

2022-23

Annual Progress Report

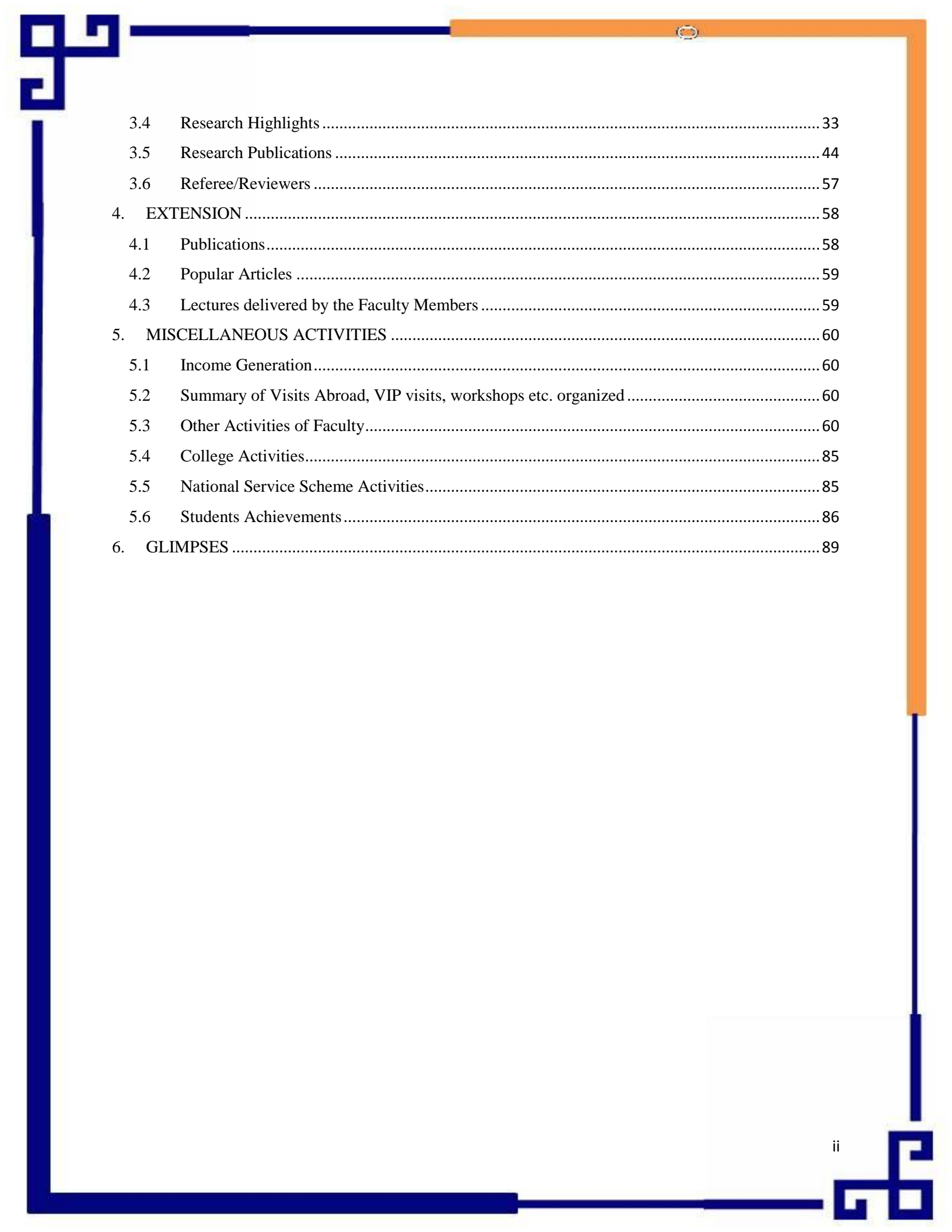


COLLEGE OF BASIC SCIENCES

**Chaudhary Sarwan Kumar
Himachal Pradesh Krishi Vishvavidyalaya
Palampur (HP) 176062**

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Preface

Basic Sciences serves as the foundation for all branches of scientific inquiry and innovation. Without a solid understanding of basic sciences such as physics, chemistry, biology, and mathematics, it would be impossible to tackle complex problems or develop groundbreaking solutions. Additionally, basic sciences foster critical thinking, problem-solving skills, and a curiosity-driven approach to learning, which are essential for lifelong learning and intellectual growth. In essence, basic sciences are the building blocks upon which the entire edifice of scientific progress stands. The faculty and staff of College of Basic Sciences, CSKHPKV Palampur strives hard to fulfill the mandate through quality education with research and extension support in the University.

During the period under report i.e. 2022-23, the College of Basic Science offered 403 credit hours of teaching to the Undergraduates and 81 credit hours to the Postgraduate Students of all the constituent colleges of the University during the period of report. 99 undergraduate and nil post graduate students completed their degrees during the academic year 2022-23. 26 students were awarded Merit scholarships, 3 students were awarded Amar Shaheed Captain Saurabh Kalia scholarship, one student was awarded Inspire Scholarship and one student was awarded National Scholarship.

Teachers of the College were actively involved in various research activities. 11 research projects funded by different agencies remained in operation, 3 projects were completed and 5 new research projects were submitted during the period under report. Research papers were published and presented in National/International Conferences during the period. I heartily appreciate the efforts of all the faculty members and staff of the college as they performed all their duties in excellent manner. Faculty and students also participated in the online/offline activities organized by the University/College with full enthusiasm. The College has a vibrant presence on Social Media maintained by Dr Manjula Sharma, Assistant Professor-cum-Social Media Champion of the COBS.

The guidance, facilities and continued encouragement provided by the Hon'ble Vice Chancellor, Prof D.K. Vatsa in various activities of the College are gratefully acknowledged. I express my sincere thanks to Director of Research, Dr S.K. Upadhaya and Director of Extension Education, Dr Naveen Kumar taking keen interest in various research and extension activities of the College. The College receives its financial assistance through various agencies in the form of short/long term projects which are thankfully acknowledged.

Sh. Kapil Sharma and Dr. Banti Kumar deserve appreciation for meticulous work of compilation and shaping this report into its final and presentable form.


Dean
College of Basic Sciences

1. ADMINISTRATIVE REPORT

1.1 Establishment

The College of Basic Sciences is one of the four constituent colleges of the Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishvavidyalaya, Palampur. Initially conceived as a Department of Basic Sciences and Humanities in the then College of Agriculture in 1978, it was elevated to the rank of College of Basic Sciences in May, 1991. It comprises of four departments and one Centre namely: Biology and Environmental Sciences, Chemistry and Biochemistry, Physical Sciences and Languages, Microbiology and Centre for Geoinformatics Research and Training. College of Basic Sciences is recognised under Section 2(f) and 12 (B) by University Grants Commission (UGC) Act, 1956. The College has the following mandate:

1.2 Mandate

1. To impart quality education to Under-graduate and Post-graduate students in Basic Sciences leading to B. Sc., M. Sc. and Ph.D.Degrees.
2. To provide support in teaching and basic research to other constituent colleges of the university.
3. To create trained manpower in different disciplines of Basic Sciences.
4. To carry out research work in relation to the state needs for the upliftment of rural masses of the State.

1.3 Current Degree Programmes

1. Undergraduate Programme
 - i. B.Sc. Physical Sciences (Three Years)
 - ii. B.Sc. Life Sciences(Three Years)
2. Postgraduate Studies & Research (Masters Programmes)
 - i. Master of Science in Microbiology (Two years)

1.4 Academic Departments/Centre

Sr. No.	Name of Department/Centre
1.	Department of Biology and Environmental Sciences
2.	Department of Chemistry and Biochemistry
3.	Department of Microbiology

4.	Department of Physical Sciences and Languages
5.	Centre for Geo-Informatics Research and Training

1.5 Department-wise Faculty Position in the College

Sr. No.	Name of the Faculty	Designation
I. DEPARTMENT OF BIOLOGY AND ENVIRONMENTAL SCIENCES		
1.	Dr. Anita Singh	Professor and Dean
2.	Dr. Usha Rana	Professor & Head
4.	Dr. Radhika Sharma	Assistant Professor
II. DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY		
1.	Dr. Rajan Katoch	Professor and Head (Joined on 28.09.2022)
2.	Dr.Suman Sharma	Assistant Professor
III. DEPARTMENT OF MICROBIOLOGY		
1.	Sh. Rajinder Kumar	Assistant Professor
2.	Dr. Abhishek Walia	Assistant Professor
3.	Dr. Rishi Mahajan	Assistant Professor
IV. DEPARTMENT OF PHYSICAL SCIENCES AND LANGUAGES		
1.	Dr. Sharda Singh	Professor and Head
2.	Sh. Kapil Sharma	Assistant Professor
3.	Dr. SheelaThakur	Assistant Professor
4.	Dr. ManjulaSharma	Assistant Professor
5.	Mr. Arun Kumar	Assistant Professor
6.	Dr. Banti Kumar	Assistant Professor
7.	Dr Abhishek Guleria	Assistant Professor
V. CENTRE FOR GEO-INFORMATICS RESEARCH AND TRAINING		
1.	Dr. Ranbir Singh Rana	Programme Director
3.	Sh. Vaibhav Kalia	Assistant Professor

1.6 Department-wise Staff Position in the College

Sr.No	Name	Designation
DEAN OFFICE		
Administrative /Ministerial Staff		
1.	Sh. Rajinder Singh	Assistant Registrar (Joined on 30.01.2023)
2.	Sh. J.P Thakur	Section Officer (Transferred on 02.02.2023)

3.	Sh. Pritam Chand	Superintendent Gr.II (EC) (17.10.2022 to 31.03.2023)
4.	Sh. Vinod Kumar	Sr. Assistant
5.	Sh. Manohar Lal	Jr. Assistant
6.	Sh. Sanjeev Kumar	Clerk (Transferred on 15.10.2022)
7.	Sh. Prithi Chand	Clerk (Joined on 15.10.2022)
8.	Ms.PriyankaChoudhary	Steno Typist (02.06.2022 to 14.10.2022)
9.	Ms.Shivani	JOA (IT) (02.06.2022 to 14.10.2022)
10.	Sh. Vimal Alias Babu Ram	Steno Typist (Joined on 17.10.2022)

Class –D

1.	Sh. Bishan Dass	Chowkidar
2.	Sh. Bikram Chand	Chowkidar
3.	Sh. Suresh Kumar	Helper
4.	Smt. Kamlesh Kumari	Sweeper (Transferred on 17.12.2022)

DEPARTMENT OF BIOLOGY AND ENVIRONMENTAL SCIENCES

Ministerial Staff -Nil-

Technical Staff:

1.	Sh. Atul Kumar	Jr. Technician Gr-IV
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Class-D Staff

1.	Sh. Subhash Chand	Peon
2.	Sh. Anup Singh	Beldar (Retired on 31.01.2023)

DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

Ministerial Staff -Nil-

Technical Staff:

1.	Sh. Trilok Chand	Jr. Technician Gr-IV
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Class-D Staff-Nil-

DEPARTMENT OF MICROBIOLOGY

Ministerial Staff - Nil-

Technical Staff:

1.	Sh. Jai Raj	Sr. Technical Assistant Gr-II
2.	Mrs. Swati Walia	Jr. Technician Gr-IV

Class-D Staff- Nil-

DEPARTMENT OF PHYSICAL SCIENCES AND LANGUAGES		
Ministerial Staff -Nil-		
Technical Staff:		
1.	Sh Sushil Kumar	Jr. Technician Gr-IV
Class-D Staff -Nil-		
CENTRE FOR GEO-INFORMATICS RESEARCH AND TRAINING		
Ministerial Staff -Nil-		
Technical Staff:		
1.	Sh. Shakti Chand	Sr. Technical Assistant Gr-II
Class-D Staff - Nil-		

1.7 Students Intake during the Academic Year

Total number of 91 students were admitted to undergraduate programmes and 01 PostGraduate students admitted during the Academic Session 2022-23 as per details given below:

Students Intake				
Programme		Boys	Girls	Total
B.Sc.	Life Sciences	06	49	55
	Physical Sciences	19	17	36
M.Sc.	Microbiology	-Nil-	01	01

1.8 Total Students Strength during the Academic Year

262UG and 06PG students were registered during the academic year and the break-up is:

Programme	Boys	Girls	Total
B. Sc.(Life Sciences and Physical Sciences)	81	181	262
M.Sc.	01	05	06

1.9 Students Passed Out during the Academic Year 2022-23

The degrees were awarded to 99 UG students as given below:

Programme	Boys	Girls	Total
B. Sc.(Life Sciences and Physical Sciences)	27	72	99

1.10 Total Credit Hours offered during the Academic Year

The faculty of the College was engaged in the following teaching programmes of Under-graduate and Post-graduate studies:

Compulsory courses were offered to the students of all the constituent colleges viz:

- i. B.Sc. (Life Sciences)
- ii. B.Sc. (Physical Sciences)
- iii. B.Sc.Hons (Agri.)
- iv. B.Sc. Community Science. (Hons.)
- v. B.Tech. (Food Technology)
- vi. B.V.Sc. & A.H. and
- vii. Postgraduate courses

Major, minor and supporting courses were also offered to the students of M.Sc. and Ph.D. of all the constituent colleges.

The detail of the total teaching credit hours undertaken by the faculty is given in the Table as below:

Name of the Department	Over all		COBS		COA		COCS		COVAS	
	UG	PG	UG	PG	UG	PG	UG	PG	UG	PG
Biology and Environmental Sciences	109	9	93	-	4	9	10	-	2	-
Chemistry and Biochemistry	101	4	76	-	22	4	3	-	-	-
Microbiology	32	35	32	35	-	35	-	35	-	-
Physical Sciences and Languages	158	33	136	33	8	33	14	33	-	-
C.G.R.T.	3	-	3	-	-	-	-	-	-	-
Total	403	81	240	68	34	81	27	68	2	-
Other Constituent Colleges (COA, COCS & COVAS): UG=63; PG= 81										

Some of these courses were offered jointly for different colleges wherever it was required. Due to the different academic calendars for the different colleges/classes, some of the courses have to be offered separately for different colleges/ classes in the same semester.

1.11 Budget for Teaching Schemes

The budget expenditure incurred during the year 2022-23 is given below:

State Schemes

Sr.No.	Scheme No.	Sponsoring Agency	Total Amount (Rs)
1.	APL-006-25	State Govt.Scheme	5,70,928/-
2.	APL-009-25	-do-	70,31,752/-
3.	APL-011-25(i)	-do-	1,49,80,710/-
4.	APL-011-25(ii)	-do-	16,64,281/-
5.	APL-011-25(iii)	-do-	1,41,45,877/-
6.	APL-019-26	-do-	2,452/-
7.	APL-011-27	-do-	21,42,748/-
Total			4,05,38,748/-

ICAR/ State Projects

Sr.No.	Scheme No.	Allocation	Expenditure
1.	ICAR(NAHEP)231-25	2,00,000/-	1,99,918/-
2.	ICAR-044-25	1,80,000/-	1,80,000/-
3.	State Adhoc Misc 2255-25	1,87,422/-	1,87,422/-
4.	State Adhoc Misc 2256-25	1,90,166/-	1,90,166/-

1.12 Representation to various University Bodies from the College

Academic Council	
Dr.Anita Singh	Dean
Dr. Sharda Singh	Prof.&Head, Physical Sciences & Languages
Dr. Usha Rana	Prof.& Head , Biology and Environmental Sciences (w.e.f. 05.03.2022)
Research Council	
Dr.Anita Singh	Dean
Dr. Sharda Singh	Prof.& Head, Physical Sciences & Languages
Extension Council	
Dr.Anita Singh	Dean

Dr. Sharda Singh	Prof.& Head, Physical Sciences & Languages
Educational and Resident Instructions Advisory Committee	
Dr. Anita Singh	Dean
Dr. Sharda Singh	Prof.& Head, Physical Sciences & Languages

1.13 Constitution of the Board of Studies of College

Dr. Anita Singh	Dean	Chairperson
Dr. Sharda Singh	HOD, Physical Sciences & Languages	Secretary (29.9.2021)
Dr. Usha Rana	Prof.&HOD, Biology and Environmental Sciences	Member
Dr. RajanKatoch	HOD, Chemistry & Biochemistry	Member
Sh. Vaibhav Kalia	Assistant Professor (Computer Science)	Member
Dr. Suman Sharma	Assistant Professor (Chemistry)	Member
Dr. Abhishek Walia	Assistant Professor (Microbiology)	Member

1.14 Grievance Redressal Committee

1.	Dean	Chairperson
2.	Dr. Usha Rana, Professor	Member
3.	Dr. Rishi Mahajan	Member

1.15 Sports, Games Cultural and Literary Committees

The In-charges for various activities:

Sr. No.	The Activities	Incharge
1.	Over all Incharge Games, Sports, Cultural and Literary activities.	Dr. Sharda Singh, Professor & Head, Deptt. of Physical Sciences & Languages.
2.	Athletics	Sh. Vaibhav Kalia, Assistant Professor, CGRT.
3.	Football	Sh. Kapil Sharma, Assistant Professor, Deptt.

		of Physical Science & Languages.
4.	Basketball	Dr. Sheela Thakur, Assistant Professor, Deptt. of Physical Sciences & Languages.
5.	Volleyball	Dr. Radhika Sharma, Assistant Professor, Deptt. of Biology and Environmental Sciences.
6.	Weight lifting, power lifting and best physique	Dr. Abhishek Walia, Assistant Professor, Deptt. of Microbiology.
7.	Badminton	Dr. Banti Kumar, Assistant Professor, Deptt. of Physical Science & Languages.
8.	Table- Tennis	Sh. Arun Kumar, Assistant Professor, Deptt. of Physical Science & Languages.
9.	Chess	Dr. Abhishek Guleria, Assistant Professor, Deptt. of Physical Science & Languages.
10.	Mountaineering and hiking	Dr. Rishi Mahajan, Assistant Professor, Deptt. of Microbiology.
11.	Cultural Activities	Dr. Usha Rana, Professor, Deptt. of Biology and Environmental Sciences. Dr. Manjula Sharma, Assistant Professor, Deptt. of Physical Science & languages.
12.	Literary Activities	Dr. Suman Sharma, Assistant Professor, Deptt. of Chemistry & Biochemistry. Dr. Abhishek Guleria, Assistant Professor, Deptt. of Physical Sciences and Languages.

1.16 Anti-Ragging Monitoring Committee:

The following anti ragging committee was formed to monitor anti ragging measures around the college and also ensure timely conduct of classes of first year students.

Squad No.	Name and Designation	Contact No.
Squad No. 1	1 Dr. Suman Sharma	Convener 94181-65760

	2. Dr. Banti Kumar	Member	99060-87667
	3. Mr. Arun Kumar	Member	98823-67710
Squad No. 2	1. Dr. Sheela Thakur	Convener	94594-76735
	2. Dr. Rishi Mahajan	Member	94185-79118
	3. Dr. Radhika Sharma	Member	85809-42328
Squad No. 3	1. Dr. Manjula Sharma	Convener	94186-72721
	2. Dr. Abhishek Walia	Member	98153-58847
	3. Dr. Abhishek Guleria	Member	70184-22645

Students were also apprised by Dean COBS with regard to anti-ragging measures. All the registered students in first year were registered online to have the declaration by students and his/her parents with regard to Anti Ragging measures etc. (www.amanmovement.org).

1.17 NSS and NCC In-charges of College

1.	In-Charge, NSS	Sh. Arun Kumar
2.	In-Charge, NCC (University Level)	Dr. Ankur Sharma

1.18 Science Club of COBS

1	Dr. Usha Rana	President
2	Dr. Rishi Mahajan	Secretary
3	Dr. Manjula Sharma	Treasurer

1.19 Alumni Association of COBS (CAABS)

1.	President	Dr. Suman Sharma
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2.	Secretary	Dr. Rakesh Kumar
3.	Treasurer	Dr. Abhishek Walia

1.20 Students Central Association of COBS

1	Chief Advisor	Student Welfare Officer	
2	Staff (Faculty) Advisor, COBS	Dr Banti Kumar	Asstt. Prof.(Statistics)
3	President	Sakshi Rana	S-2020-07-038
4	Vice-President	Shilpa Thakur	S-2020-08-050
5	Secretary	Aakash Jiten	S-2021-08-001
6	Joint Secretary	Divyanshu Dogra	S-2021-07-005
7	Hostel resident nominated by SWO	Boy	Gaurav Thakur
		Girl	Nishtha
8	Representative of the Sports and Co-Curricular activities nominated by Dean	Akash Sharma	S-2021-08-004
9	Student editor of Magazine nominated by Dean	Minakshi Rana	S-2020-08-021
Class Representatives			
1	1 st year B.Sc.(L.S)	Isha Saklani	S-2022-07-038
2	1 st year B.Sc. (P.S)	Nandini Sharma	S-2022-08-038
3	2 nd year B.Sc.(L.S)	Shivansh	S-2021-07-038
4	2 nd year B.Sc. (P.S)	Tanisha Kapoor	S-2021-08-038
5	3 rd year B.Sc.(L.S)	Ritika Choudhary	S-2020-07-038
6	3 rd year B.Sc. (P.S)	Supriya Rana	S-2020-08-038

2. TEACHING

2.1 Courses Offered

Following UG and PG courses were offered by the various departments:

Department of Biology and Environmental Sciences

S. No.	Course no	Course title.	Cr Hr	Name of Instructor
Semester I				
A. Undergraduate Courses				
1.	Bot.111	Biodiversity(Microbes, Algae, fungi and Archegoniate)	4+2	Dr. Anita Singh Dr. Abhishek Walia & Dr. Rashmi
2.	Zoo.111	Animal Diversity	4+2	Dr. Radhika Sharma
3.	Bot.211	Plant Anatomy and Embryology	4+2	Dr.UshaRana& Dr. Priyanka Kalia & Dr. Anuj
4.	Zoo.211	Physiology and Biochemistry	4+2	Dr. Madhu Sharma & Dr. Rishi Thakur
5.	Bot.312	Cell and Molecular Biology	4+2	Dr. Radhika Sharma
6.	Bot.313	Medicinal Botany	2+1	Dr. Anita Singh
7.	Zoo.311	Applied Zoology	4+2	Dr. Rakesh Kumar
8.	Zoo.313	Aquarium fish keeping	4+2	Dr. Madhu & Dr Tarang Kumar Shah
College of Agriculture				
1.	Bio.111	Introductory Biology	1+1	Dr. Rakesh Kumar Dr. Madhu and

				Dr. TarangKumar Shah
2.	Crop Physiol.2 31	Crop Physiology	1+1	Dr. Usha Rana Dr. Anuj
College of Community Science				
1.	Env.111	Environmental Science and disaster management	2+1	Dr. Priyanka Kalia
2..	Env.311 (BSc HHA)	Introduction to Environmental Sciences	2+0	Dr. Priyanka Kalia
3.	Zoo.351	Elementary Human Physiology	2+1	Dr. Rakesh Kumar
4.	FT.238 (B.Tech Food Tech)	Environmental Science and disaster management	1+1	Dr. Priyanka Kalia
College of Veterinary and Animal Science				
	Env.321	Introduction to Environmental Sciences	2+0	Dr. Priyanka Kalia
B. Postgraduate Courses				
1.	PP.503	Plant developmental biology: Physiological and molecular basis	2+1	Dr. Usha Rana
2.	Bio.504	Physiological and molecular responses of plants to abiotic stresses	2+1	Dr. Usha Rana
Semester-II				
A. Undergraduate Courses				
1.	Bot.121	Plant Ecology and Taxonomy	4+2	Dr. Priyanka Kalia, Dr. Anuj & Dr. Chandani
2.	Zoo.121	Comparative Anatomy and Developmental Biology of	4+2	Dr. Rakesh Kumar & Dr. Radhika Sharma

		Vertebrates		
3.	Env.121	Environmental Studies	3+0	Dr. Priyanka Kalia
4.	Bot.221	Plant Physiology and Metabolism	4+2	Dr. Anuj
5.	Zoo.221	Genetics and Evolutionary Biology	4+2	Dr. D.P. Pandey & Dr. Rakesh Kumar
6.	Bot.322	Economic Botany and Biotechnology	4+2	Dr Pawan Kumar Sharma & Dr. Chandani Gupta
7.	Zoo.321	Immunology	4+2	Dr. Madhu Sharma & Dr. Radhika Sharma
8.	Zoo.323	Public Health and Hygiene	2+1	Dr. Radhika Sharma

Odd semester courses

1.	Zoo.211	Physiology and Biochemistry	4+2	Dr.Madhu
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B. Postgraduate Courses

1.	PP.505	Hormonal Regulation of plant growth and development	2+1	Dr. Usha Rana & Dr. Anuj Chaudhary

Department of Chemistry and Biochemistry

S. No.	Course no	Course title.	Cr Hr	Name of Instructor
Semester I				
A. Undergraduate Courses				
1.	Chem.111	Conceptual Organic Chemistry	4+2	Dr. Suman Sharma
2.	Chem.112	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons	4+2	Dr. Suman Sharma & Dr. Bhanu Priya
3.	Chem.211	Chemical Bonding, Transition Metals & coordination Chemistry	4+2	Dr. Vishal Priya

4.	Chem.212	Solutions, Phase Equilibrium, Conductance, Electrochemistry & Functional Group Organic Chemistry-II	4+2	Dr. Bhanu Priya
5.	Chem.311	Analytical Methods in Chemistry	4+2	Dr. Bhanu Priya
6.	Chem.313	Chemistry of Main Group Elements, Theories of Acids and Bases	4+2	Dr. Vishal Priya
7.	Chem.315	Chemistry of Cosmetics & Perfumes	2+1	Dr. Vishal Priya
8.	Tutorial	Tutorial Class	1+0	Dr. Suman Sharma

College of Agriculture

1.	ELTH 478#	Experiential Learning in Tea Husbandry and Technology	0+10	Dr. Suman Sharma Dr. Sanjay Kumar Dr. P.C. Sharma
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Semester-II

A. Undergraduate Courses

1.	Chem.121	Molecules of Life	4+2	Dr. Suman Sharma & Dr. Rishi Thakur
2.	Chem.122	Chemical Energetics, Equilibria, & Functional organic Chemistry-1	4+2	Dr. Suman Sharma & Dr. BhanuPriya
3.	Chem.221	Physical Chemistry for the Biosciences	4+2	Dr. Vishal Priya
4.	Chem.222	Transition Metals & Coordination Chemistry, States of Matter & Chemical Kinetics	4+2	Dr. Bhanu Priya
5.	Chem.321	Bioinorganic & Environmental Chemistry	4+2	Dr. Suman Sharma &

				Dr. BhanuPriya
6.	Chem.324	Analytical Methods in Chemistry	4+2	Dr. Suman Sharma & Dr. Vishal Priya
College of Agriculture				
1.	ELTH.478#	Experiential Learning in Tea Husbandry and Technology	0+10	Dr. Suman Sharma Dr. Sanjay Kumar Dr. P.C. Sharma
College of Community Science				
1.	Biochem.121	Principles of Biochemistry	2+1	Dr. Rishi Thakur
College of Agriculture				
1.	PB.121	Plant Biochemistry	1+1	Dr. Rishi Thakur
B. Postgraduate Courses				
1.	Biochem.525	Techniques in Biochemistry	2+2	Dr. Rishi Thakur
# 3 credit hours per week				

Department of Microbiology

S. No.	Course no	Course title.	Cr Hr	Name of Instructor
Semester I				
A. Undergraduate Courses				
1.	FT.112	General Microbiology	2+1	Dr. Abhishek Walia
2.	Micro. 231	Food Microbiology	2+1	Dr. Abhishek Walia
3.	Ag Micro.121	Agricultural Microbiology	1+1	Dr. Abhishek Walia
4.	Bot.111	Biodiversity	4+2	Dr. Abhishek Walia
5.	Micro.311	Techniques in Clinical Microbiology	2+1	Dr. Rishi Mahajan

6.	FT.122	Food Microbiology	2+1	Dr. Rishi Mahajan
7.	FT.246	Food Biotechnology	2+1	Dr. Rishi Mahajan/ Sh. Rajinder Kumar

B. Postgraduate Courses

1.	Micro.502	Principles of Microbiology	3+1	Dr. Abhishek Walia
2.	Micro.514	Industrial Microbiology	1+1	Dr. Abhishek Walia
3.	Micro.507	Food Microbiology	2+1	Dr. Rishi Mahajan
4.	Micro.505 (M.Sc.)	Soil Microbiology	2+1	Dr. Rishi Mahajan
5.	Micro.505 (Ph.D.)	Soil Microbiology	2+1	Dr. Rishi Mahajan
6.	Micro.501 (Ph.D.)	Techniques in Microbiology	0+2	Dr. Rishi Mahajan

Semester II

A. Undergraduate Courses

1.	Ag Micro.121 (for Sec. A)	Agricultural Microbiology	1+1	Dr. Abhishek Walia
2.	Ag Micro.121 (for Sec. B)	Agricultural Microbiology	1+1	Dr. Abhishek Walia
3.	Tutorial Class	Tutorial Class	1+0	Dr. Abhishek Walia
4.	Tutorial Class	Tutorial Class	1+0	Dr. Rishi Mahajan
5.	FT.233	Industrial Microbiology	2+1	Dr. Rishi Mahajan

B. Postgraduate Courses

1.	Micro.503	Microbial Physiology and Metabolism	3+1	Dr. Abhishek Walia
2.	Micro.602	Advances in Fermentation Technology	2+0	Dr. Abhishek Walia
3.	Micro.541	Microbial Control of Pest and	2+1	Dr. Abhishek Walia

		Disease		
4.	Micro.504	Microbial Genetics	2+1	Dr. Rishi Mahajan
5.	Micro.605	Plant Microbe Interaction	2+1	Dr. Rishi Mahajan
6.	Micro.507	Food Microbiology	2+1	Dr. Rishi Mahajan/ Sh. Rajinder Kumar

Department of Physical Sciences and Languages

S. No.	Course title	Course No.	Cr Hr	Name of Instructor
Semester I				
A. Undergraduate Courses				
1.	Phys.111	Mechanics	4+2	Dr. (Mrs) Sheela Thakur
2.	Math.111	Differential Calculus	5+1 *	Dr. Abhishek Guleria
3.	Eng.111	English Communication (Physical Science)	2+0	Mr. Siddharth Singh
4.	Eng.111	English Communication (Life Science)	2+0	Mr. Siddharth Singh
5.	Phys.311	Solid state Physics	4+2	Dr. (Mrs) Manjula Sharma
6.	Phys.312	Element of Modern Physics	4+2	Dr. (Mrs) Sheela Thakur
7.	Math.311	Matrices	5+1 *	Dr. (Mrs) Sharda Singh/ Dr. Abhishek Guleria
8.	Phys.314	Electrical Circuits and Network Skills	2+1	Dr. (Mrs) Manjula Sharma
College of Agriculture				
1.	Eng.112	Comprehension and Communication Skills in English	1+1	Mr. Siddharth Singh

2.	Math.111	Elementary Mathematics	2+0	Dr. Abhishek Guleria
3.	Stat.231	Statistical Methods	1+1	Mr. Arun Kumar
College of Community Science				
1.	Eng.113	General English Language	1+1	Mr. Siddharth Singh
2.	FT.111	English Language	1+1	Mr. Siddharth Singh
3.	HHA.116	Language Optional (English/Hindi)	2+0	Mr. Siddharth Singh
4.	FT.237	Statistical Methods and Numerical Analysis	1+1	Mr. Arun Kumar
Repeat Courses				
1.	Eng.112	Comprehension and Communication Skills in English	1+1	Mr. Siddharth Singh
2.	Math.111	Elementary Mathematics	2+0	Dr. Abhishek Guleria
3.	Stat.231	Statistical Methods	1+1	Mr. Arun Kumar
4.	Stat.232	Elementary Statistics	2+1	Dr. Banti Kumar
5.	Phys.111	Mechanics	4+2	Dr. (Mrs) Sheela Thakur
6.	Math.111	Differential Calculus	5+1*	Dr. (Mrs) Sharda Singh
7.	Eng.111	English Communication	2+0	Mr. Siddharth Singh
8.	Math.211	Real Analysis	5+1*	Dr. Abhishek Guleria
9.	Phys.321	Nuclear and Particle Physics	5+1*	Dr. (Mrs) Sheela Thakur
10.	Math.321	Numerical Methods	5+1*	Dr. Abhishek Guleria
11.	Math.323	Vector Calculus	3+0	Dr. Abhishek Guleria
B. Postgraduate Courses				
1.	Stat.501	Mathematics for Applied Sciences	2+0	Mr. Arun Kumar
2.	Stat.502	Statistical Methods for Applied Sciences	3+1	Dr. Banti Kumar
3.	Stat.502	Statistical Methods for Applied	3+1	Dr. Banti Kumar

		Sciences		
4.	Stat.511	Experimental Designs	2+1	Mr. Arun Kumar
5.	MCA.501	Computer Fundamentals and programming	2+1	Sh. Kapil Sharma
6.	MCA.501	Computer Fundamentals and programming	2+1	Sh. Kapil Sharma
7.	MCA.511	Introduction to Communication Technologies, Computer Networking and Internet	1+1	Sh. Vaibhav Kalia

Semester-II

A. Undergraduate Courses

1.	Phys.321	Nuclear & Particle Physics	5+1	Dr. (Mrs) Manjula Sharma
2.	Phys.324	Radiation Safety	3+0	Dr. (Mrs) Sheela Thakur
3.	Math.321	Numerical Methods	5+1	Dr. (Mrs) Sharda Singh & Mr. Arun Kumar
4.	Phys.121	Electricity and Magnetism	4+2	Dr. (Mrs) Sheela Thakur
5.	Math.121	Differential Equations	5+1*	Dr. (Mrs) Sharda Singh
6.	Phys.121	Electricity and Magnetism	4+2	Dr. Sheela Thakur
7.	Math.121	Differential Equations	5+1*	Dr. Sharda Singh & Dr. Abhishek Guleria
8.	Phys.221	Waves and Optics	4+2	Dr. Manjula Sharma
9.	Math.221	Algebra	5+1*	Dr. Abhishek Guleria
10.	Stat.221	Elements of Statistics	2+1	Dr. Banti Kumar
11.	Comp.221	Databases in MS Access	2+1	Sh. Kapil Sharma
12.	Comp.222	Computer Programming in C Language	2+1	Sh. Vaibhav Kalia

College of Community Science

1	Comp.121	Agricultural informatics	1+2	Sh. Kapil Sharma
B. Postgraduate Courses				
1	Stat.511 (Sec-A)	Experimental Designs	2+1	Mr. Arun Kumar
2	Stat.511 (Sec- B)	Experimental Designs	2+1	Mr. Arun Kumar
3	Stat.512	Basic Sampling Techniques	2+1	Dr. Banti Kumar
4	MCA.501	Computers Fundamentals and Programming	2+1	Sh. Kapil Sharma
*Course with Tutorial				

Centre for Geo-informatics

Sr. No.	Course No.	Course title	Credit Hours	Name of Instructor
Semester-I				
A. Undergraduate Courses				
1	GIS351	Geo-informatics , Nano Technology and Precision Farming	2+1	Dr. RS Rana/ Vaibhav Kalia/Sanjay Sharma

2.2 Thesis Completed

-Nil-

2.3 Member of Students' Advisory Committee (PG Programme)

Department of Biology and Environmental Sciences

Sr. No.	Name of Member of Student Advisory Committee	Name of the Student	Admission No.
1.	Dr. Usha Rana	Mr Ravi Sharma	A-2015-40-018
		MrShubhanshu	A-2016-40-016
		MsNavdeepKaur	A-2017-40-015
		MrAnkit	A-2018-40-003
		MrKunalNarwal	A-2018-40-005
		MsShilpa	A-2018-40-008
		MrSukhchain	A-2018-40-009
		MsHimaliBijani	A-2019-40-029
		MrMohitNaik	A-2019-40-004
		MsJeevanjotKaur	A-2019-40-014
		Mr Rahul Sharma	A-2020-40-006
		MsPooja	A-2020-40-005
		MrDeekshith	A-2019-40-003
		MsAvnikaVerma	A-2020-30-001
		MsShabnam Thakur	A-2020-30-017
		MsShagunShukla	A-2020-30-018
MsShweta Sharma	A-2020-30-066		
Mr Kumar Sanu	A-2021-30-108		

Department of Chemistry and Biochemistry

Sr. No.	Name of Member of the Students' Advisory Committee	Name of the Student	Admission No.
1.	Dr Rajan Katoch	Akanksha Sharma	A-2021-30-039
		Poonam Rana	A-2022-40-016
		Debamitra Chatterjee	A-2022-40-011
		Nancy Chaudhary	A-2022-30-037
		ShailajaGodara	A-2022-30-057
2.	Dr. Suman Sharma	Ms. Anjali	A-2017-40-022
		Ms. Parita	A-2018-40-006

		Mr. Parveen Thakur	A-2017-40-024
		Ms. Anjali Thakur	A-2019-40-027
		Ms. Sakshi Vishvamitera	A-2019-40-031
		Ms. Rushali Katoch	A-2020-40-027
		Ms .Devanshi Baghla	A-2018-40-028
		Deepika Suri	A-2018-40-027
		Neha Chauhan	A-2018-40-029

Department of Microbiology

Sr. No.	Name of Member of the Students' Advisory Committee	Name of the Student	Admission No.
1.	Dr. Abhishek Walia	Aparna	H-2022-30-003
		Shivani	H-2022-30-006
		Shubham Sharma	A-2022-40-015
		Suresh Kumar	A-2021-30-102
		Karthik	A-2020-40-011
		Shagun Mahajan	A-2022-40-034
		Shweta Sagar	S-2021-30-006
		Shivani	S-2022-30-001
2.	Dr. Rishi Mahajan	Shweta Sagar	S-2021-30-004
		Rishav Sharma	S-2021-30-006
		Shivani	S-2022-30-001
		Mamta	H-2020-40-002
		Deepali	H-2021-30-003
		Kanchan	H-2021-30-005
		Rohit Singh	H-2021-30-007
		Deepshikha	H-2021-30-004
		Neelam Kumari	H-2021-40-001
		Varun Kumar	A-2020-40-029

Department of Physical Sciences and Languages

Sr. No.	Name of Member of the Students' Advisory Committee	Name of the Student	Admission No.
1.	Dr. Sharda Singh	Ms. Chaitanya Thakur	A-2021-30-041
		Mr. Nijit Chauhan	A-2021-30-049
		Ms. Sheetal Kashyap	A-2021-30-031
		Mr. Sachin	V-2021-30-010
		Ms. Palak Sharma,	A-2022-30-095
		Ms. Keerti Sharma	A-2022-30-079
		Ms. Shivalika Sood	A-2017-40-005
		Mr. Avinash Kumar	A-2016-40-001
		Mr Himanshu Thakur	A-2019-40-010
		Ms. Shagun Thakur	A-2021-40-016
2	Mr. Arun Kumar	Pridhi Thakur	A-2022-30-005
		Shivani	S-2022-30-001
		Sania Walia	A-2022-30-005
		Anchal Sharma	A-2021-30-001
		Ajay Kumar	A-2021-30-063
		Gopika. R. Menon	A-2021-30-094
		Ajay Kumar	A-2021-30-063
		Amruth Bhargav	A-2022-30-002
3	Dr. Banti Kumar	Mr Abhishek Kumar	A-2021-30-095
		Mr. Sargik Sharma	A-2021-30-004
		Ms Shilpa Sen	A-2021-30-005
		Ms Pratiksha Rana	S-2021-30-003
		Ms Akriti	S-2021-30-001
		Ms Shweta Sagar	S-2021-30-006
		Ms Rishika Mahajan	S-2021-30-005
		Ms. Samridhi	A-2021-30-070
		Aditi Thakur	A-2022-30-001
		Kajal Insa	A-2022-30-003
		Nikita Sood	A-2022-30-004

2.4 Scholarships Awarded

College Merit Scholarship and *Amar Shaheed Capt. Saurabh Kalia Scholarship* were awarded to the following Undergraduate students:

B.Sc. 1st year (Life Sciences) w.e.f. 14.12.2022 to 10.11.2023

Sr. No.	Name of the students	Admission No.	Amount
1.	Ishita	S-2022-07-022	Rs.1000/-per month
2.	Varnika Saroch	S-2022-07-054	Rs.1000/-per month
3.	Rishika Patial	S-2022-07-038	Rs.1000/-per month
4.	Anshika Katoch	S-2022-07-010	Rs.1000/-per month
5.	Shagun	S-2022-07-039	Rs.1000/-per month

B. Sc. 1st year (Physical Sciences) w.e.f. 14.12.2022 to 10.11.2023

Sr. No.	Name of the students	Admission No.	Amount
1.	Nandini Sharma	S-2022-08-019	Rs.1000/-per month
2.	Mannat Rana	S-2022-08-015	Rs.1000/-per month
3.	Sourabh Koundal	S-2022-08-031	Rs.1000/-per month
4.	Upransh Parashar	S-2022-08-034	Rs.1000/-per month

B. Sc. 2nd year (Life Sciences) w.e.f. 09.01.2023 to 10.11.2023

Sr. No.	Name of the students	Admission No.	Amount
1.	Divanshu Dogra	S-2021-07-005	Rs.1000/-per month
2.	Shivansh	S-2021-07-022	Rs.1000/-per month
3.	Samriti Devi	S-2021-07-017	Rs.1000/-per month

B. Sc. 2nd year (Physical Sciences) w.e.f. 09.01.2023 to 10.11.2023

Sr. No.	Name of the students	Admission No.	Amount
1.	Akash Jiten	S-2021-08-001	Rs.1000/-per month

2.	Minakshi Rana	S-2021-08-021	Rs.1000/-per month
3.	Akriti	S-2021-08-005	Rs.1000/-per month
4.	Mehak	S-2021-08-020	Rs.1000/-per month

B. Sc. 3rd year (Life Sciences) w.e.f. 10.10.2022 to 24.07.2023

Sr. No.	Name of the students	Admission No.	Amount
1.	Sakshi Verma	S-2020-07-038	Rs.1000/-per month
2.	Ritika Chaudhary	S-2020-07-031	Rs.1000/-per month
3.	Anshika Rani	S-2020-07-010	Rs.1000/-per month
4.	Anika Guleria	S-2020-07-006	Rs.1000/-per month
5.	Ankita	S-2020-07-008	Rs.1000/-per month

B. Sc. 3rd year (Physical Sciences) w.e.f. 10.10.2022 to 24.07.2023

Sr. No.	Name of the students	Admission No.	Amount
1.	Shilpa Thakur	S-2020-08-050	Rs.1000/-per month
2.	Supriya Rana	S-2020-08-054	Rs.1000/-per month
3.	Shakshi Rana	S-2020-08-044	Rs.1000/-per month
4.	Rashika Vyas	S-2020-08-039	Rs.1000/-per month
5.	Surbhi	S-2020-08-055	Rs.1000/-per month

Amar Shaheed Capt. SaurabhKalia Memorial Scholarship:

Class	Name	Admission. No.	Amount
1 st Year	Isha Saklani	S-2022-07-020	Rs.1000/-per month (w.e.f. 14.12.2022 to 10.11.2023)
2 nd Year	Gaurav Thakur	S-2021-07-007	Rs.1000/-per month (w.e.f. 09.01.2023 to 10.11.2023)
3 rd Year	Nikhil	S-2020-08-033	Rs.1000/-per month (w.e.f. 10.10.2022 to 24.07.2023)

National Level Scholarships:

Class	Name	Admission. No.	Amount
1 st Year	AkshitaNegi	S-2022-07-004	Centrally Sponsored Post Matric Scholarship Scheme for students of HP- NSP
1 st year	Mannat Rana	S-2022-08-015	Inspire Scholarship

2.5 Paper setter/evaluator/external examiner

	Faculty Name	Institution Name
i.	Dr. Sharda Singh	<ul style="list-style-type: none">• Dr YSUHF Neri, Hamirpur : Evaluated Two Dissertations & Conducted Viva-Voce Examinations of two students of M.Sc. Horticulture (Aashima Sharma & Ms. Kareen Gracey), on 28.11.2022• NIT, Hamirpur: As External Examiner for Extension of tenure as SRF of Ph.D. student on 07.02.2023 at• Central University of HP, Dharamshala : Evaluated Dissertation & Conducted Viva-Voce Examinations of the students of M.Sc. Mathematics, for the Course Code: MTH 590 on 27.06.23(f.n.)• Central University of HP, Dharamshala : Conducted Oral Examination of Ph.D. students of Mathematics of School of Mathematics, Computer and Information Sciences on 27.06.23 (a.n.) at Shahpur Campus,
ii.	Dr. Usha Rana	<ul style="list-style-type: none">• Paper setting of MSc. Botany course of HP University• Evaluated written comprehensive exam of three (03) Ph.D. students.
iii.	Dr. Abhishek Walia	<ul style="list-style-type: none">• Appointment as External Examiner in RDC meeting of Ph.D scholars (Biotechnology and Microbiology) on 23rd December, 2022 and 21st January, 2023 held online at Om Sterling Global University, Hisar.

		<p>Haryana</p> <ul style="list-style-type: none"> • Conducted Practical/Viva Voce Examination of MBT-301, Environmental Microbiology and Biotechnology, M.Sc. Biotechnology students of HPU, Shimla • Conducted Practical/Viva Voce Examination of MBT-302, Fermentation Technology, M.Sc. Biotechnology students of HPU, Shimla • Paper setter for following UG and PG courses of HPU Shimla • MICRO 2C03, Biochemistry, B.Sc Microbiology • BIOTECH 1GE01TH, Mycology and Phycology, of B.Sc Microbiology, • MMB 301, Environmental Microbiology, M.Sc Microbiology • BIOTECH 2C10TH, Microbial Physiology, B.Sc Biotechnology • MBT 203TH, Plant Biotechnology, M.Sc Biotechnology • BIOTECH 5DSE01, Animal biotechnology, B.Sc Biotechnology • MICROP 2SEC05, Management of Human Microbial Diseases, B.Sc Microbiology • Paper setting of BTB-212, Introductory Bioinformatics, Dr. YS Parmar University of Horticulture and Forestry, Solan: • Paper setting of MLT-202, Introduction to Bacteriology and Virology, GNDU University • Paper setting of FSQA 234, Food Biotechnology, Acharya N.G. Ranga Agricultural University
iv.	Dr. Rishi Mahajan	<ul style="list-style-type: none"> • Question paper setter for End-Term examination, Himachal Pradesh University • Question paper setter for End-Term examination, GNDU University

v.	Dr. Banti Kumar	<ul style="list-style-type: none"> • SKUAST Jammu (2 courses)
vi.	Dr. Abhishek Guleria	<ul style="list-style-type: none"> • HPU, Shimla (1 Course)
vii.	Dr. Manjula Sharma	<ul style="list-style-type: none"> • HPU, Shimla
viii.	Sh. Arun Kumar	<ul style="list-style-type: none"> • Paper setting of Biotech. of UHF Neri
ix.	Sh. Kapil Sharma	<ul style="list-style-type: none"> • Dr.Y.S. Parmar University of Horticulture and Forestry, Solan

2.6 Educational Tour

The College of Basic Science conducted an educational tour of 100 students of B. Sc. (Physical Science) and B.Sc. (Life Science) IIIrd year from 06-05-2023 to 09-05-2023. Sh. Kapil Sharma (Tour Incharge), Dr. Manjula Sharma and Dr. Radhika Sharma accompanied the students.

During this four days tour, students visited following Institutes :

- Atal Bihari Vajpayee Institute of Mountaineering and Allied Sports (ABVIMAS),
- Aleo Manali,
- Defence Geoinformatics Research Establishment (DGRE), Manali,
- ICAR-Regional Station, Katrain, Kullu,
- Krishi Vigyan Kendra, Bajaura, Kullu,
- Hill Agricultural Research & Extension Center, Bajaura.
- Students have also done Camping at Kullu and Sightseeing at Manali, Solang Valley, Sisu and Tandi.

3. RESEARCH

3.1 Research Projects Ongoing

Department of Biology and Environmental Sciences

Sr. No.	P.I./Co-P.I.	Title of the Project	Budget outlay (in lakhs)	Funding Agency	Duration of the Project
1	Dr. Radhika Sharma (PI)	Termites as prospective solution for solid waste management	7.5 lakhs	DEST	3 years

Department of Chemistry and Biochemistry

Sr. No.	P.I./Co-P.I.	Title of the Project	Budget outlay (in lakhs)	Funding Agency	Duration (year)
1.	Dr. Rajan Katoch (PI)	AICRN on Potential Crops	Annual	ICAR, New Delhi	Long term

Department of Microbiology

Sr. No.	P.I./Co-P.I.	Title of the Project	Budget outlay (in lakhs)	Funding Agency	Duration (year)
1.	Dr. Abhishek Walia (PI)	Mining halophilic plant growth promoting bacteria from rock salt halophytes as potential bioinoculants for sustainable agriculture under salt stress.	47 lakhs	DST-SERB	3 Years
2.	Dr. Abhishek Walia (Co-PI)	Efficacy of indigenous cow based bio-formulations as soil inoculants and pesticides in agriculture	42 lakhs	DBT	3 Years
3	Dr. Rishi Mahajan Component PI (Microbiology)	“Protected Agriculture and Natural Farming (PANF) under National Agriculture Higher Education Project- Centre	Equipment: 27.81 Lakh PG Lab renovation	ICAR, NAHEP	3 Years

		for Advanced Agricultural Science and Technology” (NAHEP-CAAST programme).	Rs. 6.13 Lakhs		
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Department of Physical Sciences and Languages

Sr. No.	P.I./Co-P.I.	Title of the Project	Budget outlay (in lakhs)	Funding Agency	Duration (year)
1.	Dr Sharda Singh (PI)	Geospatial Technology based Services to Department of Agriculture and Others	32.52 Lakhs	DOA and Others	Feb 2020 - continue
2.	Dr Sharda Singh (Co-PI)	Mapping of Geographical distribution and identification of new invasive spp. of insects pest and diseases, simulated futuristic crop water footprints scenarios for major crops in Himachal Pradesh	51.57 Lakhs	DST, New Delhi	2019-2022
3.	Dr Sharda Singh & Arun Kumar (Co-PIs)	Forecasting Agricultural Output using space, Agro meteorology and Land based Observations	4.5 Lakhs/p.a.	IMD, New Delhi	upto 2023

Centre for Geo-informatics

Sr. No.	P.I./Co-P.I.	Title of the Project	Budget outlay (in lakhs)	Funding Agency	Duration (year)
1.	Dr.R.S. Rana (PI)	Centre for Advanced Agricultural Science and Technology (CAAST) on Protected Agriculture and Natural farming	Rs.1891.2Lakhs	NAHEP, ICAR, New Delhi,	2019-24

2.	Dr.R.S. Rana (PI)	Gramin Krishi Mausam Sewa (GKMS) As PI	8.5 Lakhs/annum	IMD, Ministry of Earth Sciences, New Delhi	2012-26
3.	Dr.R.S. Rana (PI)	Investment in ICAR Leadership for Agricultural Higher Education under NAHEP Component 2A Project in ICAR-NAHEP-CAAST, CSKHPKV, Palampur Image Capturing of pests/ diseases in Crop/ Livestock for purpose of developing Artificial Intelligence (AI) based Mobile App under the project	12 Lakhs	NAHEP ICAR New Delhi	2020-24

3.2 Research Projects Completed

Department of Chemistry and Biochemistry

Sr.No.	P.I./Co-P.I.	Title of the project	Budget outlay Lakhs	Funding Agency
1.	DrRajanKatoch (PI)	Nutritional and nutraceutical profiling of minor legumes and development of technology for legume based nutraceutical products	65.0 Lakhs	DBT, GOI, New Delhi

Centre for Geo-informatics

Sr. No.	P.I./Co-P.I.	Title of the Project	Budget outlay (in lakhs)	Funding Agency
1.	Dr.R.S. Rana (PI)	Mapping of geographical distribution and identification of new invasive spp. of insects-pest and diseases, simulated futuristic crop water footprints scenarios for major crops, in Himachal Pradesh.	Rs. 51.57720 Lakhs,2019- 22	Department of Science & Technology (SPLICE- Climate Change Programme) New Delhi
2.	Dr.R.S. Rana (PI)	Forecasting Agricultural Output using Space, Agro meteorology and Land based observations	4.5 Lakhs /annum	IMD, Ministry of Earth Sciences, New Delhi

3.3 Research Projects Submitted

Department of Microbiology

Sr.No.	P.I./Co-P.I.	Title of the project	Budget outlay Lakhs	Funding Agency
1.	Dr. AbhishekWali a (PI)	Potential use of indigenous microorganisms for the management of root rot complex disease in vegetable crops and their on farm production at farmers' fields in organic and natural farming system	25 lakhs	RKVY- Cafeteria, Department of Agriculture, Govt. of HP.
2.	Dr. Rishi Mahajan (PI)	Harnessing Renewable Bio-resources for Bio-based Circular Economy: Eradicating bottlenecks in anaerobic digestion of organic waste for efficient bio-hydrogen and bio-methane production	32.37 lakhs	Science and Engineering Research Board (SERB)
3.	Dr. Rishi Mahajan (PI)	Microbial-Nanoparticle based Biosensors integrated with smart farming systems for Monitoring Soil and Plant Health in Diverse Agroecosystems (Mi-Np-AgroBioSense)	140.92 lakhs	Research Pre- proposals for Funding by ICAR-National Agricultural Science Fund

4.	Dr. Rishi Mahajan (PI)	Proposal for celebrations of National Mathematics Day-2023 and National Science Day 2024	1.00 lakh	H.P. Council of Science, Technology and Environment
5.	Dr. Rishi Mahajan (PI)	“Microbial inoculation cum fortification technology for value-added compost: An eco-enterprising model for the rural resource-poor farming communities of Himachal Pradesh”	30.00 lakhs	RKVY

Department of Physical Sciences and Languages

Sr.No.	P.I./Co-P.I.	Title of the project	Budget outlay Lakhs	Funding Agency
1.	Dr. Manjula Sharma (Co-PI)	Microbial-Nanoparticle based Biosensors integrated with smart farming systems for Monitoring Soil and Plant Health in Diverse Agroecosystems (Mi-Np-AgroBioSense)	140.92 lakhs	Research Pre-proposals for Funding by ICAR-National Agricultural Science Fund

3.4 Research Highlights

Department of Biology and Environmental Sciences

- Diversity of termites in and around Palampur region was studied. It was observed from the survey of 50 sites that the *Microtermes* spp. was maximum in diversity, as it was found in 19 sites. The diversity of other species followed the order, *Microtermes* spp.>*Coptotermes* spp.>*Odontotermes* spp.>*Heterotermes* spp.>*Speculitermes* spp.
- A map of termite diversity was constructed using Arc-Map software to pin point the locations of different local termitaria sites.
- Solid waste degrading potential of 3 termite species (*Heterotermes gertrudae*, *Heterotermes indicola* and *Odontotermes bhagwati*) was studied by ex-situ experiments

using different parameters at different sites and it was found that out of 5 baits the order of degradation by termites was in order toilet paper>paper waste>wood>plastic>toothpaste tubes.

- Next Generation sequencing of gut of 2 potential termite species revealed presence of different microbes out of which *Methanimicrococcus blatticola* and *Trabulsiella sp.* were in maximum percentage. The gut isolated microbes had the potential degrade the plastic materials as well as other materials (Cellulose, Hemicellulose and lignin).
- Nursery of about 35000 plants was raised including Bamboo species; *Dendrocalamus hamiltoni*, *Dendrocalamus strictus*, *Bambusa bamboos*, *Bambusa multiplex*, *Bambusa balcooa*, *Bambusa nutans*, *Bambusa vulgaris*, *Bambusa vulgaris yellow*, *Bambusa wamin*, *Bambusa tulda*. 6 new varieties were acclimatized and maintained in the nursery.



Department of Chemistry and Biochemistry

- *In silico* analysis of RbL protein precursor of 280 amino acids was carried out with different bioinformatics tools. The analysis revealed acidic, stable, hydrophobic nature of RbL protein. ExPASy translate software was used to translate the RbL ORF sequence, which had been cloned and sequenced from immature rice bean seeds using a degenerate primers.
- The 3D structure of RbL protein was generated using homology modeling. β -D-galactose, N-acetyl-D-glucosamine, lactose and adenine were predicted as binding ligands for RbL protein using GalaxySite and LigPlot web server.
- RbL was identified as storage protein having significant role in plant defense. Conserved motifs in RbL essential for the carbohydrate binding specificity of lectin were identified.

- Cloned regulatory genes involved in lignification process in tall fescue viz., CCR, COMT and CAD with 1058, 1166 and 207bp. The reactions catalyzed by the enzymes COMT (Caffeic acid/5-hydroxyferulic acid *O*-methyltransferase), CCR (Cinnamoyl CoA reductase) and CAD (Cinnamoyl alcohol dehydrogenase) are crucial for lignin biosynthesis.
- Phylogenetic analysis revealed these genes from tall fescue and other monocots in separate distinct group.
- A close evolutionary relationship was observed between tall fescue with perennial ryegrass (*Lolium perenne*) as they shared same sub branch of monocotyledons clade.

Department of Microbiology

Dr. Abhishek Walia

(a) Physico-chemical and Microbial Characterization of Cow Dung based Bioformulations:

- Physico-chemical and microbial characterization of *Jeevamrit*, *Beejamrit*, *Ghanjeevamrit* and *Matka khad* bioformulations were analyzed.
- Highest N, P & K were recorded in dung and bioformulations prepared from *Pahari* dry followed by *Pahari* lactating cow. pH was observed highest in dung and urine of *Pahari* bull while pH and EC were recorded highest in *Jeevamrit*, *Ghanjeevamrit* and *Matka khad* prepared from Sahiwal lactating whereas, in *Beejamrit* highest pH and EC were recorded in Jersey lactating.
- Microbial count in *Jeevamrit*, *Beejamrit*, *Ghanjeevamrit* and *Matka khad* prepared from *Pahari* lactating cow was found maximum. Shelf life and stability of *these formulations* were 7 days for *Jeevamrit*, 3 days for *Beejamrit*, 6 months for *Ghanjeevamrit* and 3 days for *Matka khad* after its preparation, respectively. In these bio-formulations, maximum microbial count was found in *Pahari* lactating cow.
- Morphological different bacteria were isolated from these bioformulations for further screening of PGP traits, enzyme activity and antifungal activities. Most of the cow dung isolates and bacteria isolated from these prepared bioformulations showed one/two/three/four PGP activities i.e. P-solubilization, IAA production, Siderophore production, N-fixation activity except HCN production (Figure 1). Quantitative estimation showed Jersey dry (JD3)

best in phosphate solubilisation (9.83 $\mu\text{g/ml}$) and siderophore production whereas, *Pahari* lactating (PL2) best in IAA production (80.03 $\mu\text{g/ml}$). Most of the bioformulation isolates showed different enzymatic activities against cellulase, protease, urease and amylase by using qualitative method.

- Isolate GJD1, GPB2, GPD3 & GPL3 have shown antifungal activity against all fungal pathogens i.e. *Rhizoctonia solani*, *Alternaria alternate*, *Pythium aphanidermatum*, *Fusarium oxysporum*, *Sclerotinia sclerotiorum* except for *Phytophthora* sp.; isolate JLL7 showed antifungal activity against *Alternaria alternata*, *Pythium aphanidermatum*, *Sclerotinia sclerotiorum* and *Phytophthora* sp.

(b) Physico-chemical and Microbial Characterization of Cow Urine:

- Highest N, P and K was found in *Pahari* dry cow whereas, maximum EC was found in Sahiwal dry and pH was found in *Pahari* bull. *Pahari* lactating cow showed maximum microbial population as compared to other cow breeds. Antifungal activities of cow urine of different cow breeds at 10 and 20% concentration against fungal phytopathogens were studied as shown in Figure 2. Sahiwal and Jersey lactating showed maximum fungal growth inhibition as compared to other cow breeds.

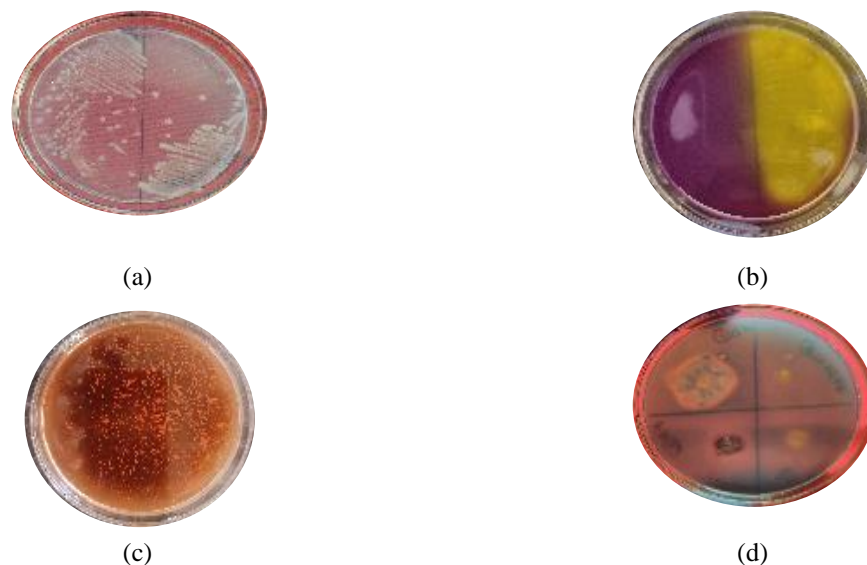


Figure 1. PGP traits by bacterial isolates of *Matka khad* bioformulations (a) Nitrogen fixing ability (MPL4) (b) Phosphate solubilization (MJL4) (c) IAA production (MSD1) (d) Siderophore production (MSL1)

(c) Pot Experiment Studies to Evaluate the Role of Microbes Present in Different Bioformulations:

- In pot experiment studies, non-autoclaved bioformulations showed maximum physio-chemical properties viz., N,P, K, EC and pH and microbial count. All the growth parameters like germination%, vigour index, root-shoot ratio, yield, and final plant population were found maximum in non-autoclaved bioformulations as compared to autoclaved bioformulations. This clearly shows the role of microbes present in bioformulations.

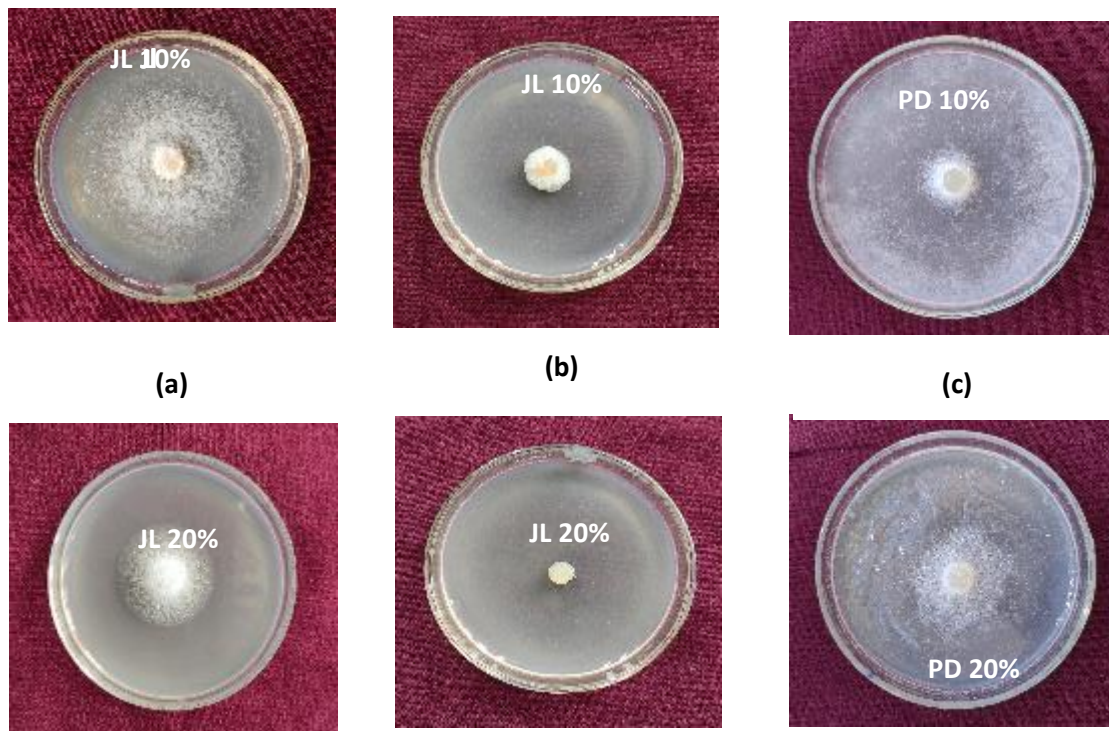


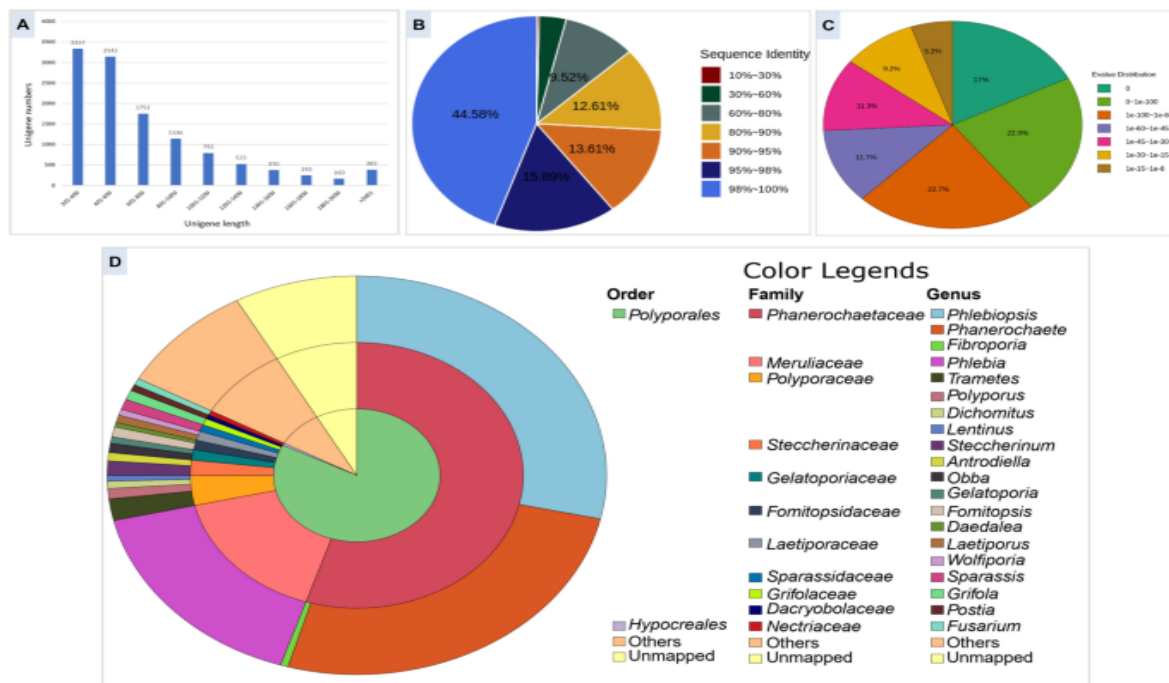
Figure 2. Antifungal activities of cow urine at 10 and 20% concentration against fungal phytopathogens (a) *Fusarium oxysporum*(b) *Rhizoctonia solani*(c) *Phytomythora* sp.

Dr. Rishi Mahajan

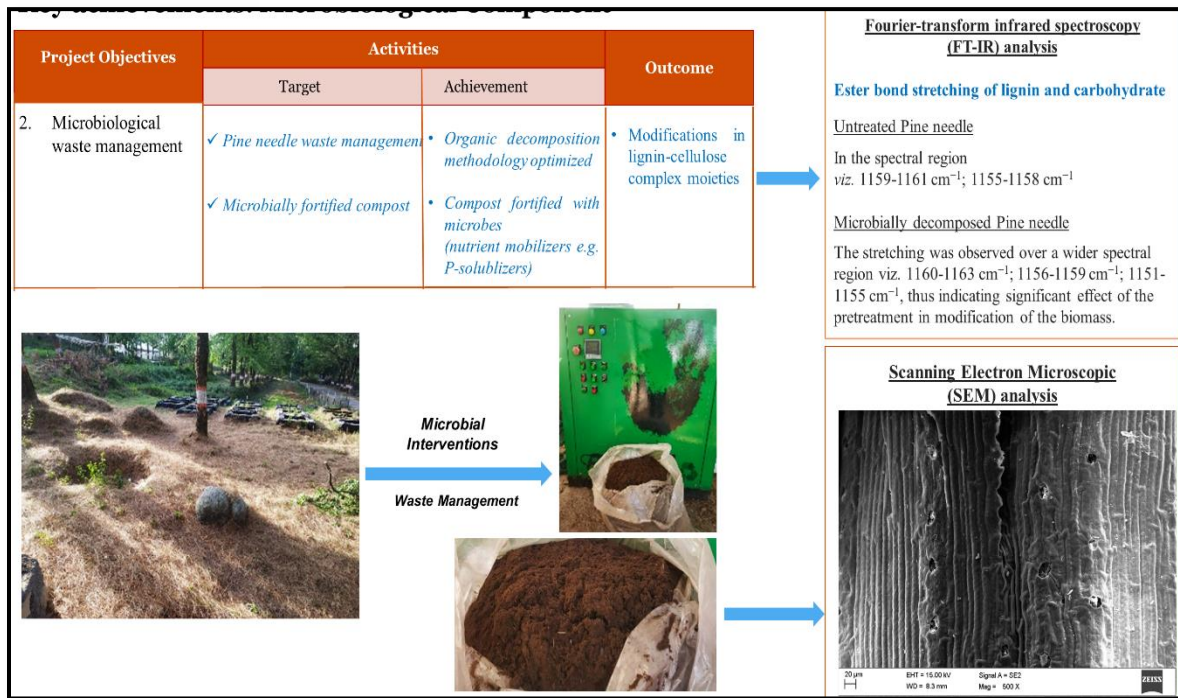
1. Transcriptome Analysis of *Podoscyphapetalodes* Strain GGF6 Reveals the Diversity of Proteins Involved in Lignocellulose Degradation and Lignolytic Function

Transcriptomic profiling of a Basidiomycota fungus, *Podoscyphapetalodes* strain GGF6 belonging to the family *Podoscyphaceae*, isolated from the North-Western Himalayan ranges in Himachal Pradesh, India. *Podoscyphapetalodes* strain GGF6 possesses significant biotechnological potential as it has been reported for endocellulase, laccase, and other

lignocellulolytic enzymes under submerged fermentation conditions. The study attempted to enhance our knowledge of its lignocellulolytic potential as no previous omics-based analysis is available for this white-rot fungus. The transcriptomic analysis of *P. petalodes* GGF6 revealed the presence of 280 CAZy proteins. Furthermore, bioprospecting transcriptome signatures in the fungi revealed a diverse array of proteins associated with cellulose, hemicellulose, pectin, and lignin degradation. Interestingly, two copper-dependent lytic polysaccharide monoxygenases (AA14) and one pyrroloquinolinequinone-dependent oxidoreductase (AA12) were also identified, which are known to help in the lignocellulosic plant biomass degradation. Overall, this transcriptome profiling-based study provides deeper molecular-level insights into this Basidiomycota fungi, *P. petalodes*, for its potential application in diverse biotechnological applications, not only in the biofuel industry but also in the environmental biodegradation of recalcitrant molecules.

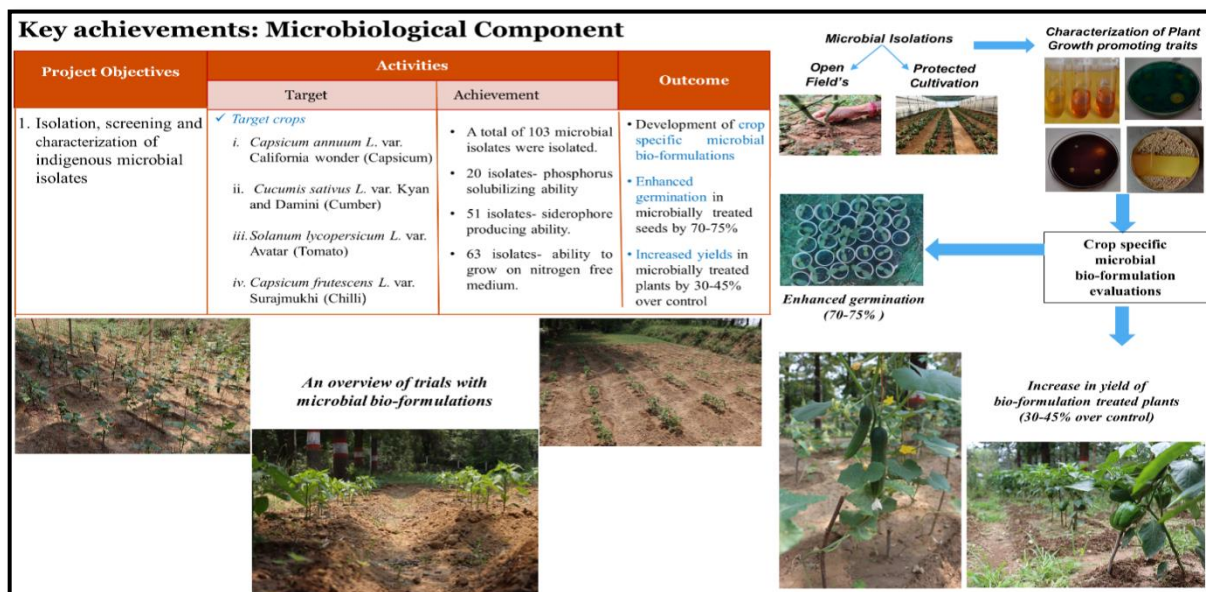


Homology information for the unigenes identified from *P. petalodes* strain GGF6 transcriptome: **A** Distribution of unigene length. **B** Sequence identity-based distribution of the top BLAST hits for each unigene-encoded protein against the NR database. **C** E-value-based distribution as identified using the best BLASTp hit for each unigene-encoded protein against the non-redundant (NR) database. **D** Taxonomy classification (at order, family, and genus level) of best BLASTp homolog per each unigene-encoded protein against the non-redundant (NR) database and



their relative distribution **Microbiological waste management**: Pine forest litter is amongst the major cause of forest fires and is often considered a recalcitrant because of lignocellulosic complexities. Employing microbiological interventions significant alterations have been observed in the lignocellulosic structure of the pine needles.

2. **Significant enhancement in crop production** in case of vegetable crops when treated with microbial bio-formulations.



Centre for Geo-informatics

Dr Sharda Singh

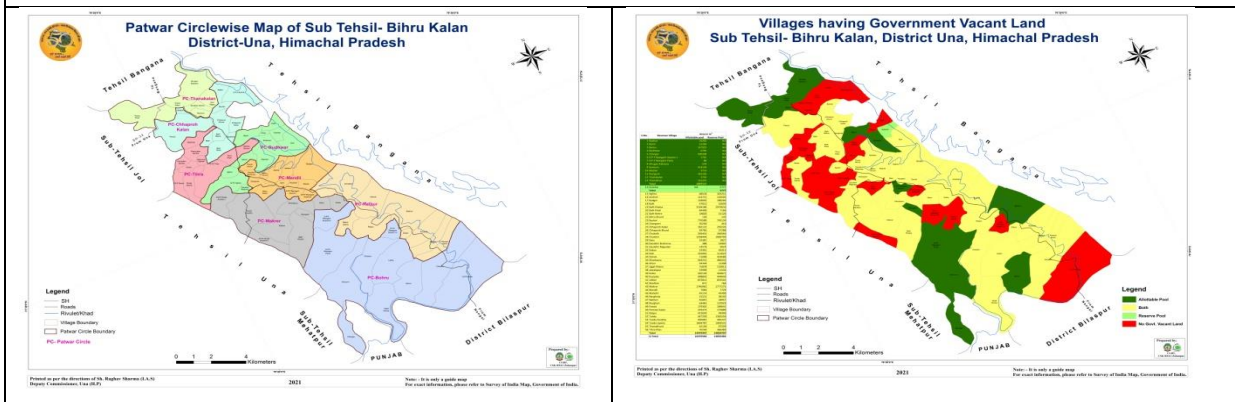
Title of the Project: Geospatial Technology Based Services for Department of Agriculture and Others'

- GIS based Mapping for District Una
 - i) Reorganized Administrative Boundaries (Blocks, Tehsils, sub-tehsils, Panchayats and villages) , ii) Delineation of Vacant lands and iii) geo-demarcated boundaries of mining leases
- Mapping of KVKs command areas, Field Level Demonstrations (FLDs) and Infrastructure was carried out in respective KVKs of CSK HPKV-Palampur

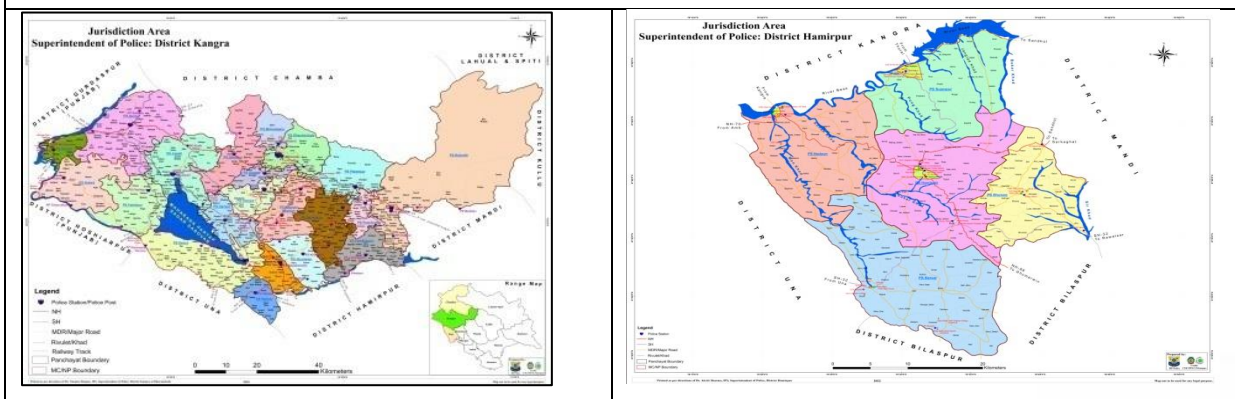
Miscellaneous GIS based Supports to Govt Departments:

- Mapping of Jurisdiction Areas: Superintendent of Police, District Kangra, Superintendent of Police, District Hamirpur

Maps in respect of CGRT



Maps for District Una



Jurisdiction Area Superintendent of Police, District Kangra

Jurisdiction Area Superintendent of Police, District Hamirpur

Dr.R.S. Rana

***Title of the project:* GRAMIN KRSIHI MAUSAM SEWA at Palampur in H.P – AS PI**

- The five days forecasts on different weather parameters viz. rainfall, temperature, cloud cover, relative humidity and weekly cumulative rainfall based Agro-advisory bulletins for our study districts (Chamba, Kangra, Hamirpur and Una) were validated and weather based agro-advisory prepared.
- Published the total 103*4=412 in English and in Hindi prepared and 412 published IMD website (103 AAS Bulletins, during July 1, 2021 to June 30th, 2022 for Chamba, Una, Hamirpur and Kangra districts of H.P. and published in university website www.hillagric.ac.in/ kisanokeleye and www.indagrmet.gov.in. Kisan Portal (www.farmers.gov.in; www.weathershimla.gov.in and mkisan.gov.in and www.cropweatheoutlook.com of CRIDA (ICAR) websites. Agro-advisory bulletins and weather information were published in local newspapers punjabkesari/ Amar Ujala etc. (35 newspaper clippings)
- Uploaded the advisory content for Chamba, Una, Hamirpur and Kangra districts of H.P in “MEGHDOOT APP” published twice in a week
- 15 SMS to 2.83 lakhs registered farmers sent during June 18,2021 to June 30, 2022 as per quota were sent to farmers of Chamba, Una , Hamirpur and Kangra through MKisan Portal of MOA, GOI , New Delhi and 15 SMS delivered to farmers totaling about 31.45 lakhs farmers.

***Title of the project:* Forecasting Agricultural Output Using Space, Agro Meteorology and Land based Observations (FASAL) (2022-23) – AS PI**

- The simulated yield prediction for Wheat and Maize done for the season. The yield predicted for wheat which showed deviation of 20.5 and 13.1 % for F1 and F2 phase whereas for Maize two dates of 1stand 10th July with 20 and 40 Kg N was used for prediction and two fertilizers. The yield showed deviation from 25.0 %.

Title of the project: Mapping of geographical distribution and identification of new invasive spp. of insects-pest and diseases, simulated futuristic crop water footprints scenarios for major crops, in Himachal Pradesh

- The futuristic crop water footprints and net irrigation requirements for all districts of Himachal Pradesh with rainfall reduction of 10 and 20% along with 1, 2, and 3⁰C maximum and minimum temperature were determined and validated using district-wise soil profiling were drawn from 64 sites analyzed across the Himachal Pradesh
- During *kharif* season, the major diseases observed were false smut, leaf blight, banded sheath blight, anthracnose of mash, collar rot of cowpea, target leaf spot & bacterial pustules of soybean, late blight and buck eye rot of tomato, *Cercospora* of capsicum, bacterial wilt of solanaceous crops, powdery mildew of tomato, capsicum and cucurbits and downy mildew of cucurbits.
- During *rabi* season, the major diseases observed were powdery mildew of wheat, powdery mildew and *Fusarium* wilt of pea, *Alternaria* blight of cabbage, purple blotch and downy mildew of garlic & onion and *Ascochyta* blight of gram.

Title of the project: CAAST, NAHEP ICAR sponsored Project on Protected Agriculture and Natural Farming

- New facilitative units established to enable academic and research infrastructure like High tech Protected Structure Unit/Hydroponic Unit, Molecular lab, Creation of Phytotron facility and Students Research Park, Bio-control Laboratory, Nutritional Garden, Installation of soil nutrient-based fertigation system and pressure bomb and strengthening and renovation of polyhouses (16 Nos.) and PG labs (6 No).
- Hydroponic unit and Plant Growth Chamber established, and crop production started under establishment of PANF as national level advanced training center.
- Knowledge Center “Center for Protected Cultivation Technology (CPCT) ICAR-IARI, New Delhi” developed.
- Under Environment Sustainability Plan, the Nutritional Garden was established. Fruit trees medicinal & aromatic plants were planted with participation of Post Graduate students as Graduation ceremony.

- Virtual class room and Agri Diksha Web portal established to strengthen agricultural education through ICT interventions
- 3 Nos of National Trainings were planned and focused for the students in the National Institutes of repute.
- Organized National and International conferences/expert lectures/brain storming sessions in online and offline-hybrid mode in the thematic research areas. Under the CAAST project, a total of 13 webinars were conducted in which about 1629 people across the country including scientists, farmers, students, researchers, extension workers and other field functionaries attended the webinar's and got benefitted from it.
- 4 No of Skill Development certificate courses namely Commercial Hybrid Seed Production of Vegetable Crops, Protected Cultivation of Vegetable Crops, Personality Development programmes for students, Pest Management under Protected Cultivation were prepared and submitted in the Academic Council for enactment.
- 11 Nos of MOU's/LOI established with National and International Institutes/Universities for knowledge sharing, training to PG students, collaboration in holding symposium, training and conferences and exchange of information etc.
- 4 No. of Brouchers highlighting activities and achievements of the project have been published namely Protected Agriculture & Natural Farming: Activities and Salient Achievements (In Hindi and English) and Protected Cultivation of Vegetable Crops, Intellectual property rights policy guidelines. 2 No Manuals (Phytotron for speed breeding and precision agriculture under changing climate scenario, Plant, microbe interaction under protected agriculture and natural farming), 1 No of Handbook of principles and Practices in Natural farming and 1 No of Coffee Table Book.

Title *of the project* Component II, NAHEP ICAR and World Bank Project **Investment in ICAR Leadership for Agricultural Higher Education under NAHEP Component 2A Project** in ICAR-NAHEP-CAAST, CSKHPKV, Palampur- **As PI and Admin**

- NIBPP App: 4050 Photographs of four crops uploaded for app development
- Agri-Diksha Web Channel: Arranged total 110 lectures uploaded and approved
- E- Learning: 4 content creator and 3 Unit reviewer uploaded and approved NAHEP, Comp2

- Academic Management System: AMS implemented and data of 263+1265=1528 faculty and students uploaded, all examination schemes uploaded
- Project Management Information System: implemented and data of projects 19 uploaded

Title of the project: Climate Vulnerability Assessment and Adaptation Technology of Agriculture at Block scale under Task Force on Himalayan Ecosystem Total budget 45.03 lakhs

- Farmers survey was completed for model village at Dharer and PanjiyalaBaijnath for the climate vulnerability assessment and adaptation technology of agriculture at block scale and same has been tested also.

3.5 Research Publications

Summary Statistics of Publications

Department→		Bio & Env Sc	Chem& Biochem	Phys Sc &Lang	Micro	CGRT
a.	Total Nos of publications (only Published)	3	07	9	13	11
i)	Research Publication (Nos)	2	5	7	9	3
ii)	Extension Publications (Nos)	-	-	-	-	-
iii)	Other Publications (Nos)	1	1	2	4	8
b.	Book(s) Published	-	1	-	-	-

Detail of Books Published:

Sr.No.	Name of Author	Name of Book	Name of Publisher
1.	Dr Rajan Katoch	Techniques in Forage Quality Analysis	Springer Nature Singapore

3.5.1 Paper Published

Department of Biology and Environmental Sciences

- Sharda Kalra, AshaPoonia, **Radhika Sharma**, Ramneek Kaur, Parvati Sharma a, Amit Kumar andNishaGulia. Wildlife Conservation through Local Community Engagement in

India.Uttar Pradesh Journal of Zoology.Volume 44, Issue 2, Page 13-24, Feb 2023; NAAS-4.21 Indexed in Web of Science.

- Grover, A., Sharma, P., **Sharma, R.**, Sinha, R. (2022) Ultrastructural and molecular approach as a tool for taxonomic identification of aquatic macroinvertebrates: A review, HELIYON, <https://doi.org/10.1016/j.heliyon.2022.e12236>.IF-3.776 NAAS-9.776.

Department of Chemistry and Biochemistry

- Ankur Tripathi, Vipin Hallan, Ritu Raj, Kiran and **Rajan Katoch** (2023). Predictive structure and protein-ligand interface of novel lectin from rice bean (*Vignaumbellata*). Integrative biology. 14(8-12):228-40. <https://doi.org/10.1093/intbio/ztac018>.
- Dananjaya J, Ranatunga M A B, Amarakoon A M T, Gunasekare M T K, Attanayake R N, Sharma RK,Chaudhary HK, Sood VK, **Katoch R**, Banyal DK, Piyasena KGNP, Edirisinghe E N U (2022). Variation of catechin and caffeine content in exotic collection of tea [*Camellia sinensis* (L.) O. Kuntze] in Sri Lanka and potential implication in breeding cultivars with enhanced quality and medicinal properties. Food Chemistry Advances, 1, 100-108.
- **Rajan Katoch**, Ankur Tripathi and Kiran (2022). Rice bean (*Vignaumbellata*): a promising legume with unexplored potential. In Neglected and underutilized crops-Future smart food (eds. Muhammad Farooq and KadambotSiddique) Elsevier: Academic Press, pp 647-680.
- **Rajan Katoch**, Kiran and Ankur Tripathi (2022) Dynamics of seasonal variations and growth stages on forage quality and management of mimosine content in Subabul (*Leucaenaleucocephala*). Tropical animal health and production (Accepted).
- **Rajan Katoch**, Ankur Tripathi and Kiran(2022). Rice bean (*Vignaumbellata*): a promising legume with unexplored potential. In Neglected and underutilized crops-Future smart food (eds. Muhammad Farooq and KadambotSiddique) Elsevier: Academic Press, pp 647-680.

Department of Physical Sciences and Languages

- Bhardwaj S and **Kumar B**. 2022. Forecasting of Potato Production in Himachal Pradesh Using ARIMA model. Potato Journal, 49(2):167-173. (NAAS Rating: 4.94)
- Hussain S, Sharma M, **Kumar B** and Bhat VA. 2022. Almost Unbiased Dual Exponential Type Estimators of Population Mean Using Auxiliary Information. Statistics and Applications. 20(2):147-156. (NAAS Rating: 5.76)

- Suri, G, Heorhii S, **Guleria A**, Gandotra N, Saini N, and Sałabun W. 2023. Biparametric Q Rung Orthopair Fuzzy Entropy Measure for Multi Criteria Decision Making Problem. Information 14, no. 6: 304. <https://doi.org/10.3390/info14060304> (NAAS Rating: 9.1)
- Devi, P, Bartłomiej K, **Guleria, A**, Shekhovtsov A, Gandotra, N, Saini, N, Sałabun, W. 2023. Dimensionality Reduction Technique Under Picture Fuzzy Environment and Its Application in Decision Making. International Journal of Knowledge-based and Intelligent Engineering Systems. vol. 27, no. 1, pp. 87-104. (NAAS Rating: 6.7)
- Devi P, Kizielewicz B, **Guleria A**, Shekhovtsov A, Wątróbski J, Królikowski T, Więckowski J, and Sałabun W. 2022. Decision Support in Selecting a Reliable Strategy for Sustainable Urban Transport Based on Laplacian Energy of T-Spherical Fuzzy Graphs. Energies. 15, no. 14: 4970. <https://doi.org/10.3390/en15144970> (NAAS Rating: 9.2)
- Kumar, N and **Kumar, A** (2020). Two Sample Statistical Test for location Parameters. Journal of Modern Applied Statistical Methods, 19(1).
- **Kumar, A.**, Goyal, M. and Kumar, N (2022). Testing of location Parameter with Optimum Choice of Sub-sample Size. Asian Journal of Statistical Sciences, 2(2), 129-140.

Department of Microbiology

- Sharma Samriti, Kumari Rashmi, Prasad Heerendra, **Walia Abhishek**, Kumar Raj, Dobhal Sneha. 2022. Characterization of guava (*Psidium guajava* L.) germplasm through morphological traits and SCoT markers. The Journal of Horticultural Science and Biotechnology 1-10. doi.org/10.1080/14620316.2022.2139767. ISSN: 1462-0316. SCI Journal, NAAS Rating: 7.904
- Sharma Raveena, Kumar Rameshwar, Sharma GD, **Walia Abhishek**, Sharma RP. 2023. The influence of natural and organic farming techniques on productivity and economics of maize (L.) based intercropping system The Pharma Innovation Journal 12(6): 2321-2324. NAAS Rating: 5.23.
- Kalia A, Sharma S, Semor N, Babele PK, Sagar S, Bhatia RK, **Walia Abhishek**. 2022. Recent advancements in hydrocarbon bioremediation and future challenges: a review. 3 Biotech. <https://doi.org/10.1007/s13205-022-03199-y>. ISSN: 2190-572X. SCI Journal, NAAS Rating: 8.89

- Ghai H, Sakhuja D, Yadav S, Solanki P, Putatunda C, Bhatia RK, Bhatt AK, Varjani S, Yang YH, Bhatia SK, **Walia Abhishek**. 2022. An Overview on Co-Pyrolysis of Biodegradable and Non-Biodegradable Wastes. *Energies* 15 (11): 4168. <https://doi.org/10.3390/en15114168>. ISSN: 1996-1073. SCI Journal, NAAS Rating: 9.252
- Putatunda C, Behl M, Solanki P, Sharma S, Bhatia SK, **Walia Abhishek**, Bhatia RK. 2022. Current challenges and future technology in photofermentation-driven biohydrogen production by utilizing algae and bacteria. *International Journal of Hydrogen Energy*. ISSN: 0360-3199. SCI Journal, NAAS Rating: 13.139
- Rathour RK, Devi M, Dahiya P, Sharma N, Kaushik N, Kumari Dolly, Kumar P, Baadhe RR, **Walia Abhishek**, Bhatt AK, Bhatia RK. 2023. Recent trends, opportunities and challenges in sustainable management of rice straw waste biomass for green bio-refinery. *Energies* 16: 1429. <https://doi.org/10.3390/en16031429>. ISSN: 1996-1073. SCI Journal, NAAS Rating: 9.252
- Sharma, S., Kumar, A., Kumari, N., **Walia Abhishek**. 2023. RNAi as a tool to enhance crop yield and biotic stress management in the plants. *Plant Cell Tissue and Organ Culture* 152, 437–454. <https://doi.org/10.1007/s11240-022-02426-x>. SCI Journal, NAAS Rating: 9
- **Mahajan Rishi**, Hudson, B. S., Sharma, D., Kolte, V., Sharma, G., & Goel, G. (2022). Transcriptome analysis of *Podocoryphapetalodes* strain GGF6 reveals the diversity of proteins involved in lignocellulose degradation and ligninolytic function. *Indian Journal of Microbiology*, 62(4), 569-582.
- **Mahajan Rishi**, Verma, S., & Chatterjee, S. (2023). Biodegradation of organophosphorus pesticide profenofos by the bacterium *Bacillus* sp. PF1 and elucidation of initial degradation pathway. *Environmental Technology*, 44(4), 492-500.

Centre for Geo-informatics, Research & Training

- B. Pareek, **R. Singh Rana**, S. Manuja, S. K. Sandal, V. Kalia, And K.K. Singh .2021 Modeling crop water requirement using weather model under elevated temperature scenarios for scaling up quality of weather based agro advisory. *Journal of Crop and Weed*, 17(2): 80-86 (2021) ISSN- O: 2349 9400; P: 0974 6315 **631 (NAAS Rating _2022: 5.46)** DOI: [10.22271/09746315.2021.v17.i2.1455](https://doi.org/10.22271/09746315.2021.v17.i2.1455)

- Shilpa, Parveen Sharma, Vandana Thakur, Akhilesh Sharma, **R. S. Rana** & Prabhat Kumar. 2022. A status-quo review on management of root knot nematode in tomato. The Journal of Horticultural Science and Biotechnology, Vol. 97 (1): 1-14 DOI: 10.1080/14620316.2022.2034531 (<https://doi.org/10.1080/14620316.2022.2034531>) (**NAAS Rating _2022: 7.64**)
- Sharma, A., Rani, M., Lata, H., Thakur, A., Sharma, P., Kumar, P., Jaiswal, D.K., **Rana, R.S.**, Global dimension of root rot complex in garden pea: Current status and breeding prospective, Crop Protection (2022), doi: <https://doi.org/10.1016/j.cropro.2022.106004>. (**NAAS 2022 _8.57**)

3.5.2 Papers Presented in Conferences and Workshops

Department of Biology and Environmental Sciences

- Dr. Radhika Sharma presented paper online and published paper in proceedings entitled, Biodegradation of plastic using termites and their gut microbiota: A mini Review in International Conference on environmental engineering and green technology in IOP conference series : Earth and Environmental Science 1057(2022)012016 doi: 10.1088/1755-1315/1057/1/012016.

Department of Physical Sciences and Languages

- Dr Banti Kumar presented a research paper entitled “**Improved Strategy of Estimating of Population Mean using Ratio Estimator**” during the Silver Jubilee (Annual) International Conference of the Society of Statistics, Computer and Applications (SSCA) On Significance of Statistical Sciences in the Emerging Scenario (SSSES 2023 –SSCA XXV)) held during Feb. 15-17,2023 in the Department of Statistics, University of Jammu, Jammu.
- Dr Banti Kumar delivered a lecture on “**Correlation Analysis and its Types Using Statistical Software**” during the five days workshop on “Current Statistical Learning and Techniques in Agricultural Sciences” under NAHEP SKUAST-Kashmir from 16-03-2023 to 20-03-2023 organized by The Division of Agricultural Economics & Statistics, Faculty of Agriculture, SKUAST-Kashmir.

Department of Microbiology

- Dr. Abhishek Walia presented a research paper “Characterization of cow dung isolates for antifungal activity against root rot complex Pathogens” in National Conference organized by Department of Organic and Natural farming, CSKHPKV Palampur. H.P.

Centre for Geo-informatics, Research & Training

Dr R.S. Rana

- Application of Agrometeorological observations, Introduction of Agromet observatory and Agromet observatory observation recording on dated 19.6.2022 at CSKHPKV Palampur to Students of YSPUHF College NERI Hamirpur (35 participants) organized under IDP YSP UHF Neri.

3.5.3 Books/ Book Chapters

Department of Biology and Environmental Sciences

- **Radhika Sharma** and SeemaRani (2022).Chapter entitled- Bioluminescence, Pheromones, Nervous Integration, Diapause, Mimicry and Insect Behaviour. Published in book entitled: Insect Physiology for MSc Final year for MPB Open University, Bhopal. Page no. 173-228 Publishers- Vikas Publications, New Delhi. ISBN 978-93-5453-934-3.

Department of Chemistry and Biochemistry

- **Rajan Katoch**, Ankur Tripathi and Kiran(2022). Rice bean (*Vignaumbellata*): a promising legume with unexplored potential.*In* Neglected and underutilized crops-Future smart food (eds. Muhammad Farooq and KadambotSiddique) Elsevier: Academic Press, pp 647-680.

Department of Physical Sciences and Languages

- Bajaj R.K., Srivastava S., **Guleria A.** 2023. Solving Multi-objective Linear Fractional Programming Problem Utilizing -Cut in Triangular Intuitionistic Fuzzy Setup. In: Sahoo, L., Senapati, T., Yager, R.R. (eds) Real Life Applications of Multiple Criteria Decision Making Techniques in Fuzzy Domain. Studies in Fuzziness and Soft Computing, vol 420. Springer, Singapore. https://doi.org/10.1007/978-981-19-4929-6_17.

Department of Microbiology

- ChayanikaPutatunda, PreetiSolanki, ShrutiPathania, Anil Kumar, **Abhishek Walia**. 2023. Screening strategies, Editor(s): Arvind Kumar Bhatt, Ravi Kant Bhatia, Tek Chand Bhalla, Basic Biotechniques for Bioprocess and Bioentrepreneurship, Academic Press, pp. 23-46, ISBN 9780128161098.
- Kumar A, Sankhyan S, **Walia Abhishek**, Putatunda C, Kashyap D, Sharma A, Sharma AK. 2022. Antimicrobial resistance: medical science facing a daunting challenge. In: Medical Microbiology. Anil K. Sharma, Girish Kumar Gupta and Mukesh Yadav (eds.). De Gruyter. pp. 201-228:201. ISBN: 9783110517736. DOI: <https://doi.org/10.1515/9783110517736>.
- Rashmi Sharma, **Abhishek Walia**, ChayanikaPutatunda, PreetiSolanki. 2023. Impact of pesticides on microbial diversity, Editor(s): Joginder Singh, Ashok Pandey, Simranjeet Singh, Vinod Kumar Garg, Praveen Ramamurthy In Current Developments in Biotechnology and Bioengineering, Elsevier, pp. 427-458, ISBN 9780323919005, <https://doi.org/10.1016/B978-0-323-91900-5.00001-1>.

Centre for Geo-informatics, Research & Training

- **Ranbir Singh Rana**:StubbleBurningin Rice-WheatCroppingSystem: A Threatto the Ecosystem. In Editors: Hanuman Singh Jatavand Vishnu D.Rajput (Eds). *EcosystemServices, Types, Managementand Benefits. PublishedbyNovaSciencePublishers,Inc.NewYork. pp 223-240(2022)*
- **Ranbir Singh Rana**: Booklet on ACTIVITIES AND SALIENT ACHIEVEMENTS NAHEP. 2022. Published by Principal Investigator under the ICAR, NAHEP and World Bank jointly funded ad-hoc Research project entitled “PROTECTED AGRICULTURE AND NATURAL FARMING”, Centre Agricultural Higher Education Project (CAAST), National Agricultural Higher Education Project (NAHEP),(ICAR-WB PROJECT), CSK HPKV, Palampur (PUB.1/2022)

3.5.4 Technical Reports Submitted

1. **Sharda Singh**, Annual progress reports of Project “Geospatial Technology based Services to Department of Agriculture and Others” was submitted

2. **Ranbir Singh Rana.** Presented the annual report of Forecasting Agricultural Output using space, Agro-meteorology and land-based observations (FASAL)
3. **Ranbir Singh Rana.** Annual progress report of project entitled “Seventh Annual Review Meeting of Integrated Agromet Advisory Services project
4. **Ranbir Singh Rana.**Annual progress report,Mapping of geographical distribution and identification of new invasive spp. of insects-pest and diseases, simulated futuristic crop water footprints scenarios for major crops, in Himachal Pradesh.
5. **Ranbir Singh Rana.** Annual progress report CAAST, NAHEP- As COPI

3.5.5 Manual Published:

Department of Microbiology

Rishi Mahajan, Shalini Chandel & Ranbir Singh Rana (2023) CAAST, NAHEP & Department of Microbiology “Fourier Transform infrared (FTIR) spectrometer: A laboratory Handbook” CSKHPKV, Palampur

Centre for Geo-informatics, Research & Training

Dr R.S. Rana

- Veterinary Public Health and Zoonotic Diseases; Published by Principal Investigator under the ICAR, NAHEP-CAAST and World Bank jointly funded ad-hoc Research project entitled “Protected Agriculture And Natural Farming”, Centre Agricultural Higher Education Project (CAAST), National Agricultural Higher Education Project (NAHEP),(ICAR-WB PROJECT), CSK HPKV, Palampur (PUB.3/2022)
- Protected Cultivation of Vegetable crops. 2022. Published by Principal Investigator under the ICAR, NAHEP and World Bank jointly funded ad-hoc Research project entitled “ Protected Agriculture And Natural Farming”, Centre Agricultural Higher Education Project (CAAST), National Agricultural Higher Education Project (NAHEP),(ICAR-WB PROJECT), CSK HPKV, Palampur (PUB.2/2022)
- Protected Cultivation of Vegetable crops. 2022. In Hindi Published by Principal Investigator under the ICAR, NAHEP and World Bank jointly funded ad-hoc Research project entitled “ Protected Agriculture And Natural Farming”, Centre Agricultural

Higher Education Project (CAAST), National Agricultural Higher Education Project (NAHEP),(ICAR-WB PROJECT), CSK HPKV, Palampur

3.5.6 Workshops/ Conferences/ Seminars/ Training Programmes Attended

Department of Biology and Environmental Sciences

Sr. No.	Name of Faculty Member/Team	Name of the Event Date Place	Title of the Event
1.	Dr. Usha Rana	Online	ICAR Education division lecture on ranking of University QS world ranking
		Organized by College of Basic Sciences	<i>Sanskrit Sambhashan Shivir</i> on 3/9/2022
		Online	seminar on Millets for nutritional security held on 6/6/2023
		Organized by College of Agriculture in association with National Skill Development Forum, Shimla.	lecture on communication skills in capacity building and skill enhancement
2	Dr, Radhika Sharma	organized by CSKHPKV, Palampur from 22/8/2022 to 27/8/2022	Participated in 6 days induction training programme for newly recruited faculty.
		Online	Attended the ICAR Education division lecture on Ranking of University QS World Ranking.
		held in CSKHPKV, Palampur on July 20-21, 2022	Participated in XXIIIrd Group Meeting of AINP on soil arthropod pests.
		Organized by College of Basic Sciences on 3/9/2022	Attended Sanskrit Sambhashan Shivir

		held on 6/6/2023 online	Attended seminar on Millets for nutritional security
		Organized by Post Graduate Department of Zoology, Dev Samaj College For Women, Ferozpur on 30th September 2022.	Attended National Webinar on "Species and Climate Change"
		on 25th November 2022 online	Attended virtual Master-class on "Food for a Healthy Planet"
		Organized by PG dept of Zoology DSCW Ferozpur on 23/1/2023.	Attended national webinar on Breast Cancer
		16 Feb 2023 by ICAR	Attended online training of AR-VR
		DEE on 6/4/2023	Attended lecture on DST funding scopes
		Organized by Post Graduate Department of Zoology, Dev Samaj College For Women, Ferozpur on 6 th March, 2023.	Attended webinar on "Research Methodology : An Insight On Forensic Entomology

Department of Chemistry and Biochemistry

Sr.	Name	Name of the Event	Date	Place	Title of the Event
1.	Dr Rajan Katoch	11 th September, 2022		at BARC, Trombay, Bombay	Workshop on "Biopesticides and bioregulators : Role in sustainable Agriculture
		Seminar on "Millets for nutritional security" on 6.6.2023.			
		7-9 June 2023		at CSKHPKV, Palampur	National Seminar on "Organic Agriculture-Challenges & Prospect" organized by Organic Agriculture Society of India

Department of Physical Sciences and Languages

Sr. No.	Name of Faculty Member/Team	Name of the Event Date Place	Title of the Event
1.	Dr Sharda Singh	International Conference 27 th to 28 th of Dec. 2022	Chaired a Technical Session in 2nd International Conference on Recent Trends on Mathematical Sciences (ICTMRS-2022), organized by Himachal Ganita Parishad (HGP)
		International Conference 21-23 March 2023	Attended International Conference on Blended Learning Ecosystems for Higher Education in Agriculture (ICBLE-2023)
		Seminar 06.06.2023 (online)	Attended a Seminar on 'Millets for Nutritional security'
		National Education Policy 29th of July 2022	Attended 2nd Anniversary of National Education Policy -2020 Webinar
		Inaugural of Special Training Workshop 29.05.2023	Attended Inaugural of Special Training Workshop on Strategic Communication Plan for cost – effective Agriculture with the objective of doubling Farmers Income by using Innovative Farm Technologies' Directorate of Extension Education
		Inaugural and Concluding Function of National Conference 7th and 9th of June 2023	Attended Inaugural and Concluding Function of National Conference on 'Natural and Organic Farming for Ecological, Economical and Nutritional Security'
		Inaugural Function 15.06.2023	Attended Inaugural Function of National Group Meet (Kharif 2023), AICRP
		College of Basic Sciences	Sanskrit Sambhashanshivir on 3/9//2022
		Organized by National Skill Development Forum, Shimla.	Communication Skills in capacity building and skill

			enhancement
2.	Dr Banti Kumar	Faculty Induction Programme August 22-27, 2022	Attended six days induction Training Programme for newly recruited faculty of CSK HPKV, Palampur organized by HRD and PC, CSK HPKV Palampur.
		Presented a research paper entitled “Improved Strategy of Estimating of Population Mean using Ratio Estimator” during conference held on Feb. 15-17, 2023 in the Department of Statistics, University of Jammu, Jammu.	Silver Jubilee (Annual) International Conference of the Society of Statistics, Computer and Applications (SSCA) On Significance of Statistical Sciences in the Emerging Scenario (SSSES 2023 –SSCA XXV))
3.	Mr. Arun Kumar	August 22-27, 2022 organized by HRD and PC, CSK HPKV Palampur.	attended six days induction Training Programme for newly recruited faculty of CSK HPKV, Palampur

Department of Microbiology

Sr. No.	Name of Faculty Member/Team	Name of the Event Date Place	Title of the Event
1.	Dr. Abhishek Walia	Brainstorming session 10 th March, 2023 CSKHPKV, Palampur	“Mainstreaming native Agro Biodiversity of North-Western Himalayas with special emphasis on Millets.
		International Conference 21-23rd March, 2023 NASC complex, New Delhi	Blended Learning Ecosystems for Higher Education in Agriculture (ICBLE 2023)
		National Conference 7th June, 2023 CSKHPKV, Palampur	Attended and Presented Paper in Natural and Organic Farming for ecological, economical and nutritional security’ organized by department of Organic and Natural farming
		6-04-2023 DEE, CSKHPKV Palampur	Attended lecture on DST funding scopes

		06-06-2023 Online	Seminar on Millets for nutritional security
		22-08-2022 to 27-8-2022 CSKHPKV, Palampur	Participated in 6 days induction training programme for newly recruited faculty
		3-09-2022 College of Basic Sciences	Sanskrit Sambhashanshivir
		CSKHPKV, Palampur 7th June, 2023 Bagged 1st prize	Poster presentation on the topic “Fourier Transform Infrared Spectroscopy of herbal plants and their antimicrobial impact on human pathogens” in National Conference on “Natural and Organic Farming for ecological, economical and nutritional security’
		CSKHPKV, Palampur 7th June, 2023 Bagged 2nd Prize	Poster presentation on the topic “Screening and characterization of cow dung isolates for various plant growth promoting activities” in National Conference on “Natural and Organic Farming for ecological, economical and nutritional security’ Bagged 2nd Prize
2.	Dr. Rishi Mahajan	Brainstorming session 10 th March, 2023 CSKHPKV, Palampur	“Mainstreaming native Agro Biodiversity of North-Western Himalayas with special emphasis on Millets.
		September, 2022	Attended online lecture by Dr. HasmukhAdhia (Retd.) Chancellor , Central University of Gujarat on “Managing Self Before Managing Others
		22-08-2022 to 27-8-2022 CSKHPKV, Palampur	Participated in 6 days induction training programme for newly recruited faculty
		-	Attended Seminar on “Course for study option” University of Melbourne

	3-09-2022	Sanskrit SambhashanShivir
	National Conference 7 th to 9 th June, 2023 CSKHPKV, Palampur	Attended National Conference on Natural & Organic Farming for Ecological, Economical & Nutritional Security
	6-04-2023 DEE, CSKHPKV Palampur	Attended lecture on DST funding scopes

Centre for Geo-informatics

Sr. No.	Name of Faculty Member/Team	Name of the Event Date Place
1.	Dr.R.S. Rana	1. Attended Investment in ICAR Leadership for Agricultural Higher Education under NAHEP Component 2A Project in ICAR-NAHEP-CAAST, CSKHPKV, Palampur on June 30, 2022 2. Climate Vulnerability Assessment and Adaptation Technology of Agriculture at Block scale under Task Force on Himalayan Ecosystem 3. Attended Sensitization of Policy makers and administrators on climate change and its impact on Mountains Agriculture on 30th June, 2022

3.6 Referee/Reviewers

Faculty Name	Details
1. Dr Sharda Singh	<ul style="list-style-type: none"> Referee for the Journal “Advances in Applied Research”
2. Dr RajanKatoch	<ul style="list-style-type: none"> Reviewer for Current Nutrition & Food Science ActaPhysiologiaePlantarum Reviewer for ActaPhysiologiaePlantarum Journal Reviewer for International Journal of Agronomy Editorial member “Journal of Forage Research”
3. Dr. Abhishek Walia	<ul style="list-style-type: none"> Frontiers in Microbiology Biocatalysis and Agricultural Biotechnology Journal of Genetic Engineering and Biotechnology Archives of Agronomy and Soil Science Bioresource Technology Reports

	<ul style="list-style-type: none"> • Scientific Reports • Frontiers in Plant Science
4. Dr. Rishi Mahajan	<ul style="list-style-type: none"> • Biological Control • Frontiers in Microbiology
5. Dr. Abhishek Guleria	<ul style="list-style-type: none"> • Journal of Intelligent & Fuzzy Systems

4. EXTENSION

4.1 Publications

- रणबीर सिंह राना. 2022. चो0 स0 कु0 हिमाचल प्रदेश कृषि विश्वविद्यालय, पालमपुर की राष्ट्रीय कृषि उच्च शिक्षा परियोजना के अंतर्गत गतिविधियाँ. फसल क्रांति फरवरी, 09 (02),2022 (www.fasalkranti.in) ISSN 2394-756X
- The five days forecasts on different weather parameters viz. rainfall, temperature, cloud cover, relative humidity and weekly cumulative rainfall based Agro-advisory bulletins for our study districts (Chamba, Kangra, Hamirpur and Una) were validated and weather based agro-advisory prepared.
- Published The total 103*4=412 in English and in Hindi prepared and 412 published IMD website (103 AAS Bulletins, during July 1, 2021 to June 30th, 2022 for Chamba, Una, Hamirpur and Kangra districts of H.P. and published in university website www.hillagric.ac.in/ kisanokeleye and www.imdagrimet.gov.in. Kisan Portal (www.farmers.gov.in; www.weathershimla.gov.in and mkisan.gov.in and www.cropweatheoutlook.com of CRIDA (ICAR) websites. Agro-advisory bulletins and weather information were published in local newspapers Punjab kesari/ Amar Ujala etc. (35 newspaper clippings)
- Uploaded the advisory content for Chamba, Una, Hamirpur and Kangra districts of H.P in “MEGHDOOT APP” published twice in a week

Pamphlets prepared

1. Protected Cultivation of Vegetable crops. 2022. Published by Principal Investigator under the ICAR, NAHEP and World Bank jointly funded ad-hoc Research project entitled “ Protected Agriculture and Natural Farming”, Centre Agricultural Higher Education Project (CAAST), National Agricultural Higher Education Project (NAHEP),(ICAR-WB PROJECT), CSK HPKV, Palampur (PUB.2/2022)

2. Protected Cultivation of Vegetable crops. 2022. in Hindi Published by Principal Investigator under the ICAR, NAHEP and World Bank jointly funded ad-hoc Research project entitled “ Protected Agriculture and Natural Farming”, Centre Agricultural Higher Education Project (CAAST), National Agricultural Higher Education Project (NAHEP),(ICAR-WB PROJECT), CSK HPKV, Palampur

4.2 Popular Articles

- Published a newspaper article in The State Times on the occasion of National Statistics Day on the topic “**Revolutionizing Data Analytics: The promising future of Statistics**” on June 29, 2023.

4.3 Lectures delivered by the Faculty Members

- Dr Ranbir Singh Rana- Application of Agrometeorological observations, Introduction of Agromet observatory and Agromet observatory observation recording on dated 19.6.2022 at CSKHPKV Palampur to Students of YSPUHF College NERI Hamirpur (35 participants) organized under IDP YSP UHF Neri .
- Dr, Radhika Sharma- As resource person delivered lecture in 5 day workshop on Capacity Building for Women in fish farming held in department of Fisheries, COVAS, CSKHPKV, Palampur held from 23/3/23 to 27/3/23.
- Dr, Radhika Sharma- Presented poster at regional Agricultural fair CSKHPKV, Palampur
- Dr. Abhishek Walia- Participated as a guest speaker in online meeting hosted by agriculture information.com on the subject “Role of microorganisms in organic and natural farming system” on the day 28th December, 2022.
- Dr. Abhishek Walia- Delivered lecture to students of ELP on the topic “Biofertilizers: Definition, classification, crop sepecificity, different types; Biofertilizer unit, cost of production, entrepreneurship of biofertilizers” on dated 24/3/2023 and 29/3/2023.
- Dr. Rishi Mahajan: Resource person in Three day National Fisheries Development Board sponsored training on "Disease and Health Management in Aquaculture" 10-01-2023 to 12-01-2023
- Dr. Rishi Mahajan: Resource person in Five days training on capacity building for women in fish farming Sponsored by National Commission for Women 23-03-2023 to 27-03-23

5. MISCELLANEOUS ACTIVITIES

5.1 Income Generation

Department	Income Generated (approx.)
Department of Biology & Environmental Sciences	Rs.1,74,655/-

5.2 Summary of Visits Abroad, VIP visits, workshops etc. organized

S.No.	Items	Particulars
1.	Name of the Faculty members/employees who visited abroad	-Nil-
2.	Name of VIP Visitors	<ul style="list-style-type: none">Sh. Chander Kumar, Hon'ble Agriculture Minister, Agriculture visited CGRT, COBS, CSK HPKV Palampur on 09/06/2023. Presented the ongoing activities in Geo-informatics to him.
3.	Name of faculty members/employee who has brought honour to the University in the form of awards and honours	<ul style="list-style-type: none">Dr Usha Rana<ul style="list-style-type: none">✓ Certificate of appreciation from DDG (CS), ICAR, New Delhi for the development of technology for <i>Integrated Pest Management in Berseem</i> during Rabi 2022.✓ Certificate of appreciation from DDG (CS), ICAR, New Delhi for the development of Oat variety PLP-24 during Rabi, 2022
4.	Workshop/Seminar/Symposia/Conference Organised	-Nil-
5.	Success Story, if any	-Nil-

5.3 Other Activities of Faculty

Department of Biology and Environmental Sciences

Dr. Usha Rana

- Member Board of Studies of the college, Member Academic council, Research council and Extension council
- Exam-Coordinator (external) of the College

- Overall incharge of counseling cum admission and registration of B.Sc. Ist year COBS for session 2022-23 held on 6th,12th and 29th Dec, 2022 and for checking and scrutinizing the documents & rendering help for preparing merit list for the admission of COBS
- Performing duty of HOD Biology & Environmental Sciences since 3rd February, 22
- Member of the internal complaint committee (ICC) constituted at University level for implementation of code of conduct for women at work place.
- Member in the committee to finalise the contract/MOU with TQ Cert Services and University and prepared comments on Gap Analysis report from COBS for its implementation on 28th July.
- Executive member from the College of Basic Sciences in the Indian society of Agricultural Biochemist Palampur-Chapter
- As one of the committee member drafted the guidelines and devised the application performa for providing gold medal to first three papers published during last 5 years (2018 onwards) in CSKHPKV,Palampur (Norms for the Gold medal).
- Attended meeting of the selection committee for the post of Assistant Professor in the discipline of Plant Physiology/Botany in DR YS Parmar University of Horticulture and Forestry as subject expert on 25th September, 2022.
- Attended the 2nd Anniversary of National Education Policy-2020 (29th July, 2022)
- Attended monthly review meetings with Director Research.
- Committee member to assist Academic Incharge of the college.
- Tutor of BSc. 2ndyr& 3rdyr students.
- President Science club of the college.
- Member of the College Grievances Redressal Committee.
- Nominee of the Dean COBS for standing purchase Committee in CPDU.
- Convener of College Canteen Management Committee.
- Committee member for scrutiny of research project proposals to be submitted by the teachers/Scientist of all the constituent department of this college before submitting the same to Director Research, CSKHPKV,Palampur.
- Incharge of student programme in welcome and farewell party celebration.

- Compiled the information from the college for clean and green campus Award, 2021-22 and files were given for loading on 5th July, 22.
- Convener of the committee for the sale purchase and inspection committee for the purchase of store articles of the College.

Dr. Radhika Sharma

- As member of committee for organizing activities in connection to World Environment Day from May 2023 to 5th June 2023 -
 - On May 30th, 2023, an activity aimed at reducing food wastage in the Hostel and canteen was organized.
 - On June 2nd, 2023, a composting activity was organized to promote sustainable waste management and environmental conservation. Also delivered a comprehensive lecture on the process and significance of vermicomposting.
 - Rally is organized on 3rd of June on the theme solutions to plastic pollutions on the occasion of celebrations of World Environment Day 2023
- Participated in Farmer Scientist interaction during Regional Agriculture fair 2023
- Member of cultural programme committee for National Conference on Natural and Organic Farming for ecological, economical and nutritional security held at CSKHPKV, Palampur on -9th June 2023.
- Conducted educational tour from 06-05-2023 to 9-05-2023 to Manali, Atal Tunnel, Sissu, Defence Geo-informatics Establishment, Manali, Atal Behari Vajpayee Institute of Mountaineering and Allied Sports, Manali, IARI Research Station, Katrai, Fisheries Farm, RRS, CSKHPKV, Bajaura, KVK, Bajaur
- Member of cultural committee for seminar on Millets for nutritional security held on 6/6/2023.
- Performed duties of Warden Parvati Hostel (UG and PG)
- Worked as COVID-19- Nodal officer for Girls Covid-19 cases in the University.
- Worked as a committee member in discipline and volley ball committee during 27th Annual Inter College Games 2022-23.
- Worked as a member of literary events committee and discipline committee during Youth festival during 7th to 9th Feb 2023.

- Participated in International Yoga Day celebrations on 21/6/2023.
- Worked as Additional Nodal officer for execution of Academic Management System of the College.
- Member Board of Studies of COBS
- Advisor for students of BSc-3rd Year(S-2020-07-041 to S-2020-07-053) and BSc 1st year(S-2022-07-001 TO 030)
- In charge of Departmental web page and member of college webpage committee for updating webpage of COBS
- Academic and Research In charge of the department.
- Member of report writing committee of department
- Nodal officer for Virtual Classroom facility for College of Basic Sciences.
- Committee member for opening of quotations for purchase of FYM for vermicomposting unit.
- Prepared date sheet and seating plan for Mid-term and End term for Second semester of Academic year 2021-22.
- Teacher coordinator for Student placement Coordination Committee(SPCC) of COBS
- Member of registration and enquiry committee for Regional Agriculture fair 2023.
- Member of committee for proposing revised rates for sale of bamboo culms and seedlings.
- Member of Bamboo seeds purchase committee.
- Member of auction committee for unserviceable items of dept. of physical sciences and languages, COBS and for store of college of Basic Sciences.
- Worked as member in decoration/rangoli/stage logistics committee during Sanskrit Sambhashanshivir organized by COBS.
- Performed duty in document verification committee and registration committee during B.Sc. Ist year counseling on 6th,12th and 29th Dec, 2022
- Member of the team for strengthening digital infrastructure under NAHEP, RAES programme.
- Member of anti-ragging squad of the college for the year 2022-23
- Member of university level Women Anti Ragging Squad 2022-23.

- Attended trainings regarding women presiding officer and gave duty in extras for Vidhan Sabha general election 2022.
- Member of store verification committee of Department of Microbiology, Dept of Biology and Environmental sciences as well as central store of the college.

Department of Chemistry and Biochemistry

Dr Rajan Katoch

- **Katoch R**, Dhiman S, Dalvi S, Pandey M and Kumar A 2023. Enhanced productivity and defense responses in tall fescue with chitosan application. *“National Seminar on OrganicAgriculture- Challenges & Prospect”* organized by Organic Agriculture Society of India from 7-9 June 2023 at CSKHPKV, Palampur. Pp342-43.

Dr. Suman Sharma

- Incharge of Library in College of Basic Sciences.
- Member of Anti Ragging squad at University level
- Member of Anti Ragging squad at College level.
- Coordinator of entrepreneurship club at college level.
- Convener of SOP committee, COBS.
- Member of committee for assisting admission in UG classes at College level.
- Convener of the Committee for Time table, Date sheet and seating plan.
- Nominated President of Alumni Association at College level.
- Member of Science Club till Feb.2023.
- Incharge Literary activities at college level.
- Coordinator of Entrepreneurship Development Club, COBS.
- Participated in National Science Day in poster making event as the member of the committee.
- Member of Student’s Placement Coordination Committee, COBS as Faculty Incharge.
- Coordinator for preparing Corporate Database.
- Convener of Discipline committee in National Mathematics Day.

- Attended online general body meeting of Organic Agricultural Society of India
- Attended the meeting organized by IIT Mandi-Catalyst (in virtual mode) for Entrepreneurship Development Club

Department of Physical Science and Languages

Dr Sharda Singh

- HOD, Department of Physical Sciences and Languages since June 2020 till date
- Member, Board of Studies, College of Basic Sciences as HOD, PSL
- Two faculty members got Accredited for guiding at Master level
- Moderated course of Stat 502 (ICAR) to Dean, PGS, for Post Graduate Catalogue
- Infrastructure Development of Department (Instruments for Physics Lab, UPSs for Computer Lab and faculty Computers, chairs repair etc)
- Faculty members submitted one mega project under ICAR-NASF, recorded lectures in Agri-Diksha, published two research papers and attended webinars/trainings/conferences in 22-23
- Member Screening Committee for hiring teachers for academic Year, 22-23
- Monthly Reports of PSL (22-23) to Dean, COBS and Director Research, CSKHPKV-Palampur regarding strengthening of Teaching, Research and Extension
- Attended Monthly Review/other Meetings convened by Dean, COBS and Director of Research, CSKHPKV-Palampur regarding strengthening of Teaching, Research and Extension
- Annual Reports of PSL (22-23) to Dean, Registrar & Director of Research, CSKHPKV-Palampur
- Attended various days celebrated at University level [Independence Day 15.08.2022 ; Republic Day 26.01.23; Foundation Day of University on 1st Nov, 2022; National Unity Day on 31st Oct. 2022 ; World Veterinary Day on 29.04.23; Curtain Raiser Programme on 29th Oct 2022]
- Prepared and submitted NIRF information in Dec. 2022
- Prepared information regarding 'Meeting of Vice-Chancellors of AUs at Hyderabad'
- Attended "Sanskrit Speaking Camp" on 23.07.22 in COBS

- Attended meeting of Academic Equivalence Committee on 08.08.22 to decide the case of Miss Rimpi Sharma in the chamber of Dean PGS as Member
- Attended 2nd Oct 2022, National Integration , 1st Nov. 22 (National Unity Day); 26th Nov. 22 (Democracy and Communal Harmony Day)
- Got presented ‘applications of GIS in Agriculture’ to Honorable Agriculture Minister, Govt of HP in the presence of Honorable Vice-Chancellor of CSKHPKV-Palampur on 09.06.23
- Convener for COBS Stall at Regional Agriculture Fair ‘ParvatiyaKrishakMahaSangam’, 2023 w.e.f. 12th -14th June, 2023

Overall Incharge, Games, Sports, Cultural and Literary activities

- Nominated UG & PG students for ‘Students Association’
- National Sports Development Scholarship Examination on 26th March 2023
- Attended Inter College Youth Festival 7-9 Feb 2023
- Inter College Games for various All India Inter University, North Zone Inter University and All India Inter College Agric. Sports.
- Collected/Compiled and sent students data for these Games
- Compiled List of Participants for various activities in respect of COBS for Celebrations on ‘HarGharTiranga’ in the University in August 2022
- Appreciation Certificate for ‘HarGharTiranga’ by Ministry of Culture to mark AzadiKaAmritMahotsava
- Convener, Results and Certificates, Inter College Games (16th Nov to 19th Nov 2022)

As Professor Incharge (SPCC)

- Attended Meeting of Professor Incharges (SPCC) on 28.10.22; 09.01.23
- Prepared and submitted various reports to SWO, CSKHPKV-Palampur coordinating with various Team Coordinators of SPCC
- Encourage students for participation in yoga classes and sent various Information to students from time to time regarding their welfare circulated by SWO and Dean, COBS
- Convener, Anti-Ragging-cum-Disciplinary Committee , College of Basic Sciences
- Got prepared Anti-ragging Posters and displayed at prominent places in College

As Dean/Dean's representative, COBS:

- Performed duties as Dean, COBS on dates ; 12.08.22; 15.08.22; 26.09.22 to 08.10.23; 05.11.22 ; 17.11.22 to 19.11.22; 02.12.22 to 03.12.22; 17.12.22 to 19.12.22; 26.12.22 to 07.01.23; 20.03.23 to 25.03.23; 04.04.23; 06.04.23 to 09.04.23; 24.04.23 to 04.05.23; 24.05.23 to 04.06.23.
- Conducted Mop-up round of Counseling –cum-Admission of College of Basic Sciences on 29.12.22
- Attended Launch of Drone by Directorate of Extension Education, in the presence of Hon'ble Vice-Chancellor CSKHPKV-Palampur
- Attended Meeting of Accreditation Committee chaired by Hon'ble Vice-Chancellor
- Attended Meeting of Anti Ragging Committee on 22.03.2023 in the Committee room of the Administrative Block
- Conducted Meeting of All HODs and faculty members to discuss matter relating to preparation of the Prospectus 2023-2024 on 27.03.23 in relation to Four Year UG Programme
- Chaired Farewell Function of Shri Pritam Chand, clerk, COBS on 31.03.23
- Advertisement of contact Hour faculty in the discipline of Botany for 22-23
- Attended Piping Ceremony of Hon'ble Vice Chancellor as Colonel Commandant NCC on 31.05.23 (f.n.)
- Attended Memorandum of Understanding (MOU) between CSKHPKV-Palampur and Army on 31.05.23 (a.n.)
- Attended World Environment Day-2023 organised by Department of Horticulture and Agro-Forestry on 05.06.22
- Following Activities were organized by College of Basic Sciences on World Environment Day :
 - Reducing Food Wastage in Hostels and Canteens on 30th of May 2023
 - Compositing Activity was organized on 2nd June 2023 to promote sustainable waste management and environmental conservation
 - Awareness rally on the theme 'Solutions to Plastic Pollutions' was organized on 3rd of June 2023
- Flagged of the Educational Tour of College of Basic Sciences from 06.05.23 to 09.05.23
- Attended Agro-Club Concluding Function in SWO premises

- Attended Meeting to propose the Uniform Academic Calendar for all UG/PG programme of Academic Year 22-23
- Attended various Meetings regarding UIBP Merit based Prospectus 2023-24
- Sent suggestions [changes/addition/deletion] for UIBP Merit based Prospectus 2023-24 & got Refund Policy incorporated through Academic Council in the Prospectus
- Attended Independence Day on 15.08.2022
- Attended Meeting to explore possibility of lowering down the length of qualifying service in all Lab Stream Cadre (Category C and above) in the chamber of Dean, COVAS on 23.03.23
- Attended Meeting of the ‘Monitoring Cell on Ragging at the University Level’ on 17.03.2023
- Attended Meeting of the ‘Central Purchase Committee’ on 16.05.23
- Visited Vageeshwari UG & PG Hostel for checking Ragging activities in the Hostels
- Attended Meeting of Accreditation Committee on 07.10.22 chaired by Hon’ble Vice – Chancellor
- Attended Agricultural Officer’s Workshop on 28th of September 2022
- Attended meetings regarding ‘Meeting of Vice-Chancellors of AUs at Hyderabad’ on 26.09.22 at COVAS and 27.09.22 in the committee room of Hon’ble Vice –Chancellor, CSK Agric. University-Palampur
- Attended Inaugural Celebration of Kharif Forage Day -2022
- Attended meeting for NAAC Accreditation of University on 21.09.22 convened by DDG Education, ICAR in the committee room of Hon’ble Vice –Chancellor, CSK Agric. University-Palampur
- Compiled and sent Information for BOM Meeting

As Dean PGS/Dean PGS’s representative, CSKHPKV-Palampur:

- Attended Screening Committee Meeting for International training to faculty and students of CSKHPKV, Palampur under NAHEP-CAAST Project
- Attended Review Meeting regarding Peer Review Team for Accreditation of the University in the chamber of Registrar, CSKHPKV-Palampur

As Secretary, Board of Studies, College of Basic Sciences

- Convened 54th Meeting of Board of Studies, as Secretary, BOS, College of Basic Sciences under the Chairpersonship of Dean, COBS
- Prepared & discussed Agenda Items for implementing NEP in COBS
- Agenda Item 'Implementing Academic Bank of Credits' (ABC) for placing in Academic Council
- Prepared case for nominating subject Experts in BOS of COBS
- Attended 79th Meeting of Board of Studies (BOS) of COA, CSKHPKV-Palampur on 31.08.2022
- Attended 80th Meeting of Board of Studies (BOS) of COA, CSKHPKV-Palampur on 17.01.2023 and emphasized the case for sanctioned strength required by COA for teaching Basic Sciences Courses. CoA put demand of Eight (8) faculty for Basic Sciences
As DST programme's (WOS-A) Subject Expert Committee (SEC) Member for Physical and Mathematical Sciences for 21-24 (three years)
- Attended 3rd Meeting of Subject Expert Committee (SEC) on Physical & Mathematical Science on July 6-7, 2022
- Attended 4th Meeting of Subject Expert Committee (SEC) on Physical & Mathematical Science on June 20-22, 2023

Member, School Board of 'School of Mathematics, Computer and Information Science' of CUHP, Dharamshala

- Attended Board School Meeting of School of Mathematics and Computer Informatics, Himachal Pradesh Central University, TAB, Shahpur

Member, Board of Studies, Department of Mathematics, Sai University, Palampur

- Chaired Meeting for Syllabi for Mathematics Courses for various programmes of the University on 11.07.22

Nodal Officer NEP

- Attended meetings convened by Dean, COVAS for Implementation of New Education Policy in Higher Agricultural Education
- Prepared Structure for Multi-disciplinary Four Year UG Programme embedding Indian Languages and Indian Knowledge System (IKS) as per Curriculum and Credit Framework for Four Year UG Programme released by UGC in 2023

- Got prepared Presentation by Dr Manjula Sharma on Curriculum and Credit Framework for Four Year UG Programme in COBS dated 04.02.23
- Attended webinars on NEP-2020
- Action Taken Report regarding NEP 20 in respect of College of Basic Sciences on 21.03.23
President, Science Club, College of Basic Sciences (Upto Jan 2023)
- Got the new students registered with Science Club, conducted Audit of Science Club and Conducted B.Sc. 1st Year Visit to Regional Science Sub Centre Palampur
UGC- College Nodal Officer (CNO), College of Basic Sciences
- Attended University Grants Commission UTSAH (Undertaking Transformative Strategies and Actions in Higher Education) on 22nd of May 2022 [nominated by Dean, COBS]
- Attended Academic Bank of Credits (ABC) Seminar by UGC and disseminated the awareness regarding the same
- Attended other Webinars/Seminars conducted by UGC on NEP 2020
- Academic Incharge, COBS
- Informations in respect of COBS for Accreditation of University
- Counseling-cum-Admission related work 22-23
- Got conducted Physical verification of documents and counseling proforma for admission to B.Sc. Physical Sciences
- Prepared Committees for conduct of counselings for Academic Year 22-23
- Prepared Academic Calendars two times (revised for 2nd Sem of 3rd year and 1st year & 2nd Year of B.Sc. programmes)
- Registration of B.Sc. 1st Year 2nd Sem of 21-22 in 1st Aug 2022
- Sent Info of B.Sc.1st Year (2022 batch) for Team ID by ICT Cell
- Information to all students of Basic Sciences for 'Smart India Hackthon'2023
- Informations for Accreditation of University
- Information for State and Centre sponsored Scholarship Schemes in Aug 2022
- Prepared and submitted comments on the Proceedings and Modalities & Mechanism for implementation of MOU between IGRUA Amethi and CSKHPKV-Palampur
- Convener 'MahavidyalayaUtkrishaYojna' –Prepared the Proposal with team members and submitted

- Member for Merit Scholarship & Amar Shaheed Captain Saurav Kalia Memorial Scholarship
- Got prepared list of students of all the years of B.Sc programme for their preference of Scholarships through Microsoft Teams LMS for Merit Scholarship & Amar Shaheed Captain Saurav Kalia Memorial Scholarship
- Attended Meetings convened by Dean, COBS
- Committee Member for Admission Committee 22-23, COBS
- Convener of Committee to conduct the disposal of e-waste material of CGRT , conducted on 13.06.2023
- Tutor (2022 batch) and Extra Year Batch of 2022-2023
- Organised and Conducted Sub-Regional Science Museum at Palampur visit of B.Sc. 1st Year students On 19.05, 2023
- Conducted University Library visit of B.Sc. 1st Year students and guided them to get their Library Cards
- Registration of B.Sc. 1st Year students in National Digital Library India (NDLI) club Portal
- Sent various Informations regarding various activities at College/University level to students from time to time [Applications for award of ‘Rajneesh Singh Memorial Gold Medal’ and ‘CaptSaurabhKalia Memorial Gold Medal’ from 2019-20, 2020-21, 2021-22 batches of CoBS; State Bank of India Interaction with students on 21.04.23; Data for I Cards of B.Sc. 1st Year 2022 batch; Re-evaluation and re-examination dates , Compliance by all Tutors/Advisors regarding following Twitter Account of University, Access and use of CeRA Resources; Certificate of all students enrolled in photo electoral roll who have attained the age of 18 years; Apprentiseship programme in TATA Motors; Covid Vaccination Precaution Dose information; Library Membership Cards]

University Level

- Member Academic Council, CSK HPKV-Palampur w.e.f. 14th of July 2022
- Attended 194th to 198th Meetings of the Academic Council
- Committee Member to explore possibility to trace out the space near COA for teaching and practicals in view of increased number of UG students of COA
- Attended the Meeting visiting all possible spaces/places

- Committee Member constituted by Hon'ble Vice Chancellor dated 28th Nov. 2022 for NAAC Accreditation of University
- Sent Information regarding registration of COBS under 2(f) and 12 (B) of UGC
- Member, Sub Committee to draft proposal on the Academic Regulations, List of disciplines of PG and Ph.D. programmes of ICAR and structural changes to be made on Academic Regulation

As Single Point of Contact (SPOC), Association of Indian Universities (AIU) , CSKHPKV-Palampur

- Prepared following Informations for updations on AIU Portal in 22-23:
- Updated Seniority List of Vice-Chancellors in Nov. 2022
- Global Survey on the Impact of Higher Education through International Collaboration data procured from different departments at University level and uploaded on AIU Portal
- Information sent through Google form
- Updated information of officials of Member Universities for Directory by AIU
- Updated data (brief note of University, Affiliated/constituent Colleges, Programme Details, Details of faculty members, Library, Research, Hostel, Sports, Health, Budget etc) in Dec 2022 for University Handbook to be published by AIU
- Webinar circulated by SwadeshiShodhSansthan through AIU
- Nominated Nodal person for ICAR-DST National Survey
- Committee Member regarding Revision of Merit Scholarship to Ph.D. Scholar Ms. Sara Kaushal (V-2021-40-001)-Attended Meeting on 25.05.23 in the O/O Dean, PGS
- Committee Member for visit of Hostels and Vulnerable places by SWO (visited Vageeshwari, and Parvati Hostel regarding the same and interacted with the residents)

Sh. Kapil Sharma

- Entrusted with the duties of Incharge, University Network System, CSKHPKV, Palampur
- Member of ICT Cell o/o the Vice-Chancellor, CSKHPKV, Palampur
- Incharge, Stores, College of Basic Sciences
- Database Administrator for Pre-admission portal of the University
- Post processing of the students data for counseling of all the UG and PG programmes of the University

- Performed the Election duty at 14-Sullah constituency as Nodal Officer IT
- Prepared the Identity cards of the students of first year the College of Basic Sciences
- Designed and prepared the Semester Report Software for the students of College of Basic Sciences for the Registrar Office.
- Member of Admission Committee for admission to UG programme of the College of Basic Sciences

Dr. Sheela Thakur

- Performed the duty as Dy. Superintendent /Invigilator for the conduct of written test for the post of Police Constable held on dated 3rd July 2022
- Performed the duty as Dean's Nominee from CoBS for CPDU advances meeting held on 12th July 2022
- As Convener Prepared the Mid- term date sheet and seating plan for 2nd and 1st Year students for 2nd semester of Academic Year 2021-22
- Performed the duty as Member of Organising Committee for Sanskrit speaking camp and also prepared report in Hindi held on dated 25.7.2022
- Performed the duty as Convener for Decoration, Rangoli and Stage logistics for University level Sanskrit SambhasanShivir held on dated 3.9.2022
- Performed the duty as Member of spot purchase committee for the purchase of items for *Sanskrit SambhasanShivir*
- Prepared the date sheet and seating plans for the conduct of re-examination of 1st semester of Academic Year 2021-22 for 2nd year students
- Performed the duty as Centre Superintendent for the exams of the posts of Laboratory Technician and Community Health Officer of Atal Medical and Research University, Nerchowk, Distt. Mandi, H.P. held on dated 9.10.2022 from 11am to 12.30pm
- Performed the duty as Centre Superintendent for the exams of the post of Staff Nurse of Atal Medical and Research University, Nerchowk, DisttMandi, HP held on dated 9.10.2022 from 2pm to 4pm
- Performed the duty as Course Instructor for the Registration of all the
- Physics courses on dated 10.10.2022
- Performed the other assignments assigned by HOD, PSL and Dean, COBS from time to time.

- Also Performed the duty of “Superintendent of Examination” on various days of both Mid Term and End Term Under Graduate examinations in College during this period.
- Member of the Counseling committee of B.Sc. 1st year for Academic Year 22-23 held on dated 29.11.22, 06.12.22, 12.12.22 and 29.12.22 for 1st, 2nd, 3rd and mop up rounds
- Convener of Anti ragging Squad 2 of the college for the Academic year 2022-23
- Member of BOS for one year
- Performed the Duty of Judge in fresher party held in auditorium on dated 3.2.2023
- Performed the duty as Member of Prize distribution committee for the Youth Festival from dated 7.2.23 to 9.2.2023 held in Auditorium and Professor Hall
- Performed the duty of Athletic Incharge and attended meeting on dated 27.1.2023 and 28.1.2023
- Prepared the date sheet and seating plan for re- exam of B.sc. 2nd year students 2nd Semester of Academic Year 2021-22 exams held on dated 13.2.23 and 17.2.23
- Evaluated the credit seminar of two M.Sc. students of Department of Microbiology , COBS, Ms. Akriti (S-2020-30-001) and Ms. Pratiksha (S-2020-30-003) from 11 am to 1pm on dated 16.2.2023
- Evaluated the credit seminar of two M.Sc. students of Department of Microbiology , COBS, Ms. RishikaMahajan (S-2021-30-005) and Ms.ShwetaSagar (S-2021-30-006) from 11 am to 12 noon on dated 17.2.2023
- Compiled the Annual Report for the year 2021-22 as Convener with Dr. Banti and Dr. Abhishek Walia as members
- Attended seminar on millets on dated 6.6.2023
- Performed the duty in Kisan Mela held from 12th June to 14th June 2023 in the stall of college on 12th June (morning and evening) and 14th June (evening).

Dr. Manjula Sharma

- Convener of committee of Anti Ragging Squad no. 3 of College of Basic Sciences.
- Performed duty of Stage Sectary and Sanskrit Sholka recitation competition Committee member on Sanskrit Day Organized by CoBS.

- Organized National Science Day 2023 celebration on 28-02-2023 as Treasurer, Science Club, CoBS CSKHPKV Palampur from 22-02-2023.
- Organization Committee member of COBS for Regional Agricultural Fair 2023.
- Presented and prepared Draft proposal regarding Curriculum and Credit Framework for Undergraduate programmes for FYUGP courses of CoBS under NEP-2020
- Cultural Incharge, CoBS CSKHPKV Palampur.
- Treasurer, Science Club, CoBS CSKHPKV Palampur from 22-02-2023.
- Member of
 - “Monitoring Cell on Ragging at the University Level”.
 - “Anti ragging Squad- Convener of zone 6” at University level.
 - “Anti ragging Squad at SWO.
 - Cultural committee during the Inter-College Youth Festival 2022-23 in the university auditorium.
 - Results committee w.e.f. 14-19 Nov 2023 in KhelParisar of Students’ Welfare Organization
 - Registration committee for successful organization of seminar on “**Millets for nutritional security**” held on 6 June, 2023.
 - Physical verification committee of stock and store articles of Department of Microbiology COBS CSKHPKV Palampur.
 - Committee for dispose the e-waste material of CGRT COBS CSKHPKV Palampur on 13-06-2023.
 - Cultural Committee for Independence Day 2022 and HarGahrTirangaYatra.
 - Cultural Committee for Republic Day 2023.
- Conducted visit of the Basic Science students of Arni University Kathgarh (HP) at COBS CSKHPKV Palampur on 22-09-2022.
- Warden of Vageeshwari UG Girl’s hostel.
- NSS program Office in Absentia of College of Basic Sciences CSKHPKV, Palampur.
- Inquiry Committee member regarding incident in Parvati Girls Hostel in March 2023.
- Lab Incharge- Physics Lab, Department of Physical Sciences and languages.
- Social Media Incharge, CoBS to upload various activities and success stories of college on

COBS Facebook and Twitter accounts

- Team manager of Inter Agri. Universities Sports & Games Meet 2022-2023 which was held at CCS Haryana Agricultural University, Hisar (Haryana) from 20-24 February, 2023.
- Performed duty of Stage Secretary on International Yoga Day on 21-06-2023.
- Performed additional routine duty of Warden, Shanker Bhawan Girls Hostel from 05-09, November 2023.
- Performed additional routine duty of Warden, Parvati Girls Hostel from 18-28, May 2023.
- Incharge of Fresher's Party organized by students of COBS, CSKHPKV Palampur on 03-02-2023.
- Accompanied University NCC cadets to appear in "BEE Certificate Examination" at Dharamshala on 12-02-2023.

Dr Banti Kumar

- Member of the committee constituted to prepare the select/waiting list of the candidates for admission to merit-based undergraduate programs, 2022-23 under the chairmanship of Dr R.K. Asrani.
- Nominated member of the Board of Studies.
- Worked as teacher coordinator of the student's placement coordination committee to arrange need-based coaching classes for preparing students for competitive examinations for better jobs/higher education.
- Member of the Committee constituted to update the Web pages relating to the College of Basic Sciences in the university website.
- Squad member of the anti-ragging committee for checking the ragging activities in the College of Basic Sciences(Squad No. 1)
- Member of the committee constituted to open quotations for the repair of pharo 100 spectrophotometer.
- Member of the committee constituted for purchasing Physics Lab Instruments of Rs 10,000 in the Department of PSL.
- Deputed to oversee the ongoing renovation of the male students' toilet in the main building of the College.

- Member of the committee constituted to open quotations for purchase of electrical items vide NIQ No. QSD.3-56/DCB-COBS/CSKHPKV/Store/2022/508-11 dated:10.05.2023
- Member of the committee constituted to open quotations for the purchase of senatory items called vide NIQ no. QSD.3-56/DCB-COBS/CSKHPKV/Store/2022/9656-59 dated: 28.02.2023.
- Member of the committee constituted to purchase of Kent Ultra Storage double purification UV+UF with purified water storage tank.
- Member of Sanitization and drinking water committee during the Regional agriculture fair w.e.f. 12th -14th June, 2023. Performed duty as Returning officer, COBS for the Students Association of College of Basic Sciencs, CSK HPKV for the academic year 2022-23.
- Member of the Seating arrangement & discipline and Refreshment committee during the Inter-College Youth Festival 2022-23 in the university auditorium.
- Member of the Invitation, Badminton(men & women) and Discipline 27th Annual Inter College Games w.e.f. 14-19 Nov 2023 in KhelParisar of Students' Welfare Organization
- Member of Refreshment/water committee during International Yoga day-2023.
- Member of the committee constituted for purchasing /hiring of items from the local market for the celebration of University level Republic Day -2023
- Member of the committee constituted for the opening of quotations for the purchase of Squat Dress and Bench Dress.
- Member of the discipline committee constituted during seminar on Millets for nutritional security held on 6 June, 2023. Member of the discipline committee at fresher party in the university auditorium on 03.02.2023.
- Member of Banner/Poster committee from College of Basic Sciences during the Regional agriculture fair w.e.f 12th -14th June 2023.
- Assigned duty to maintain discipline during the Holi celebration in the Kailash Bhawan.
- Member of the data/merit list team for counseling cum admission for B.Sc. Physical and Life Sciences for the Academic year 2022-23
- Member of the committee constituted to compile the information received from the HoDs& Programme Director for Agricultural University Ranking Process for the year 2021.
- Member of the committee constituted to compile the Annual report for the year 2021-22 in respect of the College of Basic Sciences.

- Member of the committee constituted to undertake the physical verification of the store of the Department of Physical Sciences and Languages for the period of 2022-23.

Dr Abhishek Guleria

- Time Table, Date Sheet, and Seating Plan committee Member for the year 2022- 2023
- Departmental Reports and Notice Board Incharge of Department of PSL, COBS.
- Member of the Ragging Squad no 3, in college of Basic Sciences.
- Member of Registration committee, in the Seminar on “Millets for Nutritional Security” held on 6th June 2023 at CSKHPKV, Palampur.
- Member of Discipline Committee in Fresher Party of First Year students of College of Basic Sciences.
- Performed duty in Stall Exhibition, Banner, and Poster preparation of College of Basic Sciences in Regional Agriculture Fair 2023.
- Accompany students in 16th National Inter-University debate competition to G.B. Pant University of Agriculture & Technology from 14-01-2023 to 15-01-2023.
- Member of Chess (Men & Women) for smooth conduct of 27th Annual Inter College Games 2022-2023 held during 14th November 2022 to 19th November 2022.
- Successfully reviewed 5 research papers for reputed journals.
- Performed duty as Paper checker for Course Math 111 the End Term Examination of College of Agriculture.
- Performed duty as Paper Setter for End Term M.Sc. Examination of HPU, M.Sc. Examination duty of Central University of Himachal Pradesh and Paper checker for Course Math 111 the End Term Examination of College of Agriculture.

Mr. Arun Kumar

- Life Member of society of Statistics, Computer and Application
- Warden of Gauri hostel
- NSS program Officer College of Basic Sciences CSKHPKV, Palampur.
- Member of committee of Anti Ragging Squad of College of Basic Sciences
- Member of committee for opening the quotations for Batteries in department of Physical Science and languages.

- Performed Duty in counseling team as Member of registration/admission (counseling team) committee for admission to B. Sc. Programme for year 2022-2023
- Member of committee for preparing waiting/ select list of the candidates for admission in UG program under the chairmanship of Dr. R.K. Asrani.
- Member in committee for constructing the parking in College of Basic Sciences.
- Member of committee for Unnat Bharat Abhiyan(2.0)
- Member of committee for celebrating the World Environment Day 2023
- Member of committee for Celebrating the Poshan Maah Under NSS
- Team manager of University Table tennis Men team for participating in North-Zone Inter University which was held in Delhi University from 02-01-2023 to 04-01-2023.
- Convener of Laddo Committee for Independence Day
- Convener of Laddo Committee for Republic Day
- Organized a seven days NSS camp in Village Nagri TeshsilPalampur District Kangra from 26-09-2022 to 2-10-2022.
- Member of students Volunteers committee for regional agriculture fair 2023
- Member of committee for inspecting the Sunboard Installed in all Hostels
- Store Incharge of department of Physical Sciences and languages.
- Member of committee for physical verification of stock articles of the department of Microbiology.
- Member committee of solid Waste Management project in CSKHPKV, Palampur.
- Member of the Seating arrangement, discipline and Refreshment committee during the Inter-College Youth Festival 2022-23 in the university auditorium.
- Member of the Invitation, Table Tennis(men & women) and Discipline 27th Annual Inter College Games w.e.f. 14-19 Nov 2023 in KhelParisar of Students' Welfare Organization
- Member of the discipline committee constituted during seminar on Millets for nutritional security held on 6 June, 2023

Department of Microbiology

Dr. Abhishek Walia

- Committee member of UNISHOP

- Coordinator, Entrepreneurship Development Club, COBS
- Committee Member of anti-ragging squad for checking the activities in the College of Basic Sciences, Girls Hostel and other places for Academic year 2022-23.
- Committee Member, Reception and Accommodation Committee for smooth conduct of Seminar on “Millets for Nutritional Security” held at CSKHPKV, Palampur on 6th June, 2023 at 3:00 PM in University Auditorium.
- Committee Member to organize/make arrangement in the agriculture fair on behalf of College of Basic Sciences.
- Committee Member of Reception, Accommodation and Transportation Committee for organization of National Conference on ‘Natural & Organic Farming for Ecological, Economical & Nutritional Security’ at CSKHPKV, Palampur *w.e.f.* 07-09, 2023.
- Committee member of “Lodging and Boarding” and “Souvenir Publication” for the smooth conduct of regional Agriculture Fair-ParvatiyaKrishakMahaSangam, 2023 held during 17-19 April, 2023 at CSKHPKV Palampur.
- Convener for conducting Physical verification of store and stock articles of the College of Basic Sciences store for the financial year 2022-23.
- Committee Member to compile the Annual Report for year 2021-22 in respect of COBS.
- Associated with Department of Organic Agriculture and Natural Farming, COA to look after the Microbiology related work.
- Nodal Officer to manage the cases of COVID-19 students (Boys) in the University.
- Nodal Officer of COBS for Virtual Classroom Facility in the University under NAHEP component 2 project.
- Landscaping Incharge for the cleanliness drive of vicinity of the entire college and its departments of COBS on 11-06-2022.
- Committee Member for conducting Physical verification of store and stock articles of the Department of Microbiology, College of Basic Sciences, CSKHPKV for the financial year 2022-23.
- Convener for conducting Physical verification of store and stock articles of the Department of Physical Science and Languages, College of Basic Sciences, CSKHPKV for the financial year 2022-23.

- Committee Member for conducting Physical verification of store and stock articles of the Department of Biology and Environmental Sciences, College of Basic Sciences, CSKHPKV for the financial year 2022-23.
- Committee Member for conducting Physical verification of store articles in the Centre of Geo-Informatics research and Training, College of Basic Sciences, CSKHPKV, Palampur for the financial year 2022-23.
- Convener to ensure the repair work of Microbiology Block, Biochemistry Lab and Lecture Theaters of COBS is as per approved specification.
- Committee Member to look after the construction work of the car parking in the College of Basic Sciences as per approved specification.
- Committee Member, Banners/Mementos/Prizes/Certificates in organizing “University Level” Sanskrit SambhashanShivir” on 03/09/2022 for the smooth conduct of the function in University Auditorium.
- Committee Member, Lunch and refreshment in organizing “University Level Sanskrit SambhashanShivir” on 03/09/2022 for the smooth conduct of the function in University Auditorium.
- Additional Warden, Dhauladhar Hostel (Till April, 2023).
- Co-Coordinator of Schedule Caste-Sub Plan (SC and SP), under the Agricultural education Division Plan scheme in College of Basic Sciences, CSKHPKV Palampur.
- Convener, sitting and Arrangement Committee during celebration of Republic Day on 26th January, 2023.
- Convener, sitting and Decoration Arrangement Committee for the smooth celebration of Independence Day on 15th August, 2022.
- Committee Member for the purchase of refreshment items from Local market for participant of NCC cadet during the University level Independence Day on 15th August, 2022.
- Committee Member, Stage and Announcement Committee for the smooth conduct of Inter College Games held on 14.11.2022 to 19.11.2022.
- Committee Member for the selection of team to represent the University in North Zone/All India Inter University and All India Inter Agriculture Sports & Games meet for the year 2022-23.

- Committee Member to undertake activities in connection with World Environment Day from May, 2023 to 5th June, 2023.

Dr. Rishi Mahajan

- As member in the Vice-Chancellor's Technical Cell from the College of Basic Sciences, meticulously and successfully performed the duties assigned.
- As member of the committee of Agriculture University Ranking process, the report was successfully submitted.
- As member of the Committee for the preparation of Self-study Report for Accreditation of CSKHPKV, the report was successfully prepared and submitted
- Carried out duty as assigned by Head of the Department to compile information for University Annual Report to be communicated to the office of Director of Research
- Carried out duty as assigned by the Director of Research to attend meeting regarding Vice-Chancellor's Best department Award and Award for Early research in Career
- Carried out duties under the CAAST-NAHEP World Bank Project pertaining to preparation for financial and technical review/audit
- Carried out duty as assigned by the Head of the Department to update museum for the Kisan Mela 12th -14th June, 2023.
- Carried out duty as member of the spot purchase committee under the NAHEP-CASAST project.
- Carried out duty as member of the spot purchase committee for the purchase of sign board under the NAHEP-CASAST project.
- Carried out duty as assigned by the Director of Research, CSKHPKV, to present progress report of NAHEP-CASST Project.
- Carried out duties assigned pertaining by Head of the Department to Research and Extension in the Department of Microbiology.
- Carried out duty as assigned by Head of the Department to communicate information to Dean Post Graduate Studies.
- Attended Review meeting of NAHEP-CASST Project.
- Carried out State Assembly Election duties during polling and counting, 2022

- Carried out duty as assigned by Head of the Department to compile departmental significant achievements.
- Carried out duties as Major Advisor of Post Graduate (M.Sc.) student.
- Carried out duty as assigned by Head of the Department to compile and submit information to the office of Director of Research.
- Carried out duty as assigned by Head of the Department to compile information pertaining to Bio-fertilizer production and submit to the office of Director of Research.
- Carried out duty as member of the Poster session during National Conference on Natural & Organic Farming for Ecological, Economical & Nutritional Security June 7-9, 2023
- Carried out duty as assigned by Head of the Department to compile information for Collaboration for training of students under NAHEP-CAAST project.
- Carried out duty as committee member during Inter College Youth Festival 2022-23 from 07-09th February, 2023
- Carried out duty as member of the anti-ragging committee of Post Graduate programme for the academic year 2022-23.
- Compiled report pertaining to SSR information from the College of Basic Sciences.
- Carried out duty and attended 54th Meeting of the Board of Studies, COBS
- Carried out duties as Secretary Science Club, College of Basic Sciences.
- Carried out duty as assigned by the Dean CoBS of Advisor for 19 UG students of B.Sc. Life Science 2nd Year
- Carried out duty as assigned by the Registrar, CKHPKV to accomplish the exercise of filling up of the application for ranking of Agricultural Universities.
- Carried out duty as assigned by Dean COBs to compile information regarding compilation of information for IAUA Annual report.
- Carried out duties as assigned by the Dean COBs to prepare consolidated power point presentation of significant achievements of the College of Basic Sciences.
- Carried out duty as member of the committee for the updating of WebPages of the College website.
- Carried out activities pertaining to inspection of bamboo cutting behind Parvati Girls Hostel

- Carried out duty as directed by Dean COBs to prepare and submit proposal for National Mathematics day-2023 and National Science Day 2024.
- Carried out duty as Master of Ceremonies during National Conference on Natural & Organic Farming for Ecological, Economical & Nutritional Security June 7-9, 2023
- Carried out duty as Organizing Sectary of the seminar “Role of Institution for ATMA NIRNHAR BHARAT through Innovation and Policy Reforms” under NAHEP-CAAST lecture by Dr. P.K. Ghosh, Vice-Chancellor and former Director, ICAR-National institute of Biotic Stress Management, Raipur on 15-06-2022.

Centre for Geo-informatics

Dr R.S. Rana

- Nominated as Expert Member of State level Environment Impact Assessment Authority (SEIAA) /State Expert Appraisal Committee (SEAC) of Himachal Pradesh by Ministry of Environment and Forests Government of India, vide Notifications no. 2373 dated June 1, 2022 Gazette of India
- Member Secretary of International Screening Committee in CAAST
- Member of Refreshment committee 16th Convocation on 23.8.2022
- Nominated Member of Admission committee B.Sc, Physical and life Sciences 11.2.2022
- Programme Director, CGRT since September 2020 to till date
- Member of Formulation and screening Committee of COBS, vide letter no. 2288 dated 5.8.2017- Continuing
- Member of Screening for hiring teaching services In Plant Physiology COBS on 2-3.2022
- Acted as Chairman cum PI of Interview Committees for JRF, YP-I & II, Project associate, SRF in CAAST, NAHEP and FASAL Project (11 times)
- Acted as Chairman cum PI of Interview Committee for, JRF in DST Project
- External Examiner in the Assessment Committees Meetings of two years of SRF (CSIR)CSIR-IHBT, Palampur on dated July 13th, 2021
- Nominated as External member of selection committee of Project Scientist-I CSIR-IHBT, Palampur on dated July 19th, 2021
- External Examiner in the Assessment Committees Meetings of Ms.Tsering Dolma, JRF (CSIR) on 25 April, 2022 CSIR-IHBT, Palampur

- External Examiner in the selection committee of Project fellow, Project associate-I and II CSIR-IHBT, Palampur on dated May 25, 2022

5.4 College Activities

- National Science Day 2023 on theme "*Global Science for Global Wellbeing*" was Celebrated on 28.02.2023.
- Organized *Sanskrit Samvad* Camp on 25.07.2022.
- Organized *Sanskrit Sambhasan Shivir* at University-level on 03.09.2022.
- Pledge taking ceremony COBS CSKHPKV Palampur to mark the birth anniversary of Sardar Vallabhai Patel on 31.10.2022.
- Following Activities were organized by College of Basic Sciences on World Environment Day
 - Reducing Food Wastage in Hostels and Canteens on 30.05.2023.
 - Compositing Activity was organized on 02.06.2023 to promote sustainable waste management and environmental conservation
 - Awareness rally on the theme 'Solutions to Plastic Pollutions' was organized on 03.06.2023
- Visit of Regional Science Centre Palampur for students of B. Sc. 1st year (batch 2022) on 19.05.2023
- Visit of university Library for first year students (batch 2022) by Tutor
- COBS Exhibition through a Stall in the Regional Agricultural Fair (2022-23)

5.5 National Service Scheme Activities

Mr. Arun Kumar was the NSS officer of the College of Basic Sciences. Following activities were organized by the NSS unit of the college.

- Organized a seven days NSS camp in Village Nagri Teshsil Palampur District Kangra from 26-09-2022 to 2-10-2022.
- Celebrated the *Poshan Maah* Under NSS
- Celebrated the World Environment Day Under NSS
- Celebrated the World AIDS- Day Under NSS
- Arranged the Self defence activities for NSS volunteers

- Art and Craft activities performed by NSS volunteers
- *Gandhi Jyanti* Celebrated by NSS volunteers
- *Sawachta Diwas* celebrated by NSS volunteers
- NSS volunteers make the college campus free from plastic waste.
- Road safety campaign was done by the NSS volunteers
- *Prabhat pheri* on the event of *meri matti meradesh* was performed by NSS volunteers
- Poster making competition was conducted on National Science Day by NSS volunteers
- Poster making competition was conducted on Mathematical Day by NSS volunteers

5.6 Students Achievements

PLACEMENT/RECRUITMENT

Sr.No.	Student	Admn. No.	Achievements
1.	Akhil Kumar Angaria	S-2018-04-013	• Agniveer
2.	Rahul Rana	S-2021-08-028	• Selected in Army Recruitment as Agniveer.
3.	Meenu Kumari	S-2020-08-030	• Appointed at Indian post office
4.	Nancy	S-2019-04-061	• BPM Post office Golwan
5.	Prashant Rana	S-2019-04-070	• Software Developer in Mohali
6.	Arjun Sharma	S-2020-08-017	• Internship as Education Trainee from Palampur Science Center Pursuing M. Sc. Env. Sci. from IGNOU
7.	Anchal Kumari	S-2019-04-017	• Working as BPM in Post Office

SPORTS& GAMES

Sr	Name of Student	Admn. No.	Achievements
1.	Mahavir Singh Pathania	S-2020-08-027	• Runner up (Volleyball) in Intercollege games 2022-23 held on 14.11.2022 to 18.11.2022
2.	Prashant Kapoor	S-2021-08-025	
3.	Shiv Om Nirala	S-2020-08-051	
4.	Rishav Chauhan	S-2020-08-040	

5.	Anshul Rana	S-2020-08-014	
6.	Nikhil Kumar	S-2020-08-034	
7.	Abhishek Bhardwaj	S-2020-08-001	
8.	Kamaljeet	S-2020-08-022	
9.	Kartik	S-2021-07-011	
10.	Rahul Rana	S-2021-08-028	
11.	PareshKatoch	S-2020-08-036	
12.	Vishal Thakur	S-2020-08-059	
13.	Divya	S-2020-08-018	<ul style="list-style-type: none"> • Winner (Basketball) in Intercollege games 2022-23 held on 14.11.2022 to 18.11.2022
14.	Sabnam Thakur	S-2020-08-042	
15.	Anshika	S-2020-08-012	
16.	Sakshi	S-2020-08-043	
17.	Tanisha	S-2020-08-036	
18.	Minakshi	S-2021-08-021	
19.	Akriti	S-2021-08-005	
20.	DiviyanshiUpadhyai	S-2021-08-014	
21.	Tulika Rana	S-2021-08-037	
22.	ShanuButail	S-2021-08-042	
23.	CharuKatoch	S-2020-07-012	
24.	Ritika	S-2020-07-030	<ul style="list-style-type: none"> • Runner up (Badminton) in Intercollege games 2022-23 held on 14.11.2022 to 18.11.2022
25.	Prashant	S-2021-08-	
26.	Nikhil	S-2020-08-033	
27.	Nikhil Kumar	S-2020-08-034	
28.	Rishav Chauhan	S-2020-08-40	
29.	Shiv Om Nirala	S-2020-08-051	<ul style="list-style-type: none"> • 2nd Position in Power lifting 74-83 Kg in Intercollege games 2022-23 held on 14.11.2022 to 18.11.2022
30.	Rahul Rana	S-2021-08-028	

31.	Divya	S-2020-08-018	<ul style="list-style-type: none"> 1st Position in Power lifting 57-63 Kg in Intercollege games 2022-23 held on 14.11.2022 to 18.11.2022
32.	Anjali Kumari	S-2020-07-007	<ul style="list-style-type: none"> 1st Position in Weight Lifting lifting 64.01-71 Kg in Intercollege games 2022-23 held on 14.11.2022 to 18.11.2022
33.	Tanisha Rana	S-2022-08-033	<ul style="list-style-type: none"> Runner up (Skit) in Intercollege games 2022-23 held on 14.11.2022 to 18.11.2022
34.	MehgnaKatoch	S-2022-08-016	
35.	Surbhi	S-2022-07-047	
36.	Tanushree	S-2022-07-050	
37.	KritiPawar	S-2022-07-027	
38.	AkashRajak	S-2021-08-003	
39.	Aryamn Sharma	S-2021-08-012	
40.	Vinesh Kumar	S-2020-08-058	
41.	Srijan Chauhan	S-2022-07-044	

6. GLIMPSES

College Activities



Sh. Chander Kumar Ji, Hon'ble Agriculture Minister, Govt of H.P. Visited to CGRT , COBS, CSK HPKV Palampur on 09.06.2023 to see the ongoing activities in Geo-informatics



Some pics of the pledge taking ceremony Cobs Cskhpv Palampur to mark the birth anniversary of Sardar Vallabhbhai Patel on 31-10-2022.



Sanskrit Samvad Camp (25.07.2022)



Sanskrit SambhasanShivir at University-level (03.09.2022)



World Environment Day (05.06.2023) with week-long activities



Educational Tour-2023



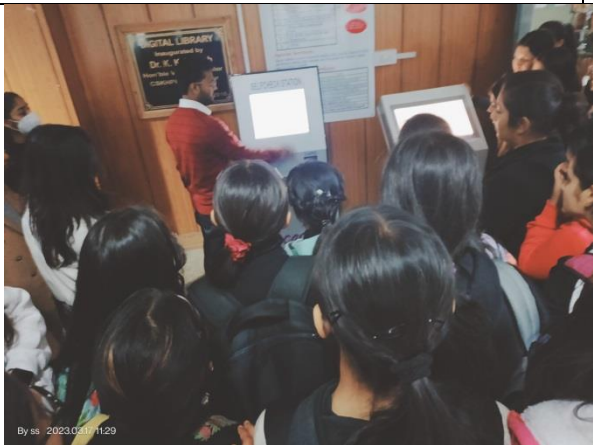
Visit of Regional Science Centre Palampur for students of B. Sc. 1st year (2022 batch) on 19.05.2023 by Tutor and Advisors



National Science Day 2023 on theme "*Global Science for Global Wellbeing*"



Regional Agricultural Fair (12-14 June 2023)



Visit of Library for B.Sc. First Year students (2022 batch) by Tutor (17.03.2023)

Activities carried out by NSS Unit



Art And Craft Work



Awareness Rally for Cleanliness



NSS Camp Closing Ceremony



Interaction of NSS volunteers



Lecture of Dr Sweety Goel, Ayurvedic Medical Officer



Poster Competition During National Science Day-2023



Prabhath pheri on the occasion of Meri Matti MeraDesh



Removal of Hemp and Weed form Camp of Gugha Saloh Mandir





Road Safety Campaign



Self Defence Training for NSS volunteers