

Department of Mathematics
Technical Skill Enhancement Program through Mathematics
Software
419 students benefitted

DEPARTMENT OF MATHEMATICS
Centre of Excellence, Govt. College Sanjauli, Shimla-6

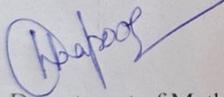
CERTIFICATE

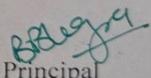
This is to certify that the **Department of Mathematics** has successfully introduced up-skilling program through three mathematical softwares under the *Technical Skill Enhancement Programme* during the academic year 2024-2025.

The programme was organized with the objective of enhancing computational proficiency, analytical capabilities, and technical competence among students.

Sr. No.	Software	Class	No. of Beneficiaries
1	MAXIMA	1 st Year	134
2	R-Software	2 nd Year	127
3	MATLAB	3 rd Year	158

This certificate is issued for official record and necessary purposes.


Head, Department of Mathematics


Principal
Centre of Excellence
Govt. College Sanjauli, Shimla-6 (H.P.)
GOVT. DEGREE COLLEGE
SANJAULI, SHIMLA-6

Department of Mathematics

List of Experiments performed in the session 2024-2025

MAXIMA Software:

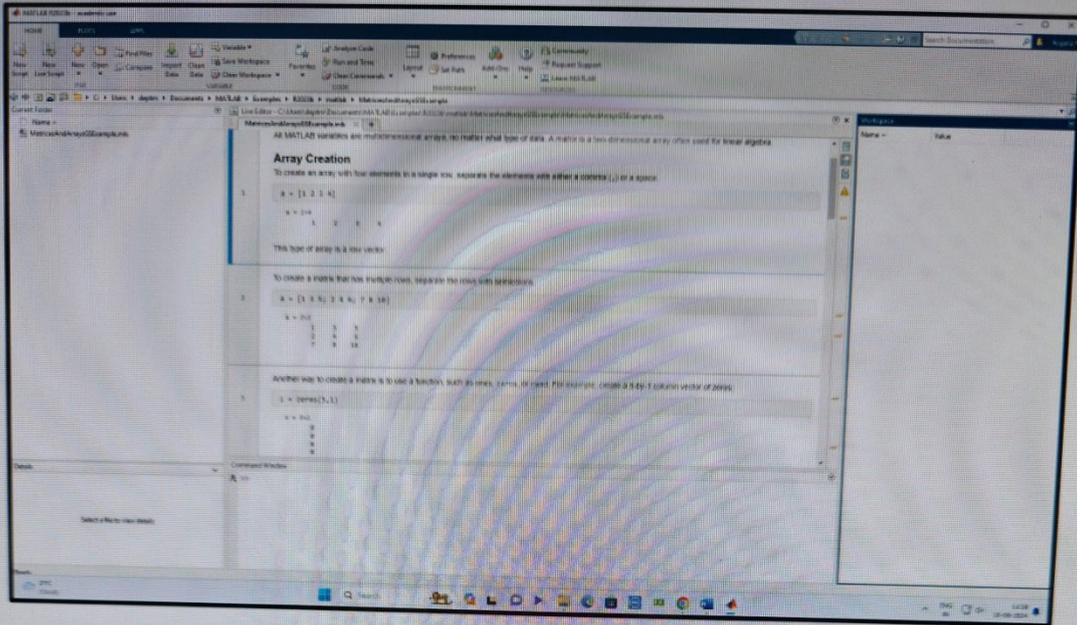
1. Use of MAXIMA software to do simple calculations.
2. Use MAXIMA Software for basic mathematical operations and functions.
3. How to add/remove variables.
4. 2D and 3D plots of Mathematical functions with MAXIMA.
5. Find Limit, Continuity and differentiability of functions using MAXIMA.
6. Find the sum of sequence of first n natural numbers.
7. Find the roots of equation by using Bisection method.

R-Software:

1. Use of R-Software as a calculator.
2. Use of R- Software for basic mathematical operators and mathematical functions.
3. How to assign variables in R.
4. How to create and use array in R.
5. Store results of calculations for later use.
6. How to create and solve a sequence.
7. Plotting of 2D and 3D graphs.

MATLAB:

1. How to write Mathematical expression in MATLAB.
2. How to create a Matrix and perform their different operations.
3. Matrix manipulation.
4. Variables, arrays and their operations in MATLAB.
5. Creating 2D and 3D graphs in MATLAB.
6. Polynomial handling in MATLAB.



Apparatus Name: MATLAB SOFTWARE

S. Singh
CO-ORDINATOR
STAR COLLEGE SCHEME
GOVT. COLLEGE SHIMLA-6

B. B. Bhatia
Principal
Centre of Excellence,
Govt. College Sanjauli,
Shimla-6 (HP)

Search

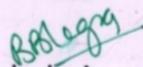


C.o.E, Govt. College Sanjauli, Dist. Shimla

(H.P.)

Practical Time Table

B.Sc. Ist Year (2024-25)

GROUPS	SUBJECT	DAYS
LIFE SCIENCES		
Group- A 24401001-24401050	Botany	Monday-Tuesday
	Zoology	Wednesday-Thursday
	Chemistry	Friday -Saturday
Group-B 24401051-24401100	Botany	Wednesday-Thursday
	Zoology	Friday -Saturday
	Chemistry	Monday-Tuesday
Group-C 24401101-24401130 24402001-24402040	Botany	Friday -Saturday
	Zoology	Monday-Tuesday
	Chemistry/Geology	Wednesday-Thursday
PHYSICAL SCIENCES		
Group-A 24451001-24451040 24453001-24453050 (Computer Science)	Physics	Friday Saturday
	Chemistry/Computer Science	Monday-Tuesday
Group-B 24451041-24451080 and 24452001-2016 and "onwards (Geology)	Physics	Monday-Tuesday
	Chemistry/Geology	Wednesday-Thursday
Group-C 24451081-24451100	Physics	Wednesday-Thursday
	Chemistry	Friday -Saturday
Timings: 2:00 to 4:00pm		
Note: All the students will attend the practical classes w.e.f. 09/08/2024.		
		 Principal



C.o.E, Govt. College Sanjauli, Dist. Shimla

(H.P.)

Practical Time Table

B.Sc. IInd Year (2024-25)

GROUPS	SUBJECT	DAYS
LIFE SCIENCES		
Group-A 223173001-79	Botany	Wednesday-Thursday
	Zoology	Friday- Saturday
	Chemistry	Monday-Tuesday
Group-B 223173080-148	Botany	Friday- Saturday
	Zoology	Monday-Tuesday
	Chemistry	Wednesday-Thursday
Group-C 223173150-219 and migrating students	Botany	Monday-Tuesday
	Zoology	Wednesday-Thursday
	Chemistry/Geology	Friday- Saturday
PHYSICAL SCIENCES		
Group-A 223173006-114	Physics	Friday-Saturday
	Chemistry	Monday-Tuesday
Group-B 223173118-220	Physics	Monday-Tuesday
	Chemistry	Wednesday-Thursday
Group-C Geology, Computer Science and migrating students	Physics	Wednesday-Thursday
	Geology/Computer Science	Friday-Saturday
Timings: 10:00 to 12:00pm		
Note: All the students will attend the practical classes w.e.f. 09/08/2024.		
		<i>B. B. B. B.</i> Principal

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113

C.o.E, Govt. College Sanjauli, Dist. Shimla
(H.P.)

Practical Time Table

B.Sc. IIIrd Year (2024-25)

GROUPS	SUBJECT	DAYS
LIFE SCIENCES		
Group- A 2221730002- 2221730089	Botany	Monday-Tuesday
	Zoology	Friday-Saturday
	Chemistry	Wednesday- Thursday
Group-B 2231730091- 2221730160	Botany	Wednesday- Thursday
	Zoology	Monday-Tuesday
	Chemistry	Friday-Saturday
Group-C 2221730161(including Geology) onwards and migrating students	Botany	Friday-Saturday
	Zoology	Wednesday- Thursday
	Chemistry/Geology	Monday-Tuesday
PHYSICAL SCIENCES		
Group-A 2221730001-0061	Physics	Monday-Tuesday
	Chemistry	Wednesday- Thursday
Group-B 2221730066-0145	Physics	Wednesday- Thursday
	Chemistry	Friday-Saturday
Group-C 2221730148 onwards and Geology, Computer Science and migrating students	Physics	Friday-Saturday
	Chemistry/Geology/Computer Science	Monday-Tuesday
Timings: 12:00 to 2:00pm		
Note: All the students will attend the practical classes w.e.f. 09/08/2024.		
		<i>B. Blegny</i> Principal

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**Yoga Workshop (1 week) conducted by Art of Living benefiting
200 students**



Sri Sri Gyan Mandir, The Palace, Fingask Estate, Near Kali Bari Shimla

Mob.:9418498666,

To
The Principal
Government College Sanjauli
Shimla, H.P.

Subject: Certificate of Conducting 6-Day Yoga Workshop

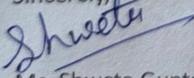
Respected Sir/Madam,

I, Ms. Shweta Gupta, Faculty of Art of Living, hereby state that I conducted a 6-day Yoga Session Workshop at Government College Sanjauli, Shimla, Himachal Pradesh, from 17 February 2025 to 22 February 2025.

The workshop was attended by more than 200 students who actively participated in various yoga practices, breathing techniques, meditation sessions, and interactive discussions on holistic well-being.

The sessions significantly enhanced students' awareness regarding physical fitness, mental well-being, and stress management. Participants reported improved concentration, emotional balance, and overall positivity in their daily academic and personal lives.

This letter is being issued for official and record purposes.

Sincerely,

Ms. Shweta Gupta
Faculty, Art of Living
Date: 22 February 2025.
Place: Shimla

Department of Zoology (Up-Skilling Workshop) (40 students)

Centre of Excellence
Govt. College Sanjauli

Certificate

Dated: 31 March 2025

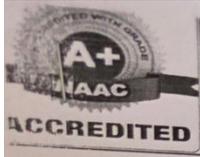
Certified that the Department of Zoology, Govt. College Sanjauli, successfully organised a one-day up-skilling workshop on “*Aquaculture and Melissopalnyological Studies of Honey*” on 7 December 2024 in which 40 students participated.

The workshop focused on important aspects of aquaculture, melissopalnyology, physiochemical analysis of honey, and environmental issues related to aquatic biodiversity, and provided participants with valuable academic exposure and interdisciplinary learning opportunities.

minalshi

Head of Department
Zoology
Govt. College Sanjauli

[Signature]
Principal
GOVT. DEGREE COLLEGE
SANJAULI, SHIMLA-6 (H.P.)



REPORT

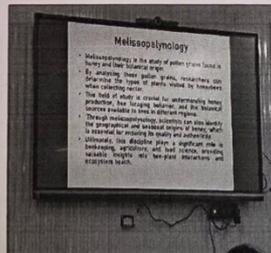
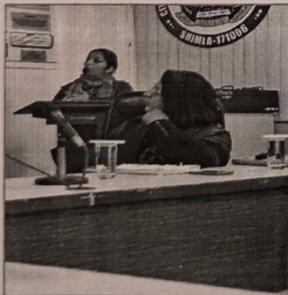
THE ZOOLOGY DEPARTMENT

“Workshop on Aquaculture & Melissopalynological Studies of Honey”

Date: 7th December 2024

Venue: Conference Hall

The Zoology Department of C.O.E. Govt. Degree College Sanjauli organized a Workshop on Aquaculture & Melissopalynological Studies of Honey. The event started with the welcome of the hon'ble speakers and the faculty members of the zoology department in the *conference hall* of Centre Of Excellence Govt. College Sanjauli. The first speaker of the day was Prof. Shiwani Seraik and she presented her presentation on the topic Melissopalynology & Physiochemical Analysis of Honey.



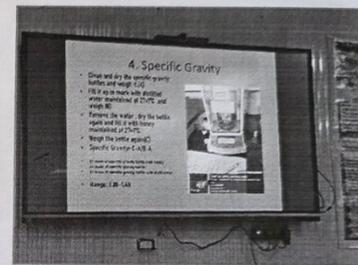
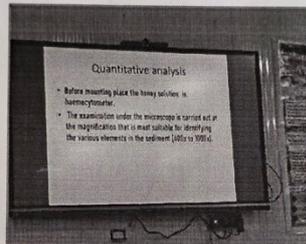
In their presentation Prof. Shiwani started with the basics and discussed and elaborated about the various important aspects of honey, various species of honey bees, their pasturage etc. the presentation also discussed various uses of honey bee products such as honey, bee pollen, royal jelly, apitoxin and beeswax.



REPORT

THE ZOOLOGY DEPARTMENT

The section of presentation dealing with the concept of “Melissopalynology” dealt with the discussion and preparation of pollen slides from honey samples, the quantitative analysis of honey and the significance of the whole process. The last few parts of the presentation shed light on the “Physiochemical Analysis of Honey” and aspects such as ph, moisture, specific gravity and HMF & Fiehe’s Test were discussed.



Students of other colleges were then invited to have a look on the posters presented by the students of the Zoology department.

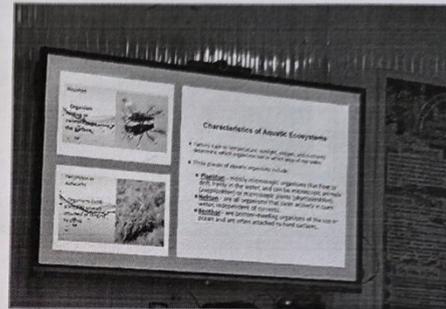
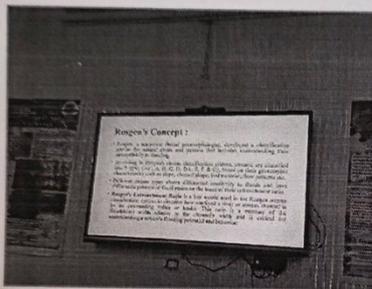


After the poster presentation the second guest speaker **Dr. Harinder Singh Banyal, Associate Prof. & Chairperson Dept. Of Bio Sciences, H.P.U.** presented his presentation on the topic “A perspective on environmental changes faced by fish faunal diversity in the lotic water bodies of Himachal Pradesh.”

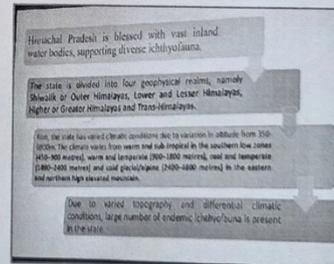


REPORT THE ZOOLOGY DEPARTMENT

Dr. Banyal started with the basic concepts such as the description of an aquatic system and its functions, he also *discussed various groups of aquatic organisms* such as: *planktons, nektons and benthos*, further covering concepts like *types of aquatic ecosystems, Rosgen's concept, flood plains and functions etc.*



Dr. Banyal emphasised on conservation of aquatic fauna and its importance in the mountainous regions of the Western Himalayas, especially in the state of Himachal Pradesh.



Dr. Banyal was then invited to have look at the poster presentation of the students of Zoology department.





REPORT THE ZOOLOGY DEPARTMENT

Dr. Shweta and Dr. Minakshi of Zoology Department then gave their vote of thanks, and the seminar ended with the national anthem



Centre of Excellence
Govt. College Sanjauli

Certificate

Dated: 31 March 2025

Certified that the Department of Zoology, Govt. College Sanjauli, successfully organised a one-day up-skilling workshop on "Aquaculture and Melissopalynological Studies of Honey" on 7 December 2024 in which 40 students participated.

The workshop focused on important aspects of aquaculture, melissopalynology, physicochemical analysis of honey, and environmental issues related to aquatic biodiversity, and provided participants with valuable academic exposure and interdisciplinary learning opportunities.

minakshi
Head of Department
Zoology
Govt. College Sanjauli

[Signature]
PRINCIPAL
GOVT. DEGREE COLLEGE
SANJAUJI, SHIMLA-6 (H.P.)



REPORT
THE ZOOLOGY DEPARTMENT

LIST OF STUDENTS

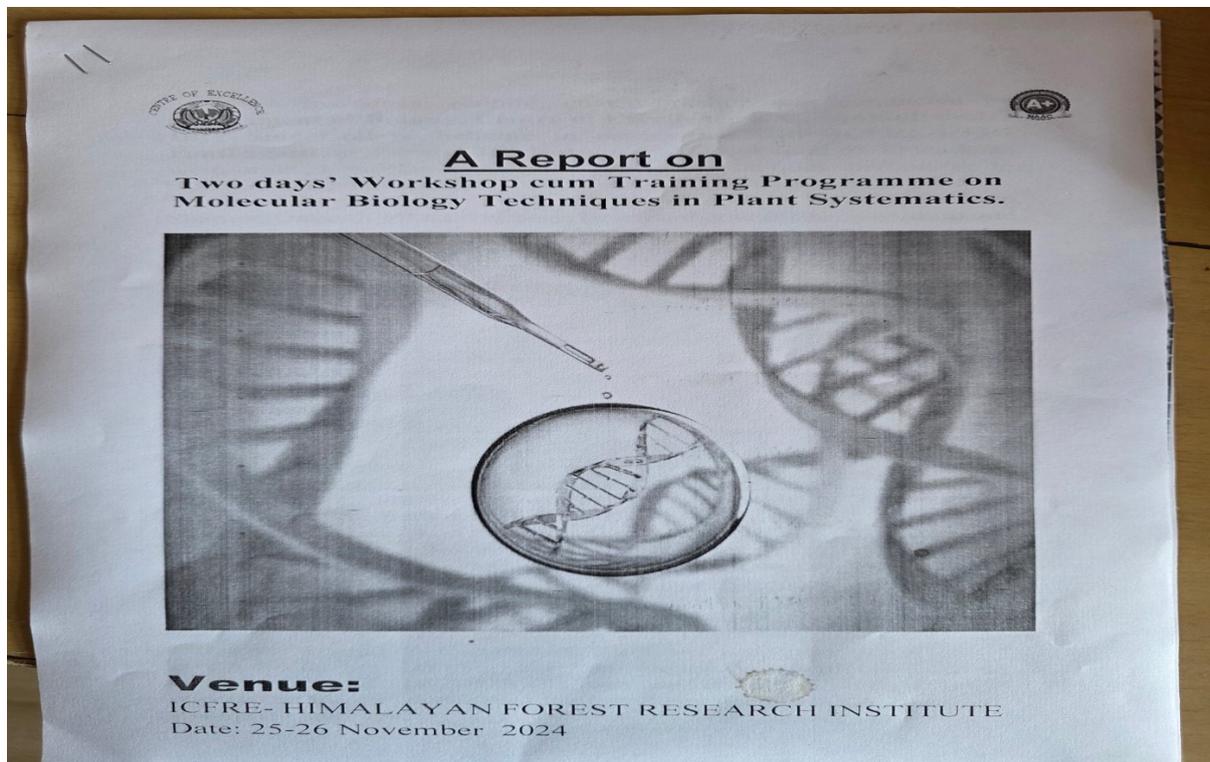
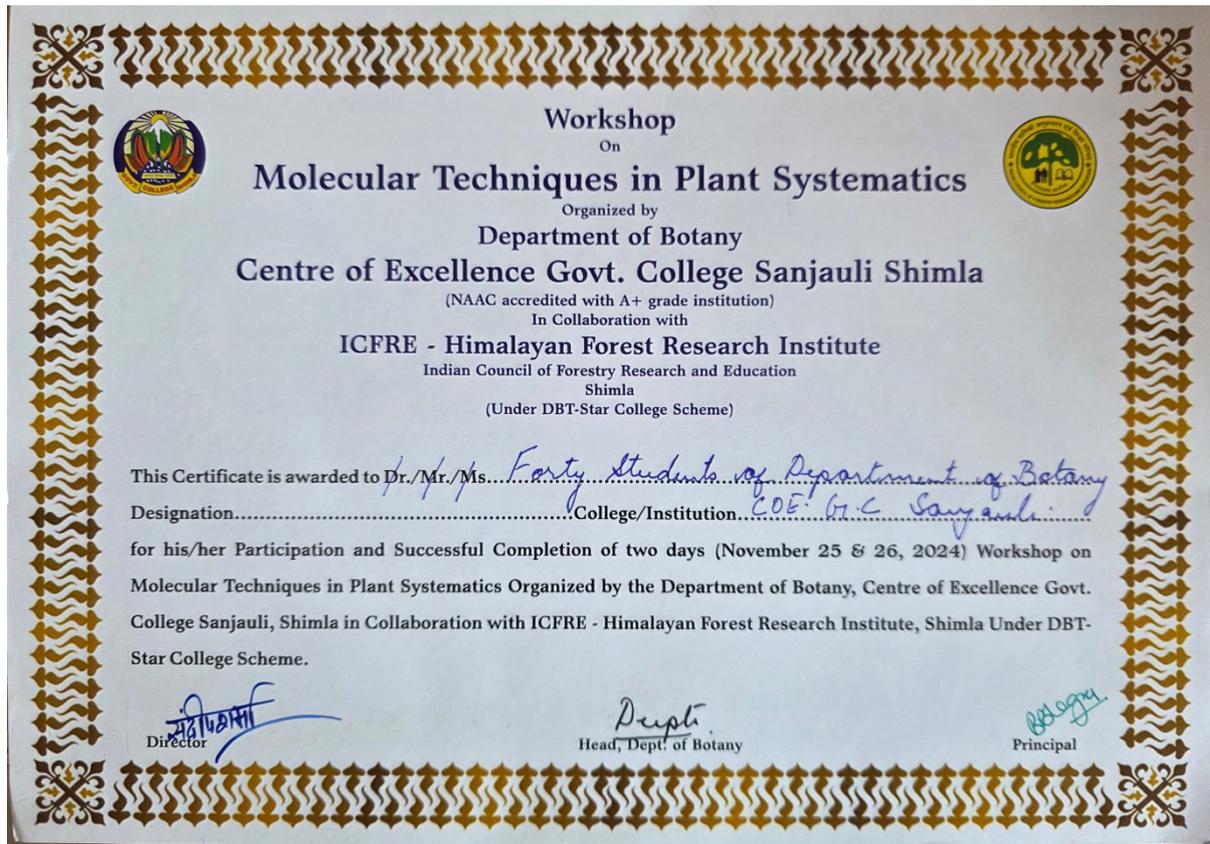
Sr. No.	Name	Roll No.	Class
1.	Arpita Vatshyan	2221730025	B.Sc. 3rd year
2.	Atul Thakur	2221730030	B.Sc. 3rd year
3.	Aditya Negi	2221720003	B.Sc. 3rd year
4.	Siddhant	2221720127	B.Sc. 3rd year
5.	Hricha Sharma	2221730064	B.Sc. 3rd year
6.	Gungun Thakur	2221730053	B.Sc. 3rd year
7.	Vineeta Negi	2221730191	B.Sc. 3rd year
8.	Ishan Thakur	2221730067	B.Sc. 3rd year
9.	Surya Kant Negi	2221730174	B.Sc. 3rd year
10.	Shreya Dogra	2221730159	B.Sc. 3rd year
11.	Himkiran Sharma	2221730063	B.Sc. 3rd year
12.	Himani Verma	2221730062	B.Sc. 3rd year
13.	Ritika Thakur	2221730135	B.Sc. 3rd year
14.	Kanika Sharma	2221730072	B.Sc. 3rd year
15.	Nityam	2221730114	B.Sc. 3rd year
16.	Mannat	2221730094	B.Sc. 3rd year
17.	Shreya Verma	2221730160	B.Sc. 3rd year
18.	Ishita	2221710007	B.Sc. 3rd year
19.	Sanjana	2221730147	B.Sc. 3rd year
20.	Shivangi	2221730157	B.Sc. 3rd year
21.	Ishansh Sanchyan	2221730068	B.Sc. 3rd year
22.	Lote Tanzin	2221730089	B.Sc. 3rd year
23.	Aditya Sharma	2221730009	B.Sc. 3rd year



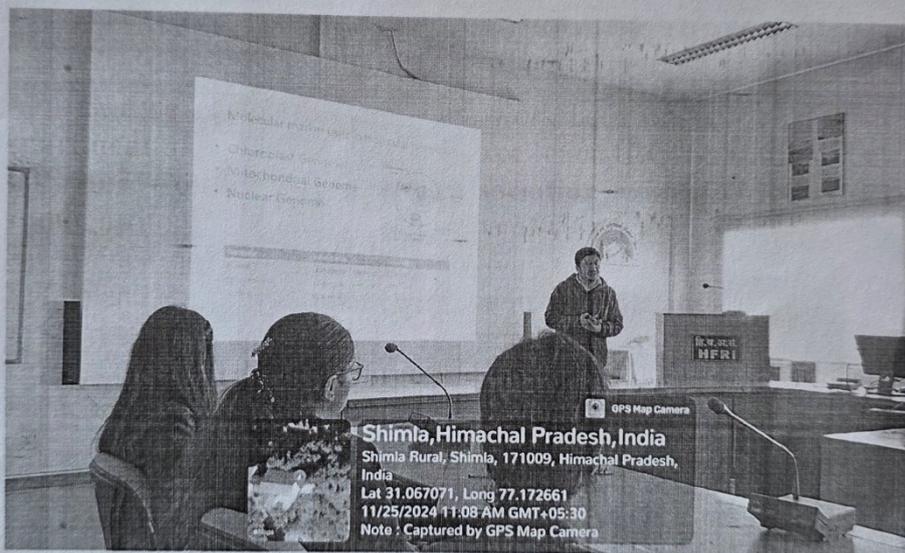
REPORT THE ZOOLOGY DEPARTMENT

24.	Yaditi Sharma	2221730192	B.Sc. 3rd year
25.	Manisha	2221730093	B.Sc. 3rd year
26.	Nishita Bhatia	2221730110	B.Sc. 3rd year
27.	Bipasha	2221730037	B.Sc. 3rd year
28.	Vineet Ronta	2231730209	B.Sc. 2nd year
29.	Nandini Verma	2231730104	B.Sc. 2nd year
30.	Tanisha	2231730187	B.Sc. 2nd year
31.	Diksha	2231730060	B.Sc. 2nd year
32.	Ved	2231730207	B.Sc. 2nd year
33.	Ayushi	2231730005	B.Sc. 2nd year
34.	Himani	2231730067	B.Sc. 2nd year
35.	Tanvi	2231730189	B.Sc. 2nd year
36.	Tripta	2231730193	B.Sc. 2nd year
37.	Aastha Rana	2231730045	B.Sc. 2nd year
38.	Vaishali Thakur	2231730198	B.Sc. 2nd year
39.	Kashish	2231730009	B.Sc. 2nd year
40.	Swapnil	2231730184	B.Sc. 2nd year

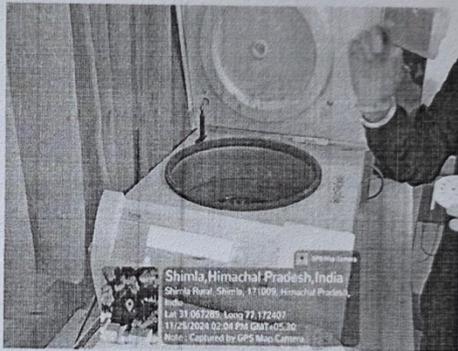
Department of Botany (Up-Skilling Workshop) (40 students)



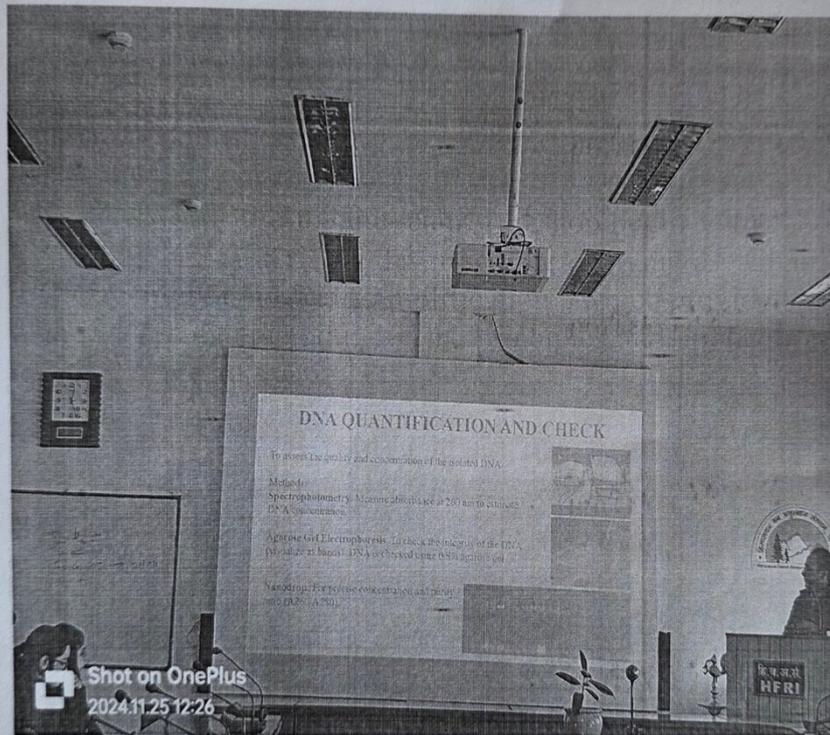
A two days' training cum workshop was conducted by **Department of Botany, Centre of Excellence G.C. Sanjauli under DBT Star College Scheme in association with ICFRE-HFRI Panthagatti** on 25th and 26th November 2024. A total of 40 students were trained in the molecular biology techniques pertaining to isolation and amplification of DNA and its role in plant identification. The workshop began with the inaugural address by Dr. Sandeep Sharma, Director HFRI. He discussed the theme of the workshop and informed about the importance of such events.



After inaugural address the workshop began with the lectures of eminent resource persons. The first lecture was delivered by Dr. M. Ibrahim (Scientist E) on "Introduction to Molecular Systematics in Plants." This was followed by second lecture by Dr. Bal Krishan Tiwari (Scientist C) who shared his expertise on "Steps and Principles of DNA Extraction for Plant Samples." This was followed by the lunch. In post lunch session the students were taken to lab for practical training related to DNA Extraction from plant samples. The lab staff headed by Dr. Tiwari demonstrated the extraction techniques for DNA isolation and the students were also given hands on training for the isolation, purification, and amplification of the DNA. It was an enriching and curious experience for the students to learn and practice the DNA isolation from plant samples.



The day two of the training cum workshop begin with the insightful lecture by Dr. Bal Krishan Tiwari on the “Polymerase Chain Reaction (PCR) technique for DNA amplification”, which provided participants with a deep understanding of the principles and applications of PCR in molecular biology.



This was followed by a practical demonstration and hands on training, allowing attendees to observe and perform the PCR process in action. The next practical session was regarding the “Gel Electrophoresis technique” through a detailed lecture and practical demonstration given by Dr. Bal krishan Tiwari, explaining its significance in DNA analysis. After a refreshing lunch break, the practical demonstration continued, offering additional clarity and practice.



The final lecture of the day given by Dr Antra Tiwari who focused on “DNA Sequencing and BLAST Analysis”, delving into the methods of DNA

sequencing and the use of BLAST for sequence analysis, highlighting their importance in modern biological research and plant taxonomy. She trained the students about the use of BLAST and FASTA software of DNA sequencing and matching. The day concluded with a valedictory session, where participants shared their experience and knowledge gained with each other. In the end the certificates were given to the students for successful completion of the training cum workshop. Overall, the sessions provided a perfect blend of theoretical knowledge and practical skills, significantly enhancing the participants knowledge related to molecular biology.

Schedule of the workshop cum Training Programme on Molecular Biology Techniques in Plant Systematics

	Time	
25-11-2024	10:00 to 10: 15	Registration
	10:15 to 10: 30	Inaugural Session
	10:30-10:45	Tea break
	Session 1	
	10:45 to 11: 30	Lecture 1: Introduction to Molecular Systematics in Plants
	11:30 to 12: 15	Lecture 2: Steps and Principles of DNA Extraction for Plant Samples
	12:15-1:00	Practical Demonstration – DNA Extraction from Plant Samples
	1:00-1:30	Lunch Break
	Session 2	
	1:30-5:30	Practical Demonstration – DNA Extraction from Plant Samples
26-11-2024	Day 2 (26 November 2024)	
	Session 1	
	10: 00-10:45	Lecture 1: Polymerase Chain Reaction (PCR) Technique for DNA Amplification
	10:45- 11:30	Practical demonstration of PCR
	11:30-11:45	Tea break
	11: 45-12:30	Lecture 2: Gel electrophoresis technique
	12:30-1:00	Practical demonstration of agarose gel electrophoresis technique
	1:00-1:30	Lunch break
	Session 2	
	1:30-2:00	Practical demonstration of agarose gel electrophoresis technique
	2:00- 3:00	Lecture and demonstration: DNA Sequencing and BLAST Analysis
	3:00PM	Valedictory Session and Certificate Distribution

संजौली कालेज में हुई बॉटनी विभाग की कार्यशाला

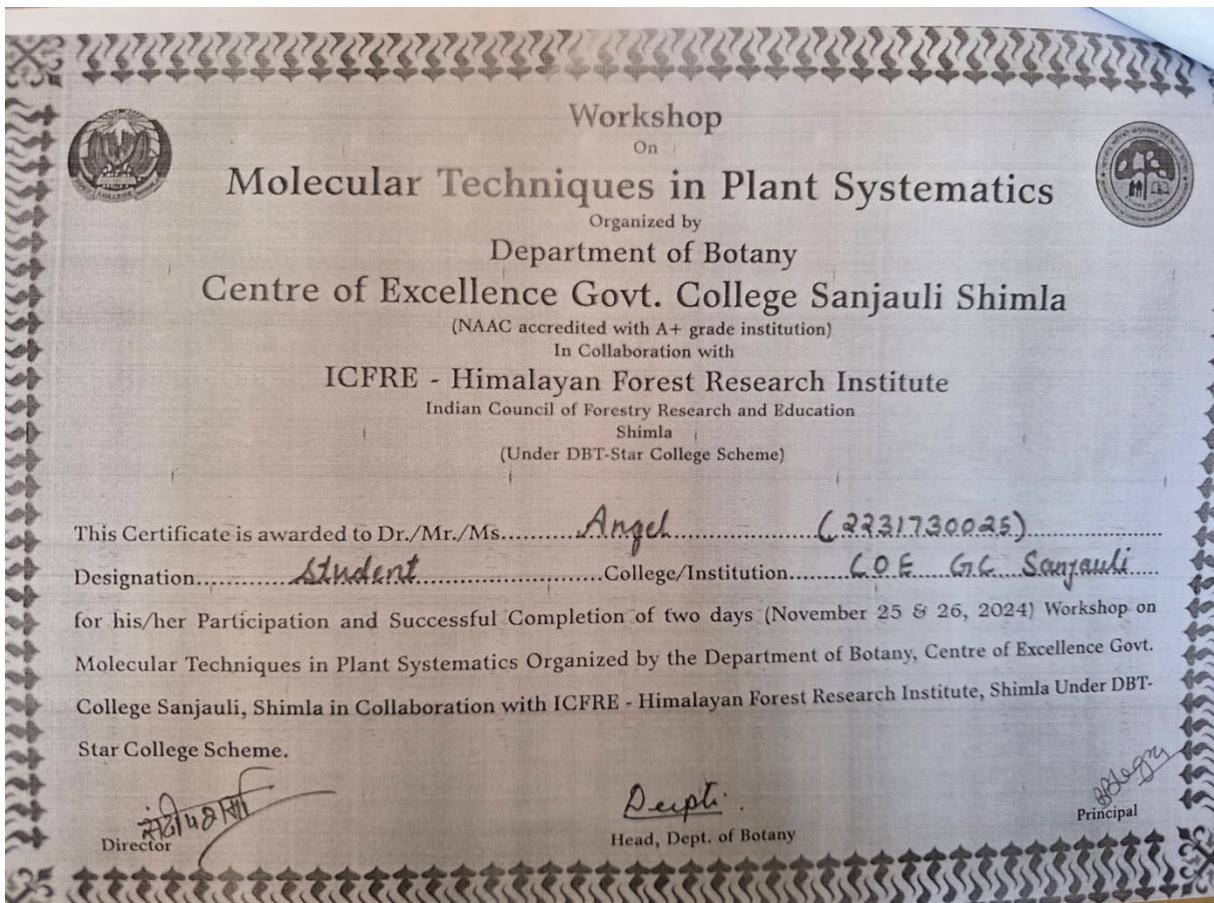
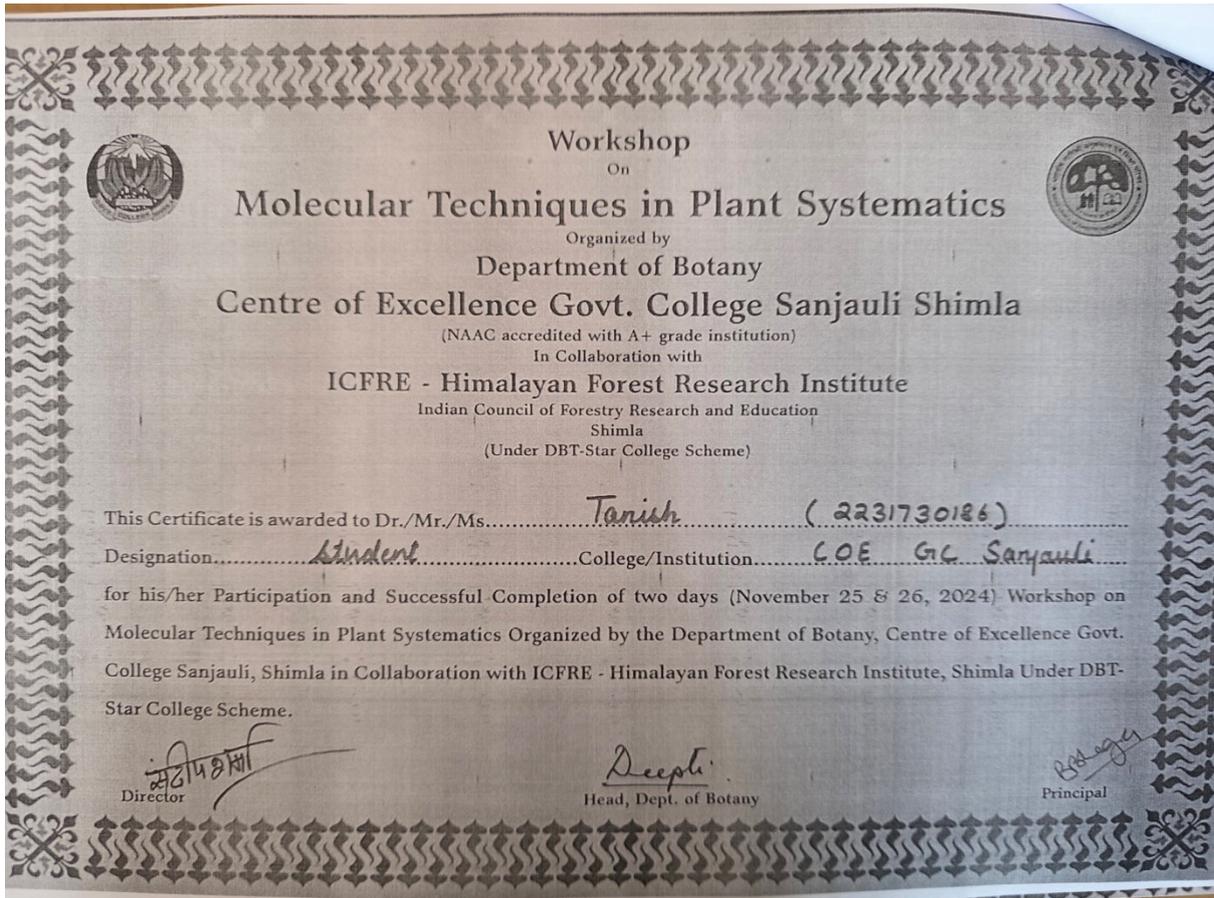


शिमला। सेंटर ऑफ एक्सोलेस संजौली कालेज के बॉटनी विभाग द्वारा सोमवार को एक कार्यशाला और व्यक्तिगत प्रशिक्षण का आयोजन किया गया। यह कार्यशाला हिमाचल वन अनुसंधान संस्थान के संग सहभागिता में मोलिक्यूलर बायोलॉजी टेक्निकस और प्लांट सिस्टमैटिक्स पर आधारित रही। इस प्रशिक्षण में प्रो. दीप्ति गुप्ता और प्रो. सुशील शर्मा संग 40 छात्रों ने भाग लिया। इस कार्यशाला में छात्रों को प्लांट सिस्टमैटिक्स से संबंधित मोलिक्यूलर बायोलॉजी टेक्निकस से वाकफ व व्यक्तिगत प्रशिक्षण में प्रायोगिक माध्यम से डीएनए एक्स्ट्रैक्शन करवाया गया।

संजौली कॉलेज में करवाया जीवों पर अध्ययन

शिमला। सेंटर ऑफ एक्सोलेस संजौली कॉलेज के बॉटनी विभाग ने हिमाचल प्रदेश वन अनुसंधान विभाग के साथ मिलकर सोमवार को कार्यशाला का आयोजन किया। मोलिक्यूलर बायोलॉजी टेक्निकस (जीवों का अध्ययन) और प्लांट सिस्टम विषय पर आयोजित कार्यशाला और प्रशिक्षण कार्यक्रम में शिक्षक दीप्ति गुप्ता तथा सुशील शर्मा सहित 40 छात्र-छात्राओं ने भाग लिया। इसमें छात्र-छात्राओं को प्लांट सिस्टमैटिक्स से संबंधित मोलिक्यूलर बायोलॉजी टेक्निकस के बारे में बताया। उन्होंने प्रायोगिक माध्यम से डीएनए एक्स्ट्रैक्शन करना सिखाया गया। ब्यूरो







Workshop

On

Molecular Techniques in Plant Systematics

Organized by

Department of Botany

Centre of Excellence Govt. College Sanjauli Shimla

(NAAC accredited with A+ grade institution)

In Collaboration with

ICFRE - Himalayan Forest Research Institute

Indian Council of Forestry Research and Education
Shimla

(Under DBT-Star College Scheme)

This Certificate is awarded to Dr./Mr./Ms. Adarsh (2331730013)

Designation Student College/Institution C.O.E. GC Sanjauli

for his/her Participation and Successful Completion of two days (November 25 & 26, 2024) Workshop on Molecular Techniques in Plant Systematics Organized by the Department of Botany, Centre of Excellence Govt. College Sanjauli, Shimla in Collaboration with ICFRE - Himalayan Forest Research Institute, Shimla Under DBT-Star College Scheme.

संदीप भर्गवा
Director

Deepthi
Head, Dept. of Botany

Pradyumn
Principal

Department of English
Up-Skilling Activity (1 week) (25 students)

CoE Govt. Degree College Sanjauli, Shimla

Department of English

Communication Skill Enhancement Activity

During the academic session 2024–2025, the Language Laboratory was effectively utilised to enhance students' English language skills, particularly in comprehension and pronunciation. Five regular sessions were conducted in September for 25 students to practice listening and speaking through audio-visual learning materials and interactive software.

Various activities such as listening exercises, pronunciation drills, and guided speaking practices were organised to help students understand correct pronunciation, stress, and intonation. These sessions also helped students improve their vocabulary and develop better listening comprehension.

The use of the Language Lab created an engaging learning environment and encouraged students to practice English confidently. As a result, students showed noticeable improvement in their pronunciation, comprehension, and overall communication skills.



21 day Up-Skilling Workshop
Acting and Personality Development (51 students benefitted)



Ref. no: 207/TP/2k24

The (Regd. 290/09)
Platform
Art & Culture Society, Shimla HP.

date: 28/10/2024

प्रमाण पत्र

यह प्रमाणित किया जाता है कि राजकीय महाविद्यालय संजौली, शिमला के 51 विद्यार्थियों ने अभिनय एवं व्यक्तित्व विकास पर आयोजित 21 दिवसीय अभिमुखीकरण कार्यक्रम में सफलतापूर्वक सहभागिता की।

यह कार्यक्रम 1 अक्टूबर 2024 से 21 अक्टूबर 2024 तक आयोजित किया गया, जिसका उद्देश्य विद्यार्थियों के अभिनय कौशल, आत्म-विश्वास, संप्रेषण क्षमता तथा समग्र व्यक्तित्व विकास को सुदृढ़ करना था।

कार्यक्रम के दौरान सभी प्रतिभागियों ने प्रत्येक सत्र में सक्रिय रूप से भाग लिया तथा कार्यशाला की संपूर्ण अवधि में गंभीर एवं सराहनीय सहभागिता प्रदर्शित की।

संस्था सदैव सभी प्रतिभागियों के उज्ज्वल भविष्य की कामना करते हैं।

Ajay Sharma
President
The Platform, Shimla

Department of Geography
4-day Up-Skilling Exercise
“Field Technique and Survey” (42 students benefitted)



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Centre of Excellence

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Dated: 2/12/2024

Certificate of Participation

This is to certify that forty-two (42) students from the Department of Geography, BA III Skill Course, Government Degree College (COE), Sanjauli, Shimla, actively participated in a Four-Day Field Technique and Survey Exercise conducted in Baga Sarahan Village (H.P).

Faculty Members:

- Dr. Khyal Chand (Course Teacher)
- Mona Sharma (Head of Department)
- Dr. Adarsh Sharma (Assistant Professor)

Students: 42 participants, divided into 6 thematic groups.

Objectives: The survey explored dynamic geographical and socio-economic transformations in Sarahan Village, focusing on key themes including:

- Demographic dynamics
- Sociocultural changes
- Cropping patterns
- Economic development
- Climate change impacts
- Disaster risk reduction strategies

This hands-on exercise enhanced students' skills in data collection, data analysis, and report writing, while providing practical insights into research methodology and analysis.

Mona Sharma
Head of Department
Department of Geography
Government Degree College (COE), Sanjauli, Shimla

Principal
Centre of Excellence
Govt. College Sanjauli
Shimla-171006, HP



November 25-
28, 2024
*Geographical
Field Survey*

Understanding the Changing Geographies of Baga Sarahan Village, Kullu Himachal Pradesh



Participants:
Faculty Members:
Dr. Khyal Chand (Course Teacher)
Mona Sharma (Head of Department)
Dr. Adarsh Sharma (Assistant Professor)
Students: 42, divided into 6 thematic groups.

Objectives of the Survey

The survey aimed to understand the dynamic geographical and socio-economic transformations in Sarahan Village.

The study addressed key themes such as demographic dynamics, socio-cultural changes, cropping patterns, economic development, climate change impacts, and disaster risk reduction strategies



Acknowledgements

We express our deepest gratitude to the following for their invaluable support in making this field survey a success:

1. **Principal, GC Sanjauli:**

For providing the necessary resources and institutional support to conduct this field survey.

2. **Head of Department, Geography (Mona Sharma) Faculty member Dr. Adarsh Sharma:**

For her guidance, leadership, and unwavering encouragement throughout the planning and execution of this study.

3. **Villagers of Sarahan:**

For their warm hospitality, cooperation, and willingness to share their experiences and insights, which formed the cornerstone of our research.

4. **Students:**

For their dedication, teamwork, and enthusiastic participation in exploring the themes and contributing to the findings of this survey.

Your contributions have been instrumental in the success of this endeavor, and we are truly grateful.

(Dr. Khyal Chand)
Assistant Professor, Geography
GC Sanjaul



Methodology

- **Group Division:** Students were divided into six thematic groups to specialize in distinct but interconnected aspects of the village's changing geographies.
- **Data Collection Techniques:**
 - Structured and semi-structured interviews with local residents.
 - Field observations.
 - Focus group discussions.
 - Questionnaires tailored to each thematic area.



Thematic Analysis

1. Demographic Dynamics

- Observations on population growth trends, migration patterns, and age demographics.
- Identification of changes in household structures and dependency ratios.
- Insights into gender-based roles within the community.

2. Socio-Cultural Change

- Analysis of shifts in traditions, festivals, and rituals due to external influences.
- Assessment of the role of education in changing social attitudes.
- Examination of caste-based dynamics and their current relevance.

3. Changing Cropping Patterns

- Study of agricultural practices, including crop diversification.
- Insights into the introduction of cash crops such as apple cultivation.
- Impact of changing irrigation methods and the adoption of technology.

4. Economic Development

- Role of tourism as a growing economic activity in Sarahan.
- Understanding employment trends, including migration to urban areas for work.
- Assessment of local entrepreneurial initiatives and government interventions.

5. Impact of Climate Change on the Local Community

- Documentation of changes in seasonal patterns and their impact on agriculture.
- Local perceptions of glacier melting, water scarcity, and unpredictable weather events.
- Adaptive measures taken by the community to mitigate climate-induced risks.

6. Disaster Risk Reduction

- Identification of vulnerabilities to natural disasters, including landslides and flash floods.
- Assessment of community awareness regarding disaster preparedness.
- Evaluation of government and non-governmental efforts in disaster mitigation.



Changing Demographic, Health and Family Planning patterns of Bagha Sarahan Village of Kullu

Respondent No.....

Date.....

Map ID.....

Name of Head of the household.....

Caste.....

Section 1: Household Demographics

Sr No	Name	Relation With Head of The Household	Gender	Age	Marital Status	Age At First Marriage	Education Received	Language Spoken	Occupation		Vulnerability*
									Main Occupation	Subsidiary Occupation	
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											

*Code for Vulnerability: A. Blind B. Dumb C. Deaf D. Chronic Illness

Section 2: Housing and Living Conditions

1. Type of house:

Kutchra
Semi-pucca
Pucca

2. Source of drinking water:

Public tap
Handpump
Household connection
Other (Specify):

3. Access to sanitation facilities:

Open defecation
Shared toilet
Own toilet

4. Cooking fuel used:

Firewood
LPG
Biogas
Other (Specify):

Section 3: Health and Healthcare Access

5. Are there any members in your household with chronic illnesses?

Yes
No
If yes, specify:

6. Have any household members been hospitalized in the past year?

Yes
No

7. Where do you seek medical care?

Government hospital
Private clinic
Traditional healer
Other (Specify):

8. Do you have access to health insurance?

Yes
No

9. Do you rely on traditional medical systems for treatment?

Yes
No

If yes, please provide the following details:
Type of Illness Traditional Medicine Used

2. **Do you believe in or practice magic healing for illnesses?**

Yes

No

If yes, please provide the following details:

Type of Illness Type of Magic Healing Used

Section 4: Family Planning

16. **Are you aware of family planning methods?**

Yes

No

17. **If yes, which methods are you familiar with?**

Condoms

Oral contraceptives

Sterilization (Male/Female)

Natural methods

Other (Specify):

18. **Do you or your partner currently use any family planning method?**

Yes

No

19. **If no, what are the reasons for not using family planning methods?**

Lack of awareness

Religious/cultural beliefs

Side effects/health concerns

Other (Specify):

Section 5: Birth Rate and Death Rate

20. **How many live births have occurred in your household in the past year?**

Number: _____

21. **Did any of the live births in the past year take place in a healthcare facility?**

Yes

No

Death Rate

22. How many deaths have occurred in your household in the past year?

Number: _____

23. What was the age group of the deceased individuals? (Select all that apply)

Infant (0–1 year)
Child (1–12 years)
Adult (13–60 years)
Elderly (60+ years)

24. What was the primary cause of death?

Illness (specify): _____
Accident
Old age
Other (specify): _____

25. Did the deceased receive any medical treatment before passing?

Yes (Specify the type: _____)
No

26. Where did the death occur?

At home
At a healthcare facility
Other (specify): _

Section 6: Migration

Has any member of your family migrated and settled outside the native area?

Yes
No
If yes, mention the time period of migration:

27. What is their current profession?

28. Have you or they purchased land or built houses outside the native area?

Yes

No

If yes, please provide details and explain the reasons for migration:

Details: _____

Reasons: _____

29. **What is the name of the area they have migrated to?**

Any Other Observation:

**Dynamics of Socio-Cultural Geography of Baga Sarahan Village: A
Households Level Study**

Respondent No.....

Date.....

Map ID.....

Name of Head of the household.....

Caste.....

1. Gender of the Household Head:

- Male
- Female
- Other

2. What is the total number of family members?

Males: _____
Females: _____

3. Education Level of the Household Head:

- a) Illiterate
- b) Primary
- c) Secondary
- d) Higher Secondary
- e) Graduate or above

4. Occupation of the Household Head:

- a) Agriculture
- b) Livestock Rearing
- c) Daily Wage Labor
- d) Business
- e) Government/Private Job
- f) Other: _____

5. What is the type of your house?

- a) Kutcha
- b) Semi-pucca
- c) Pucca

Section 2: Cultural Practices (10 Questions)

9. Which religion does your family practice?

- a) Hinduism
- b) Islam
- c) Buddhism
- d) Other: _____

10. What languages are spoken in your household?

- a) Hindi
- b) Pahari
- c) Other: _____

11. What festivals are celebrated in your family?

- a) Dussehra
- b) Diwali
- c) Local Fairs (Specify): _____

Other: _____

12. Do you follow any specific traditional rituals regarding worship?

- a) Yes
- b) No
- c) If yes, specify: _____

13. What traditional attire is worn on special occasions?

Specify: _____

14. Do you have family-specific customs for marriages or other ceremonies?

- a) Yes
- b) No
- c) If yes, specify: _____

15. Are there any significant folk songs or dances your family participates in?

- a) Yes
- b) No
- c) If yes, specify: _____

16. What type of traditional food is prepared in your household?

Specify: _____

17. Are cultural values and traditions passed on to younger generations?

Yes
No

18. Do you face challenges in maintaining traditional practices?

- a) Yes
 - b) No
 - c) If yes, specify: _____
-

Section 3: Social Structure and Relationships (10 Questions)

19. Is there a hierarchical structure within the village community?

Yes
No

20. Does your family participate in village-level decision-making processes?

Yes
No

21. Are there any traditional leaders in your village?

Yes
No

22. Do you engage in community activities such as fairs or festivals?

Yes
No

23. How often do you visit Neighboring households or relatives?

- a) Frequently
- b) Occasionally
- c) Rarely

24. Do you have inter-community marriages in your family?

Yes
No

25. How do you view inter-caste marriage in your society?

- a) A social taboo
- b) permissible custom

26. Is widow marriage permitted in your family? Yes/No

27. Do you practice polyandry/polygamy?

Yes

No

28. Are there any disputes related to land, resources, or customs in the community?

a) Yes

b) No

c) If yes, specify: _____

29. Do you share resources (e.g., water, labor) with neighbours?

Yes

No

30. What is the role of women in decision-making in your household?

Significant

Moderate

Limited

History of Village:

Any other Observation:

Changing Patterns of Economic Activities of Baga Sarahan Village: A Households Level Analysis

Respondent No.: _____

Map ID: _____

Name of the Household Head: _____

Age

Below 18: _____

18–35: _____

36–60: _____

Above 60: _____

What are the primary sources of income for your household? (Rank them in order of importance: 1=highest)

Activity	Income
Agriculture	
Animal husbandry	
Horticulture	
Wage labor	
Government job	
Private job	
Tourism-related activities	

Ownership of Land	Irrigated Land	Unirrigated Land	Total
Area Leased in			
Area Leased out			
Operational Holding			
Uncultivated Land			
Net Cultivated Area			

Others (specify): _____

Land Holding Characteristics (Bigha)

Agricultural Inputs and Output:

Do you use agricultural inputs? Yes/ No, if yes, please provide following information...

Agricultural Inputs	Yes	No	Area under inputs (Bigha)	Quantity (Kg)	Name of Crop	Total Cost (Rs.)	Price (Rs)
Manure							
Fertilizers							
HYV Seeds							

Equipments Used for Farming

Types	Iron Plough	Thresher	Crusher	Spray pump	Maize Sheller	Any other
Modern						
Traditional						

Crops and their outputs (Kg)

Main Crops	Area	Sowing Time	Harvesting Time	Production of Crop(kg)	Total Output (Rs. /Unit of Land)
Wheat					
Maize					
Jowar					
Bajara					
Vegetable					
Peas					
Potato					
Garlic					
Apple					
Any other crop					

Inventory of Livestock

Livestock	Number	Yield per day	Lactation Period	Expenditure		
				Stall Fed	Grazing	Total
Cow						
Bullocks						
Sheep						
Goats						
Poultry						
Any Other						
Total						

Have you taken the loan during last 5 years? Yes/No if yes, please supplement the following information

Types	Source	Amount	Interest Rate	Payment Period	Amount Paid Back	Outstanding Amount

Purpose of Loan	Purpose of Utilization	Difficulties faced by Loanee

Are you aware of government schemes promoting livelihood and agriculture?

Yes

No

Have you availed of any schemes in the last 5 years?

Yes

No

If yes, specify the scheme(s): _____

How have these schemes impacted your household's economic condition?

Positively

Negatively

No impact

Any Other Observations:

Changing Cropping Patterns of Baga Sarahan Village: A Micro Level Analysis

Respondent No.: _____

Map ID: _____

Name of the Household Head: _____

Age

Below 18: _____

18–35: _____

36–60: _____

Above 60: _____

What crops do you currently cultivate? (List all): 1.
2.

What were the main crops grown 50 years ago? _____

Have you switched from subsistence crops to cash crops?

Yes

No

What factors influenced the change in cropping patterns?

Market demand

Climate change

Government schemes

Others: _____

How many crop cycles do you have in a year? _____

Are there any new crops you have introduced in the last decade?

Yes (Specify): _____

No

Have you discontinued cultivating any crops?

Yes (Specify): _____

No

What type of seeds do you use?

Traditional

Hybrid

Genetically Modified (GM)

Where do you source your seeds from?

Local market

Government centers

Private companies

Do you use chemical fertilizers?

Yes

No

If yes, what type and quantity (per acre)? _____

Do you use organic fertilizers?

Yes

No

What is your primary source of irrigation?

Rainwater

Canal

Tube well

Others: _____

Do you use modern farming equipment?

Yes (Specify): _____

No

Have you adopted any sustainable agricultural practices (e.g., crop rotation, organic farming)?

Yes (Specify): _____

No

What percentage of your income is derived from crop farming? _____

Has the income from agriculture increased or decreased in the past decade?

Increased

Decreased

No change

What is the average cost of cultivation per crop cycle (per acre)? _____

How do you sell your crops?

Local market

Middlemen

Direct to consumers

Others: _____

Are you aware of any government schemes related to agriculture?

Yes

No

Have you availed benefits from any schemes?

Yes (Specify): _____

No

What types of support do you think are most beneficial?

Financial

Technical

Training

Subsidized inputs

Have government schemes influenced your cropping pattern decisions?

Yes

No

What challenges do you face in accessing government schemes? _____

Any other observation:

**Assessing Impact of
Climate Change on Rural
Livelihoods: A Case Study
of Bhaga Sarahan Village of
Kullu District, H.P.**

**Respondent
No.....**

Date.....

Map ID.....

Name of Head of the household.....

Caste.....

Section 1: Demographics

1. Name of Respondent:

2. Age:

3. Gender:

- a. Male
- b. Female
- c. Other

4. Education Level:

- a. Illiterate
- b. Primary
- c. Secondary
- d. Higher Secondary
- e. Graduate or above

5. Primary Occupation:

- a. Agriculture
- b. Livestock Rearing
- c. Labor Work
- d. Small Business
- e. Other (Specify): _____

Section 2: Climate Change Awareness

6. **Have you noticed any changes in the climate over the past 30 years?**

Yes

No

7. **If yes, what changes have you observed?**

- a. Increase in temperature
- b. Changes in rainfall patterns
- c. Prolonged droughts
- d. Increased frequency of floods
- e. Melting snow/glacial retreat
- f. Other (Specify): _____

8. **Do you think these changes are affecting your livelihood?**

- Yes
- No

Section 3: Impact on Agriculture and Livelihoods

9. **How has climate change affected your agricultural activities?**

- a. Decreased crop yields
- b. Shifts in sowing/harvesting seasons
- c. Increased pest attacks/diseases
- d. Water shortages for irrigation
- e. Other (Specify): _____

10. **Have you had to change the crops you cultivate due to climate change?**

Yes

No

11. **If yes, what crops did you shift from and to?**

From: _____

To: _____

12. **What percentage of your household income is derived from agriculture?**

- a. Less than 25%
- b. 25%–50%
- c. 50%–75%
- d. More than 75%

13. **Have you or any household member had to migrate for work due to climate-related issues?**

Yes
No

Section 4: Impact on Natural Resources

14. Have you experienced changes in water availability?

Yes
No

15. If yes, what is the main source of water for your household, and how has it been affected?

Source: _____
Impact: _____

16. Have forests or grazing lands in your area been impacted?

Yes
No

17. If yes, how has this affected your livelihood?

- a. Reduced fodder availability
 - b. Loss of fuelwood sources
 - c. Reduced biodiversity
 - d. Other (Specify): _____
-

Section 5: Adaptation Strategies

18. Have you adopted any strategies to cope with climate change impacts?

Yes
No

19. If yes, what strategies have you adopted? (Select all that apply)

- a. Diversifying crops
- b. Water conservation techniques
- c. Improved seeds/farming techniques
- d. Livelihood diversification (e.g., taking up non-farming jobs)
- e. Other (Specify): _____

20. Do you receive any support or training for adapting to climate change?

Yes
No

21. If yes, who provides the support?

- a. Government schemes
 - b. NGOs
 - c. Community groups
 - d. Other (Specify): _____
-

Section 6: Perception and Future Concerns

22. What do you think is the main cause of climate change?

- a. Natural processes
- b. Human activities
- c. Not sure

23. What is your biggest concern related to climate change?

- a. Food security
- b. Water scarcity
- c. Health impacts
- d. Loss of income
- e. Other (Specify): _____

24. What additional support do you need to cope with climate change impacts?

Any other Observation:

**Voices from the Ground: Understanding Village-Level Perceptions of
Disasters: A case study of Baga Sarhan Village**

Respondent No.....

Date.....

Map ID.....

Name of Head of the household.....

Age.....

Section 1: General Information

1. **What is your age?**
2. **What is your gender?**
 - Male
 - Female
 - Other
3. **What is your educational level?**
 - i. No formal education
 - ii. Primary school
 - iii. Secondary school
 - iv. Higher education
4. **How long have you lived in this village?**
5. **What is your main occupation?**
 - i. Farming
 - ii. Livestock rearing
 - iii. Business
 - iv. Government service
 - v. Other (please specify)

Section 2: Awareness of Disasters

6. **Which types of natural disasters are you aware of? (Check all that apply)**
 - i. Earthquakes
 - ii. Floods
 - iii. Landslides
 - iv. Droughts
 - v. Forest fires
 - vi. Others (please specify)
7. **How often do you experience natural disasters in your area?**
 - i. Rarely
 - ii. Occasionally
 - iii. Frequently
8. **Do you think your village is prone to disasters?**
 - i. Yes
 - ii. No
 - iii. Don't know
9. **Have you or anyone you know been directly affected by a disaster?**

Yes

No

10. In your opinion, what is the most likely disaster to affect your village?

- i. Earthquake
- ii. Flood
- iii. Landslide
- iv. Others (please specify)

Section 3: Impact of Disasters

11. How would you describe the impact of past disasters on your village?

- i. Minimal
- ii. Moderate
- iii. Severe

12. What do you think is the biggest consequence of disasters for your community?

- i. Loss of lives
- ii. Property damage
- iii. Economic loss
- iv. Loss of crops and livestock
- v. Other (please specify)

13. How do disasters affect your daily life?

- i. Greatly
- ii. Moderately
- iii. Little

14. Do you think that disasters have a long-term effect on the village's development?

- i. Yes
- ii. No
- iii. Don't know

Section 4: Preparedness and Risk Mitigation

15. Is there a disaster preparedness plan in your village?

Yes
No

16. Have you ever participated in disaster preparedness activities in your village?

Yes
No

17. Do you feel prepared to handle a disaster if it happens?

Yes

No

18. Do you know where to find disaster relief resources (shelters, food, water)?

Yes

No

19. What measures do you think should be taken to reduce disaster risks in your village?

- i. Building stronger infrastructure
- ii. Training for disaster response
- iii. Early warning systems
- iv. Other (please specify)

20. Do you trust local authorities to manage disaster preparedness and response effectively?

- i. Yes
- ii. No
- iii. Sometimes

21. Do you have access to any warning systems (e.g., sirens, mobile alerts) about potential disasters?

Yes

No

Section 5: Community Resilience

22. In your opinion, how resilient is your community in recovering from disasters?

- i. Very resilient
- ii. Moderately resilient
- iii. Not resilient

23. What role do community leaders play in disaster management in your village?

- i. Very important
- ii. Somewhat important
- iii. Not important

24. Does the community come together to help one another during and after disasters?

- i. Yes, always
- ii. Sometimes
- iii. Never

25. Have you received any help from outside the village (government, NGOs) after a disaster?

Yes
No

26. Do you think more education on disaster preparedness is needed in your village?

Yes
No

27. Would you be willing to participate in community-based disaster response training?

Yes
No

Section 6: Perceptions of Government and External Support

28. How satisfied are you with the government's disaster response in your village?

- i. Very satisfied
- ii. Somewhat satisfied
- iii. Not satisfied

29. Do you think non-governmental organizations (NGOs) provide sufficient support during disasters?

Yes
No
Not sure

30. What improvements do you think should be made in disaster response at the village level?

- i. Better communication
- ii. Faster response times
- iii. More resources and relief supplies
- iv. Other (please specify)

Any Other Observation



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Dated: 2/12/2024

*Department of Geography
Up-Skilling Workshop
42 students benefitted*

Certificate of Participation

This is to certify that forty-two (42) students from the Department of Geography, BA III Skill Course, Government Degree College (COE), Sanjauli, Shimla, actively participated in a Ten-Day Workshop on Geographical Information Systems (GIS).

The workshop provided hands-on training in key GIS software, including ArcGIS, QGIS, Google Earth Engine, and Global Mapper. It equipped students with essential skills in software usage, spatial analysis, and quick mapping techniques.

This is to further certify that six (6) students from the BA III Skill Course, Department of Geography, Government Degree College (COE), Sanjauli, Shimla, participated in a one-week hands-on GIS training program organized by the Himachal Pradesh Remote Sensing Cell (HPRSC), under the Himachal Pradesh Council for Science, Technology & Environment (HIMCOSTE).

The training focused on key GIS software—ArcGIS, QGIS, Google Earth Engine, and Global Mapper—enabling students to gain proficiency in spatial analysis and mapping techniques relevant to ongoing field studies at Baga Sarahan Village.

Mona Sharma
Head of Department
Department of Geography
Government Degree College (COE), Sanjauli, Shimla

Principal
Centre of Excellence
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