIII Progress Report (14.05.2021 to till date)

21.05: B.Sc. 5<sup>th</sup> & 6<sup>th</sup> Semester Wise Elective and Skill Paper Distribution

**Resolution:** Deferred in view of implementation of NEP from the forthcoming session.

21.06: Any other matter by the permission of chair.

Prof. O. P. Gusain pointed out some missing text and few typographical errors in the revised M.Sc. Zoology syllabus (w.e.f. 2020) of paper SOLS/Zool/C014 (Ecology & Wildlife).

### Unit I

#### Missing text

**Biogeochemical cycle:** Concept and types (nitrogen, phosphorus, carbon & water cycle)

**Ecosystem:** Concept; Energy flow; Food chains & Ecological pyramids

**Habitat Ecology:** Niche Concept & types of niche

### Unit II

#### Missing text

**Population growth forms:** Carrying capacity; population regulation (Density dependent and density independent); Cycles & fluctuations.

**Community:** Concept & characteristics; Density, Dominance, Diversity & Stratification; Succession in communities; Keystone species

### Unit III

#### Missing text

**Environmental pollution:** Air, water, solid waste & radioactive pollution; Environmental Impact Assessment; Cumulative Impact Assessment of hydropower development; Environmental flows: need & methodologies

**Resolution:** Considering that the syllabus in question is of M.Sc. Zoology III Semester and the classes have just started, the BoS authorized the Convener to rectify the typographical errors and

*[Handwritten signatures]*

add r  
revi

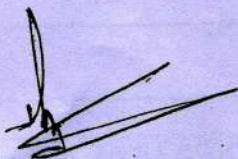
add the above mentioned missing text in the syllabus. This should be treated as Corrigendum to revised syllabus and notified to all concerned departments of affiliated colleges.

- Typographical error in title of synopsis of Ms. Priyanka Rana: *Tor Putitora* Ham

**Resolution:**

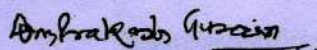
In the title above text should be corrected to *Tor putitora* (Ham).

**21.07: Vote of thanks:** The meeting concluded with the vote of thanks to the chair.




(Prof. AK Dobriyal)

(Prof. MS Bisht)

  
(Prof. OP Gusain)

(Prof. DK Sharma)

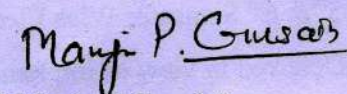
  
(Prof. HC Nainwal)

(Dr. CB Kotnala)

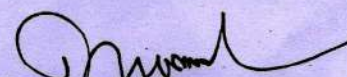

  
Chairperson/HOD, BoS Zoology

(Prof. B.S. Bisht)

(Prof. NK Agarwal)

  
(Prof. Manju P Gusain)

(Prof. KK Sharma)

  
(Prof. RK Maikhuri)  
(Prof. P. Nautiyal)