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**Criterion no:** 6.5.3

**Criterion Details:** Quality assurance initiatives of the institution include.

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# **NAAC Accreditation Certificate**



## राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद

विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान

**NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL**

An Autonomous Institution of the University Grants Commission

# Certificate of Accreditation

The Executive Committee of the  
National Assessment and Accreditation Council  
is pleased to declare the  
Tula's Institute

Mehre Ka Gaon, Dehradun, affiliated to Uttarakhand Technical University and  
Sri Dev Suman Uttarakhand Vishwavidyalay, Uttarakhand as  
Accredited

with CGPA of 3.34 on four point scale

at A+ grade

valid up to April 25, 2027

Date : April 26, 2022



C. C. Deo  
Director

*divyajay*  
Director  
Tula's Institute, Dehradun

# **IQAC Minute of Meetings (MOM)**

Ref. No.: Tula's/IQAC/1222/02

Date: 15.12.2022

## NOTICE

This is to inform you that the 34<sup>th</sup> meeting of IQAC will be held at IQAC Room at 03:00 pm on 20-12-2022. All the IQAC committee members are requested to attend the meeting.

The agenda points for the following meeting are as follows:

- IQAC.34.01: Confirmation of minutes of the 33<sup>rd</sup> IQAC Meeting.
- IQAC.34.02: To discuss the Feedback Collected form on Teaching & Learning and finalize the feedback form format for the program exits students in Odd Sem 2022-23.
- IQAC.34.03: Discussion on the strategy to connect alumni students on the new alumni portal and conduct of Alumni meetings for the session.
- IQAC.34.04: To discuss the involvement of alumni to help students understand corporate culture and skill required in it.
- IQAC.34.05: Reconstitution and conduction of the Energy audit and Environment audit for the session 2022-23 with the help of external agencies.
- IQAC.34.06: Discussion on the renewal of Hard journals and update library software from Libsys to KOHA Cloud Base.
- IQAC.34.07: Discussion on the format for the budget requirement from the individual departments for the next session.
- IQAC.34.08: Social awareness session for female students of the current session (ODD SEM 2022-23) and action taken.
- IQAC.34.09: Discussion on the proposal of the National level hackathon and events to promote the development of the start-up ecosystem for the current session.
- IQAC.34.10: Discussion on the signing MoU between the institute and Skillstone for the upliftment of the students.
- IQAC.34.11: Discussion on the review of the construction of the newly built classrooms in E, F, G Blocks and allotment of these spaces for the next session.
- IQAC 34.12: Discussion on the purchase of CAMU ERP software.
- IQAC 34.13: Discussion on the conduction of Internal audit of all academic departments.
- IQAC.34.14: Any other matters from departments with the permission of the chair.

(Dr. Nishant Saxena)  
Co-ordinator, IQAC  
TULA'S INSTITUTE  
DEHRADUN

Copy to: Director: for information please,  
All IQAC Committee Members

Director  
Tula's Institute, Dehradun

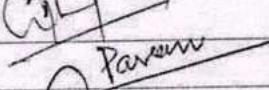
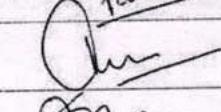
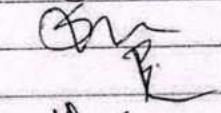
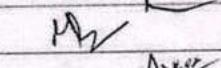
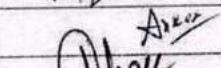
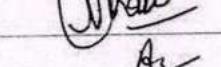
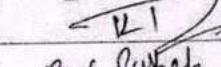
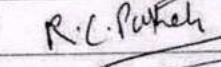
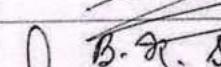
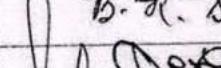
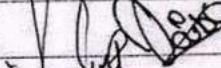
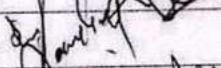
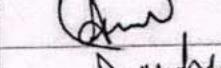
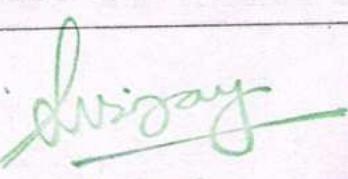
### Vision

- To emerge as an academic centre producing world class professionals promoting innovation and research.

### Mission:

- To promote intellectual and skilled human capital generation employment and entrepreneurship.
- To be educational centre of excellence of multi ethnicity and diversity.
- To establish as technology driven teaching learning institution.
- To provide world class platform for research and innovation.
- To inculcate social, environmental, heritage values.

### 34<sup>th</sup> Meeting of IQAC (Minutes of Meetings)

Date/Time	20/12/2022/3:00PM	
Venue:	IQAC Room	
Minutes taken by:	Ms. Samiksha	
Chairperson	Dr. Nishant Saxena	
Attendee:	Dept. & Designation	Signature
Dr. Raghav Garg	Vice President Technology	
Dr. Nishant Saxena	IQAC Coordinator	
Dr. Pavan Kumar Chaubey	Registrar	
Dr. Ranit Kishor.	Dean Management & B.Sc. Agriculture	
Dr. Sunil Semwal	Dean R&D	
Dr. R.B. Singh	HOD, CSE	
Mr. Mukesh Pathela	HOD, Applied Science	
Mr. Ankur Gurjar	HOD, CE/Chief Proctor	
Mr. Abhishek Chakravorty	HOD, ECE/EEE	
Mr. Ankit Jain	HOD, ME	
Dr. Anita Chauhan	HOD, Agriculture	
Dr. K. R. Ansari	HOD, Management	
Dr. R.C. Pathak	HOD, BJMC	
Dr. Prerna Badoni	Chairperson, ICC Committee	
Mr. Brajendra Kr. Sharma	Chairperson, Feedback committee	
Mr. Vaibhav Kumar	TPO	
Dr. Lalit Goyal	AS, ACOE	
Mr. Abhishek Sharma	Senior Librarian	
Mr. Arun Kumar	External Member	
Mr. Divyanshu Gupta	Alumni Member	
Mr. Nikhil Mathur	Student Member IQAC	
Absent:	Reason	
		

Director  
Tula's Institute, Dehradun

Agenda:			
Issues		Actions	
No.	Actionee	Due Date	
1	Coordinator IQAC	20/12/2022	
2	All HoD's	05/01/2023	
3	TPO	—	
4	All HoD's	—	
5	Mr. Abhishek Chakravorty	May - 2023	
6	Librarian	April - 2023	
7	All HoD's	09/01/2023	
8	ICC	—	
9	CSE HoD	March - 2023	
10	TPO	Feb - 2023	
11	Registrar	—	
12	Coordinator IQAC	—	
13	All HoD's	13/01/2023	
14	NA	—	

### Discussions/ Resolutions:

- The minutes of the 33rd IQAC Meeting were reviewed and confirmed by all attendees without any objections.
- Feedback collected on teaching and learning was discussed, and the format for the feedback form for program exit students in Odd Sem 2022-23 was finalized.

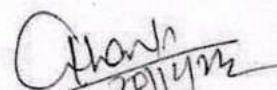
*Chairman*  
Director  
Tula's Institute, Dehradun

3. Strategies to connect alumni students on the new alumni portal and plans for the conduction of the Alumni meet for the session were discussed.
4. The involvement of alumni to help students understand corporate culture and required skills was discussed, and plans were made to engage alumni in relevant activities.
5. Plans for the reconstitution and conduction of the Energy audit and Environment audit for the session 2022-23 with the assistance of external agencies were discussed.
6. The renewal of hard journals and the update of library software from Libsys to KOHA Cloud Base were discussed, and necessary actions were planned.
7. The format for the budget requirement from individual departments for the next session was discussed and finalized.
8. Plans for social awareness sessions for girl students of the current session (ODD SEM 2022-23) were discussed, and actions taken were reviewed.
9. Discussion and Plans for the conduction of the National level hackathon and events to promote the development of the start-up ecosystem for the current session were discussed.
10. Discussion on the signing of MoU between the institute and Skillstone for the upliftment of the students was held, and necessary steps were outlined.
11. The review of the construction of the newly built classrooms in E, F, G Blocks, and the allotment of these spaces for the next session were discussed.
12. After a thorough analysis of all the ERP software, management, and top officials have decided to purchase CAMU software to smoothen the academic process.
13. It was discussed the importance of conducting regular internal audits to assess the effectiveness of academic processes, compliance with regulations, and the overall quality of educational delivery. Concerns were raised regarding the methodology and criteria to be used for the internal audit, ensuring fairness and objectivity in the assessment process.
14. Additional matters were raised and discussed with the permission of the chair.

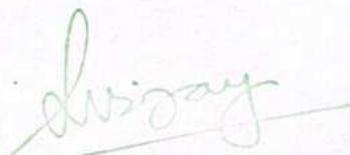
The meeting concluded with action items assigned to relevant individuals or committees for follow-up. The next meeting date and agenda items were also proposed for consideration.

Copy to:

All actionee: for necessary action



(Dr. Nishant Saxena)  
Co-ordinator, IQAC  
TULA'S INSTITUTE  
DEHRADUN

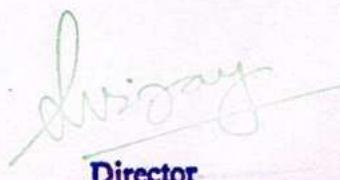


Director  
Tula's Institute, Dehradun

## ACTION TAKEN REPORT

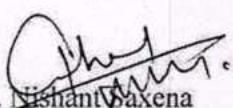
The action taken report of 34th meeting of IQAC Committee (agenda item wise) held on 20/12/2022 is as follows:

1. Reference agenda point IQAC.34.01: The action taken report of the previous 33th IQAC meeting held on 12/09/2022 was read out, discussed the follow-up action on its resolutions and minutes of previous meeting were confirmed.
2. Reference agenda point IQAC.34.02: A detailed discussion was held on the feedback collected regarding Teaching & Learning. The committee agreed on a finalized format for the feedback form for program exit students for Odd Sem 2022-23, ensuring it covers essential aspects of the learning experience.
3. Reference agenda point IQAC.34.03: A strategy was developed to enhance alumni engagement through the new alumni portal. Plans for conducting alumni meetings were laid out, focusing on maximizing participation and interaction.
4. Reference agenda point IQAC.34.04: It was decided to involve alumni in interactive sessions with current students to share insights into corporate culture and the skills required therein. This initiative aims to bridge the gap between academic learning and practical applications in the workplace.
5. Reference agenda point IQAC.33.05: The committee resolved to reconstitute and conduct both energy and environment audits for the session 2022-23 with the assistance of external agencies, ensuring compliance with sustainability goals and regulations.
6. Reference agenda point IQAC.33.06: After thorough discussion, the committee agreed on the renewal of hard journal subscriptions and updating the library management software from Libsys to KOHA Cloud Base, enhancing library operations and accessibility.
7. Reference agenda point IQAC.33.07: A standardized format for submitting budget requirements by individual departments for the next session was discussed, agreed upon, and circulated among department heads, aiming for a more streamlined and efficient budgeting process.
8. Reference agenda point IQAC.33.08: A social awareness session for female students was conducted successfully. The session's effectiveness and impact were reviewed, leading to the planning of future sessions accordingly.
9. Reference agenda point IQAC.33.09: As discussed in IQAC meeting the conduction of national level hackathon (24 hours) to be held on (date) and for this event preparation are in progress.
10. Reference agenda point IQAC.33.10: The signing of an MoU with Skill Stone was discussed, focusing on how the collaboration could benefit students in terms of skill development and employment opportunities. The committee reviewed the terms and potential outcomes of the MoU.



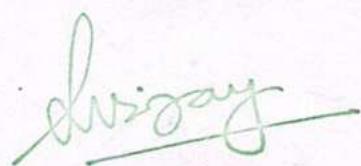
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Tula's Institute, Dehradun

11. Reference agenda point IQAC.33.11: The committee reviewed the construction status of the newly built classrooms in blocks E, F, and G. Plans for the allocation and utilization of these spaces for the next session were finalized, ensuring optimal use of the new facilities.
12. Reference agenda point IQAC.33.12: After evaluating the benefits and features of the CAMU ERP software, the committee decided to proceed with its purchase. This decision aims to enhance administrative efficiency and academic management within the institution.
13. Reference agenda point IQAC.33.13: Observation of academic. Lab. And library audit has been sent to all HoD for submitting their compliance report. The compliance report will be placed at the next IQAC meeting.
14. Reference agenda point IQAC.33.14: There was no issue raised by any member in the meeting, therefore the meeting concluded with a word of thanks to all.



Dr. Nishant Saxena

Co-ordinator, IQAC  
TULA'S INSTITUTE  
DEHRADUN



Director  
Tula's Institute, Dehradun

Ref. No.: Tula's/IQAC/0223/01

Date: 04-02-2023

### NOTICE

This is to inform you that the 35<sup>th</sup> meeting of IQAC will be held at IQAC Room at 01:00 pm on 07-02-2023. All the IQAC committee members are requested to attend the meeting.

The agenda points for the following meeting are as follows:

- IQAC.35.01: Confirmation of minutes of meeting of 34<sup>th</sup> IQAC Meeting.
- IQAC.35.02: Discussion on class monitoring and innovation in the teaching and learning process.
- IQAC.35.03: Discussion on the implementation of the actions on Internal audit conducted by the departments.
- IQAC.35.04: Discussion on finalizing the question paper format for the 1<sup>st</sup> CIE.
- IQAC.35.05: Discussion on the review of the AQAR of NAAC in both qualitative and quantitative.
- IQAC.35.06: Discussion on preparation and conduction of annual cultural fest "Sanskriti "and also, discussion on Alumni meet to be conducted in April -May 2023.
- IQAC.35.07: Organization of one day K- Nimbus training program for the library staff members.
- IQAC.35.08: Discussion on the organization of the National level Hackathon to be conducted by CSE department and discussed the key point for developing the startup ecosystem.
- IQAC.35.09: Proposal to Extension Committee for Women's Week Celebration.
- IQAC.35.10: Discussion on the conduction of Environments, Green & Energy audit with the help of an external agency (Quality Research Organization)
- IQAC.35.11: Discussion on the increase in the team members of the admission committee for the session 2023-24
- IQAC.35.12: Discussion on the organization of summer internships for pre-final year students.
- IQAC.35.13: Any other matters from departments with the permission of the chair.

Copy to:

- Director : for information please
- All IQAC Committee Members

(Dr. Nishant Saxena)  
Co-ordinator, IQAC  
TULA'S INSTITUTE  
DEHRADUN

#### Vision

- To emerge as an academic centre producing world class professionals promoting innovation and research.

#### Mission:

- To promote intellectual and skilled human capital generation employment and entrepreneurship.
- To be educational centre of excellence of multi ethnicity and diversity.
- To establish as technology driven teaching learning institution.
- To provide world class platform for research and innovation.
- To inculcate social, environmental, heritage values.

**Director**  
**Tula's Institute, Dehradun**

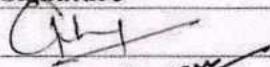
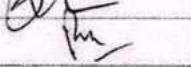
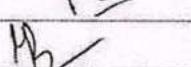
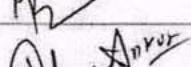
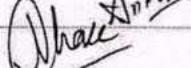
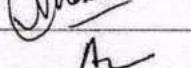
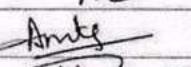
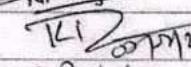
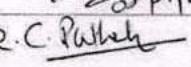
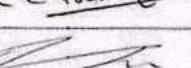
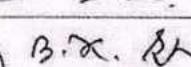
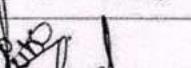
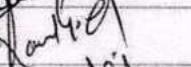
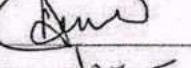
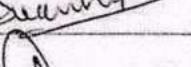
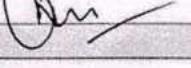
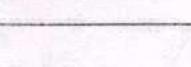
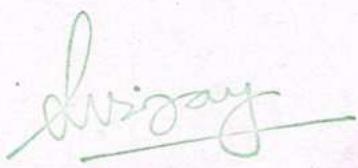
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Dehradun - 248011 (U.K. India)

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### 35<sup>th</sup> Meeting of IQAC (Minutes of Meetings)

Date/Time	07/02/2023/01:00PM	
Venue:	IQAC Room	
Minutes taken by:	Ms. Samiksha	
Chairperson	Dr. Anil Kumar Dhaiya	
Attendee:	Dept. & Designation	Signature
Dr. Nishant Saxena	IQAC Coordinator	
Dr. Pavan Kumar Choubey	Registrar	
Dr. Ranit Kishor.	Dean Management & B.Sc. Agriculture	
Dr. Sunil Semwal	Dean R&D	
Dr. R.B. Singh	HOD, CSE	
Mr. Mukesh Pathela	HOD, Applied Science	
Mr. Ankur Gurjar	HOD, CE/Chief Proctor	
Mr. Abhishek Chakravorty	HOD, ECE/EEE	
Mr. Ankit Jain	HOD, ME	
Dr. Anita Chauhan	HOD, Agriculture	
Dr. K. R. Ansari	HOD, Management	
Dr. R.C. Pathak	HOD, BJMC	
Dr. Prerna Badoni	Chairperson, ICC Committee	
Mr. Brajendra Kr. Sharma	Chairperson, Feedback committee	
Mr. Vaibav Kumar	TPO	
Dr. Lalit Goyal	AS, ACOE	
Mr. Abhishek Sharma	Senior Librarian	
Mr. Arun Kumar	External Member	
Mr. Divyanshu Gupta	Alumni Member	
Mr. Nikhil Mathur	Student Member IQAC	
Absent:	Reason	
Agenda:		

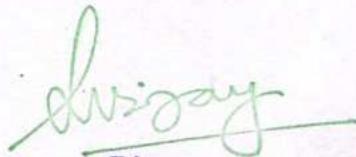
Director  
Tula's Institute, Dehradun

**IQAC Meeting**

Issues	Actions		
	No.	Actionee	Due Date
IQAC.35.01 - Confirmation of minutes of meeting of 34 <sup>th</sup> IQAC Meeting.	1	Coordinator IQAC	7/2/2023
IQAC.35.02 - Discussion on the class monitoring and innovation in the teaching and learning process.	2	All HoD's	15/2/23
IQAC.35.03 - Discussion on the implementation of the actions on Internal audit conducted by the departments.	3	All HoD's	20/4/23
IQAC.35.04 - Discussion on finalizing the question paper format for the 1 <sup>st</sup> CIE.	4	Exam Controller	20/3/23
IQAC.35.05 – Discussion on the review of the AQAR of NAAC in both qualitative and quantitative	5	Coordinator IQAC	24/2/23
IQAC.35.06 - Discussion on preparation and conduction of annual cultural fest "Sanskriti "and discussion on Alumni meet to be conduct 1 in April -May 2023.	6	Mr. Emmanuel Gabriel	—
IQAC.35.07 – Organization of one day K- Nimbus training program for the library staff members.	7	Sr. Librarian	28/2/23
IQAC.35.08 - Discussion on the organization of the National level Hackathon to be conducted by CSE department and discussed the key point for developing the startup ecosystem.	8	CSE HoD	25/4/23
IQAC.35.09 - Proposal to Extension Committee for Women's Week Celebration.	9	Mr. Emmanuel Gabriel/ICC	08/3/23
IQAC.35.10 – Discussion on the conduction of Environments, Green & Energy audit with the help of an external agency (Quality Research Organisation).	10	Mr. Abhishek Chakravorty	April 2023
IQAC.35.11- Discussion on the increase in the team members of the admission committee for the session 2023-24	11	TPO	April 2023
IQAC.35.12- Discussion on the organization of summer internships for Pre-final year students.	12	TPO	15/2/23
IQAC.35.11- Any other matters from departments with the permission of the chair.	13	NA	—

**Discussions/ Resolutions:**

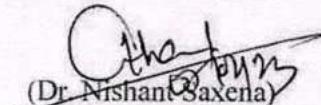
1. The minutes of the 34th IQAC Meeting were confirmed with no objections raised.
2. Discussed various strategies for enhancing class monitoring and fostering innovation in the teaching and learning process. Members shared ideas and agreed to implement a trial of new methods.
3. Reviewed the actions resulting from internal audits conducted by departments. Members discussed progress and identified areas needing further attention.
4. Considered different formats for the upcoming 1st CIE question papers. An agreement was reached on the finalized format to ensure fairness and clarity.



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**Tula's Institute, Dehradun**

5. Reviewed the Annual Quality Assurance Report (AQAR) of NAAC in both qualitative and quantitative aspects. Identified strengths and areas for improvement.
6. Discussed arrangements for the annual cultural fest "Sanskriti" and plans for the Alumni meet scheduled for April-May 2023.
7. Approved the organization of a one-day K-Nimbus training program for library staff members to enhance their skills and efficiency.
8. Reviewed plans for organizing a National-level Hackathon by the CSE department and discussed key points for developing the startup ecosystem.
9. Presented a proposal to the Extension Committee for Women's Week Celebration, which was discussed and approved.
10. Agreed on conducting an Environmental, Green & Energy audit with the assistance of an external agency (Quality Research Organization) to ensure sustainability measures are in place.
11. The Chairperson Mr. Vaibav Kumar initiated the discussion by highlighting the necessity to expand the team members of the admission committee for the upcoming session 2023-24. Members shared their views on the current workload of the admission committee and the challenges faced due to the increasing number of applicants.
12. The Chairperson initiated the discussion on organizing summer internships for pre-final year students. Members discussed potential industry partners and the process of inviting them to offer internship opportunities.
13. Opened the floor for any other matters from departments. No issues were raised.

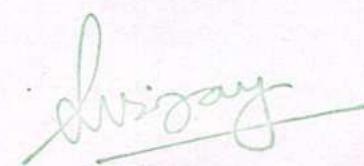
The meeting concluded with action items assigned to relevant individuals or committees for follow-up. The next meeting date and agenda items were also proposed for consideration.



(Dr. Nishant Saxena)  
Co-ordinator, IQAC  
TULA'S INSTITUTE  
DEHRADUN

**Copy to:**

All actionee: for necessary action

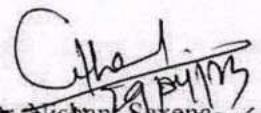


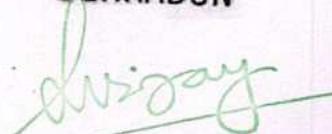
Director  
Tula's Institute, Dehradun

## ACTION TAKEN REPORT

The action taken report of 35th meeting of IQAC Committee (agenda item wise) held on 07/02/2023 is as follows:

1. Reference agenda point IQAC.35.01: The action taken report of the previous 34th IQAC meeting held on 12/09/2022 was read out, discussed the follow-up action on its resolutions and minutes of previous meeting were confirmed.
2. Reference agenda point IQAC.35.02: PERC members were directed to monitor at least 2 classes of different faculty members on a daily basis. The same has been done reported on benchmark quality parameter.
3. Reference agenda point IQAC.35.03: Observation of academic, Lab, and library audit has been sent to all the Heads of the Department for submitting their compliance report. The compliance report will be placed in the next IQAC meeting.
4. Reference agenda point IQAC.35.04: The question paper format for the CIE-1 has been finalized, approved by the PERC and forwarded to examination control for the implementation.
5. Reference agenda point IQAC.35.05: All the heads of the departments and the institution ensured the Chair that they will supply the authentic data to IQAC for the review.
6. Reference agenda point IQAC.35.06: The annual cultural fest "Sanskriti" and discussion on Alumni meet successfully organized on 28 April 2023 (Retrace). The detailed report has been received and kept on record.
7. Reference agenda point IQAC.35.07: The One-day K-Nimbus training program for the Library department successfully organized on 27 Feb, 2023. The details of report have been received and kept in record.
8. Reference agenda point IQAC.35.08: The department of Computer Science and engineering has successfully organized HACKATHON on 20-21 April 2023. It will be helpful for creativity and innovations by encouraging participants to think outside the box to develop novel solutions.
9. Reference agenda point IQAC.35.09: The Women's week program was successfully organized on (date). A detailed report has been received and kept for the record.
10. Reference agenda point IQAC.35.10: The Environments, Green & Energy audit has been done. A detailed report has been received and kept for the record.
11. Reference agenda point IQAC.35.11: Suggestions/Recommendations were received from various heads of the institute. The suggestions are ready to discussion in the next IQAC meeting.
12. Reference agenda point IQAC.35.12: Organized industrial visit/study tour for the students.
13. Reference agenda point IQAC.35.13: There was no issue raised by any member in the meeting, therefore the meeting concluded with a word of thanks to all.

  
Co-ordinator, IQAC  
TULA'S INSTITUTE  
DEHRADUN

  
Director  
Tula's Institute, Dehradun

Ref. No.: Tula's/IQAC/0523/01

Date 05-05-2023

## NOTICE

This is to inform you that the 36<sup>th</sup> meeting of IQAC will be held at IQAC Room at 04:00 pm on 08-05-2023. All the IQAC committee members are requested to attend the meeting.

The agenda points for the following meeting are as follows:

- IQAC.36.01: Confirmation of minutes of meeting of 35<sup>th</sup> IQAC Meeting.
- IQAC.36.02: Discussion on the final preparation of the annual cultural fest "Sanskriti".
- IQAC.36.03: Discussion on the syllabus coverage report and allotment of extra classes for the lagging courses
- IQAC.36.04: Discussion on the circulation of the Faculty Appraisal form among faculties as per Institute HR policy.
- IQAC.36.05: Discussion on the Budget preparation of each department for the next academic year 2023-24
- IQAC.36.06: Discussion on the Lab Audit for the maintenance and procurement of the lab equipment.
- IQAC.36.07: Discussion on the organization of the orientation program for newly admitted students for the upcoming session 2023-24.
- IQAC.36.08: Discussion on the increase in seats in different courses and introduction of a new specialization branch of CSE by the admission cell.
- IQAC.36.09: Preparation of the training & placement activity calendar for session 2023-24.
- IQAC.36.10: Discussion on the conduction of more activities related to awareness and empowerment of girls/women.
- IQAC.36.11: Discussion on the initialization of the NBA accreditation process for the program B. Tech Computer Science & Engineering.
- IQAC.36.12: Discussion on the collection of research data of faculty members and students of the current academic session.
- IQAC.36.13: Discussion on the analysis of the Alumni feedback, that was collected during the Retrace Alumni Meet 2023
- IQAC.36.14: Proposal for the new format of Action Taken Reports (ATR).
- IQAC.36.15: Any other matters from departments with the permission of the chair.

Copy to:

- Director: for information please
- All IQAC Committee Members

*Asha*  
(Dr. Nisha Srivastava)  
Co-ordinator, IQAC  
TULA'S INSTITUTE  
DEHRADUN

**Vision**

- To emerge as an academic centre producing world class professionals promoting innovation and research.

**Mission:**

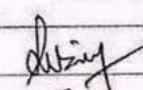
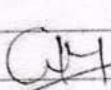
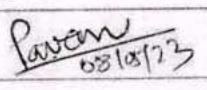
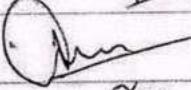
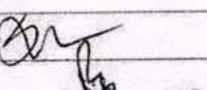
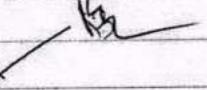
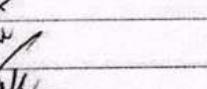
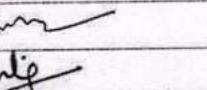
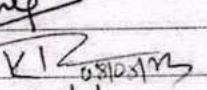
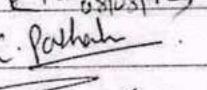
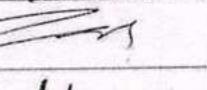
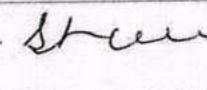
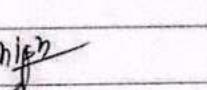
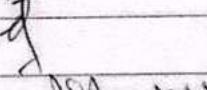
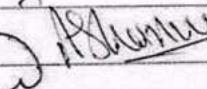
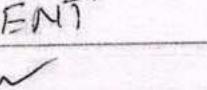
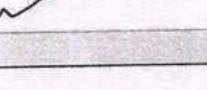
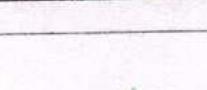
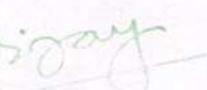
- To promote intellectual and skilled human capital generation employment and entrepreneurship.
- To be educational centre of excellence of multi ethnicity and diversity.
- To establish as technology driven teaching learning institution.
- To provide world class platform for research and innovation.
- To inculcate social, environmental, heritage values.

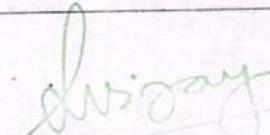
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*Divyay*  
**Director**  
**Tula's Institute, Dehradun**

### 36<sup>th</sup> Meeting of IQAC (Minutes of Meetings)

Date/Time	08/05/2023/04:00PM	
Venue:	IQAC Room	
Minutes taken by:	Ms. Samiksha	
Chairperson	Dr. Sandip Vijay	
Attendee:	Dept. & Designation	Signature
Dr. Sandip Vijay	Director	
Dr. Nishant Saxena	IQAC Coordinator	
Dr. Pavan Kumar Chaubey	Registrar	
Dr. Ranit Kishor.	Dean Management & B.Sc. Agriculture	
Dr. Sunil Semwal	Dean R&D	
Dr. R.B. Singh	HOD, CSE	
Mr. Mukesh Pathela	HOD, Applied Science	
Ms. Prcti Kumari	HOD, CE	
Mr. Abhishek Chakravorty	HOD, ECE/EEE	
Mr. Ankit Jain	HOD, ME	
Dr. Anita Chauhan	HOD, Agriculture	
Dr. K. R. Ansari	HOD, Management	
Dr. R.C. Pathak	HOD, BJMC	
Dr. Prerna Badoni	Chairperson, ICC Committee	
Mr. Brajendra Kr. Sharma	Chairperson, Feedback committee	
Mr. Ashish Kumar	Chief Proctor	
Dr. Lalit Goyal	AS, ACOE	
Mr. Abhishek Sharma	Senior Librarian	
Mr. Arun Kumar	External Member	
Mr. Divyanshu Gupta	Alumni Member	
Mr. Nikhil Mathur	Student Member IQAC	
Absent:	Reason	

  
Director  
Tula's Institute, Dehradun

Agenda:			
Issues	Actions		
	No.	Actionee	Due Date
IQAC.36.01: Confirmation of minutes of meeting of 35 <sup>th</sup> IQAC Meeting.	1	Coordinator IQAC	31/05/2023
IQAC.36.02: Discussion on the final preparation of the annual cultural fest "Sanskriti".	2	Mr. Emmanuel Gabriel/All HoD's	—
IQAC.36.03: Discussion on the syllabus coverage report and allotment of extra classes for the lagging courses	3	All HoD's	09/05/2023
IQAC.36.04: Discussion on the circulation of the Faculty Appraisal form among faculties as per Institute HR policy.	4	HR/ All HoD's	25/05/2023
IQAC.36.05: Discussion on the Budget preparation of each department for the next academic year 2023-24	5	All HoD's	June - 2023
IQAC.36.06: Discussion on the Lab Audit for the maintenance and procurement of the lab equipment.	6	All HoD's	July - 2023
IQAC.36.07: Discussion on the organization of the orientation program for newly admitted students for the upcoming session 2023-24.	7	Mr. Emmanuel Gabriel/All HoD's	July - 2023
IQAC.36.08: Discussion on the increase in seats in different courses and introduction of a new specialization branch of CSE by the admission cell.	8	Registrar/Coordinator IQAC	Aug. - 2023
IQAC.36.09: Preparation of the training & placement activity calendar for the session 2023-24.	9	TPO	August - 2023
IQAC.36.10: Discussion on the conduction of more activities related to awareness and empowerment of girls/women.	10	ICC	July - 2023
IQAC.36.11: Discussion on the initialization of the NBA accreditation process for the program B. Tech Computer Science & Engineering.	11	CSE HoD	—
IQAC.36.12: Discussion on the collection of research data of faculty members and students of the current academic session.	12	Dean R&D	31/05/2023
IQAC.36.13: Discussion on the analysis of the Alumni feedback, that was collected during the Retrace Alumni Meet 2023.	13	TPO	15/05/2023
IQAC.35.14: Any other matters from departments with the permission of the chair.	14	NA	—

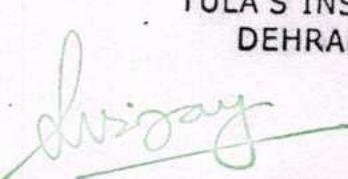
### Discussions/ Resolutions:

1. The minutes of the 35th IQAC Meeting were confirmed with no objections raised.
2. Reviewed the final preparations for the annual cultural fest "Sanskriti." Discussed logistics, performances, and necessary arrangements to ensure a successful event.

3. Discussed the syllabus coverage report and identified courses lagging behind. Agreed to allocate extra classes to ensure comprehensive coverage and maintain academic standards.
4. Reviewed the Institute HR policy regarding faculty appraisal and discussed the circulation of the Faculty Appraisal Form among faculties. Emphasized the importance of timely feedback for professional development.
5. Discussed budget preparation for each department for the next academic year 2023-24. Considered resource allocation, funding requirements, and strategic priorities.
6. Discussed the maintenance and procurement of lab equipment through a comprehensive lab audit. Identified areas needing attention and discussed strategies for improvement.
7. Discussed plans for organizing the orientation program for newly admitted students for the upcoming session 2023-24. Considered orientation content, scheduling, and logistical arrangements.
8. Discussed proposals for increasing seats in different courses and introducing a new specialization branch of CSE. Considered demand, infrastructure, and academic feasibility.
9. Prepared the training & placement activity calendar for the session 2023-24. Scheduled events, workshops, and recruitment drives to ensure effective placement opportunities for students.
10. Discussed plans to conduct more activities related to the awareness and empowerment of girls/women. Considered workshops, seminars, and campaigns to promote gender equality and inclusivity.
11. Discussed the initialization of the NBA accreditation process for the B.Tech Computer Science & Engineering program. Reviewed accreditation criteria and outlined steps for the accreditation process.
12. The Chairperson initiated the discussion on the collection of research data of faculty members and students for the current academic session like research papers, FDP's, Patents, MOOCs NPTEL certificates etc.
13. The Chairperson introduced the agenda item regarding the analysis of the Alumni feedback collected during the Retrace Alumni Meet 2023. The feedback data was reviewed, focusing on key areas such as curriculum relevance, teaching quality, infrastructure, and career support services.
14. Opened the floor for any other matters from departments. No further issues were raised.

The meeting concluded with action items assigned to relevant individuals or committees for follow-up. The next meeting date and agenda items were also proposed for consideration.

Copy to:  
All actionee: for necessary action

  
(Dr. Nishant Saxena)  
Co-ordinator, IQAC  
TULA'S INSTITUTE  
DEHRADUN

**Director**  
**Tula's Institute, Dehradun**

## ACTION TAKEN REPORT

The action taken report of 36<sup>h</sup> meeting of IQAC Committee (agenda item wise) held on 08/05/2023 is as follows:

1. Reference agenda point IQAC.36.01: As per the confirmation of MOM of 35<sup>th</sup> IQAC meeting the actions have been taken accordingly and mention in the 35<sup>th</sup> ATR.
2. Reference agenda point IQAC.36.02: The annual cultural fest "Sanskriti" and discussion on Alumni meet successfully organized on 11<sup>th</sup> & 12<sup>th</sup> May 2023. The detailed report has been received and kept on record.
3. Reference agenda point IQAC.36.03: Faculties are advised to spend more time organizing planned lectures and increasing the number of classes.
4. Reference agenda point IQAC.36.04: The self-Faculty Appraisal form has been circulated among the faculties and status will be presented in the next meeting.
5. Reference agenda point IQAC.36.05: The Budget preparation format for the academic year 2023-24 has been circulated with the head of the department.
6. Reference agenda point IQAC.36.06: Actions include scheduling regular maintenance checks and identifying needs for new equipment to enhance practical learning experiences.
7. Reference agenda point IQAC.36.07: The mandatory students induction program for newly admitted students will be conducted in the month of August 2023.
8. Reference agenda point IQAC.36.08: The proposal for increasing seats in various courses and introducing a new specialization in CSE was approved, with implementation steps outlined by the admission cell.
9. Reference agenda point IQAC.36.09: Training and Placement activities have been scheduled by the Training and Placement Officer (TPO), Mr. Vaibhav Kumar, accordingly.
10. Reference agenda point IQAC.36.10: An event "Women in Entrepreneurship Development" was organized on 16<sup>th</sup> May 2023 by ICC committee for
11. Reference agenda point IQAC.36.11: Chairperson proposed NBA Accreditation for the B. Tech Computer Science and Engineering. The suggestions are ready to discussion in the next IQAC meeting.
12. Reference agenda point IQAC.36.12: All the heads of the department ensure to submit the data to R&D cell.
13. Reference agenda point IQAC.36.13: The feedback form to be circulated and is to be presented in the next IQAC meeting that would be used from academic session 2022-23. The Feedback forms to collect feedback from stakeholders (Student, Faculty, Alumni, Employers and Parents) prepared by feedback committee.
14. Reference agenda point IQAC.36.14: There was no issue raised by any member in the meeting, therefore the meeting concluded with a word of thanks to all.

Director  
**Tula's Institute, Dehradun**

(Dr. Nishant Saxena)  
Co-ordinator, IQAC  
TULA'S INSTITUTE  
DEHRADUN

Ref. No.: Tula's/IQAC/0922/02

Date: 10-09-2022

### NOTICE

This is to inform you that the 33<sup>rd</sup> meeting of IQAC will be held at IQAC Room at 03:00 pm on 12-09-2022.  
All the IQAC committee members are requested to attend the meeting.

The agenda points for the following meeting are as follows:

- IQAC.33.01: Confirmation of minutes of meeting of 32<sup>nd</sup> IQAC Meeting.
- IQAC.33.02: Discussion on Class Monitoring by the Dean's, HoD's.
- IQAC.33.03: Discussion on Innovation in the teaching and learning process and its implementation.
- IQAC.33.04: Discussion on course file collection & evaluation for the previous year.
- IQAC.33.05: Discussion on the conduction of departmental activity (Workshop / Industrial Visits and Expert talk).
- IQAC.33.06: Discussion on Library book Procurement for new students and ask for new book titles.
- IQAC.33.07: Reconstitution / restructuring of PERC/ICC / Proctorial members for all academic departments.
- IQAC.33.08: Recommendation of Faculty Teaching feedback.  
(Discussion on the feedback mechanism of the faculty members teaching various courses)
- IQAC.33.09: Discussion on the activities to be conducted by Committee Extension.
- IQAC.33.10: Examination Committee formation approval.
- IQAC.33.11: Updating the department's vision, mission, PEO, and PSOs for all academic departments.
- IQAC.33.12: Verification of the updated course outcomes by course coordinators.
- IQAC.33.13: Discussion on the conduction of the Alumni meet Retrace for the session 2022-23.
- IQAC.33.14: Discussion on the purchase of ERP software for the institute.
- IQAC.33.15: Discussion on the preparation of the international conference IEEE- ICACCM 2022
- IQAC.33.16: Discussion on the conduction of placement activities as per the finalized placement calendar.
- IQAC.33.17: Any other matter with the permission of the chair.

*Chankr*  
10/09/22  
Coordinator, IQAC  
~~Co-ordinator, IQAC~~  
TULA'S INSTITUTE  
DEHRADUN

#### Copy to:

- Director: for information please
- All IQAC Committee Members

#### Vision

- To emerge as an academic centre producing world class professionals promoting innovation and research.

#### Mission:

- To promote intellectual and skilled human capital generation employment and entrepreneurship.
- To be educational centre of excellence of multi ethnicity and diversity.
- To establish as technology driven teaching learning institution.
- To provide world class platform for research and innovation.
- To inculcate social, environmental, heritage values.

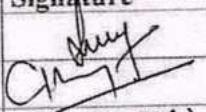
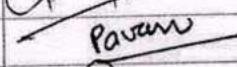
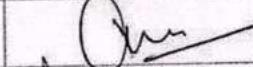
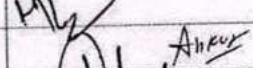
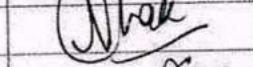
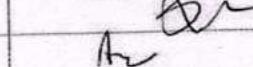
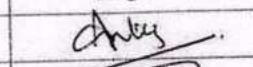
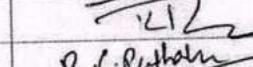
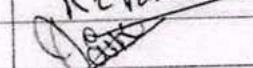
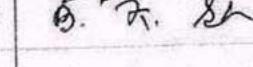
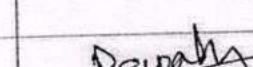
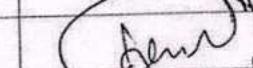
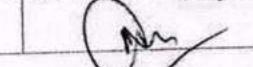
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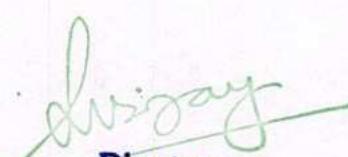
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*dwijay*  
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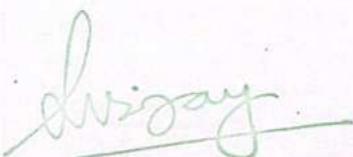
### 33<sup>rd</sup> Meeting of IQAC (Minutes of Meetings)

Date/Time	12/09/2022/3:00PM	
Venue:	IQAC Room	
Minutes taken by:	Ms. Samiksha	
Chairperson	Dr. Sandip Vijay	
Attendee:	Dept. & Designation	Signature
Dr. Sandip Vijay	Director	
Dr. Nishant Saxena	IQAC Coordinator	
Dr. Pavan Kumar Chaubey	Registrar	
Dr. Ranit Kishor.	Dean Management & B.Sc. Agriculture	
Dr. R.B. Singh	HOD, CSE	
Mr. Mukesh Pathela	HOD, Applied Science	
Mr. Ankur Gurjar	HOD, CE	
Mr. Abhishek Chakravorty	HOD, ECE/EEE	
Dr. Sunil Semwal	Dean R&D	
Mr. Ankit Jain	HOD, ME	
Dr. Anita Chauhan	HOD, Agriculture	
Dr. K. R. Ansari	HOD, Management	
Dr. R.C. Pathak	HOD, BJMC	
Mr. Vaibhav Kumar	TPO	
Dr. Prerna Badoni	Chairperson, ICC Committee	
Mr. Brajendra Kr. Sharma	Chairperson, Feedback committee	
Dr. Sachin Kumar	Chief Proctor	
Dr. Deepak Aggarwal	AS, ACOE	
Mr. Abhishek Sharma	Senior Librarian	
Mr. Arun Kumar	External Member	
Mr. Divyanshu Gupta	Alumni Member	
Mr.Nikhil Mathur	Student Member IQAC	

  
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### Discussions/ Resolutions:

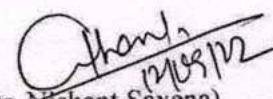
1. The minutes of the 32nd IQAC Meeting were reviewed and confirmed by all attendees without any objections.
2. Various strategies for effective class monitoring during the odd semester were discussed. It was decided to implement a system of regular classroom observations and student feedback mechanisms to ensure quality education delivery.
3. Ideas for fostering innovation in the teaching and learning process were exchanged. It was agreed to encourage faculty members to incorporate innovative teaching methods and technologies in their classrooms to enhance student engagement and learning outcomes.
4. The process of course file evaluation for the first cycle was discussed, and suggestions for improvement were put forward. It was decided to streamline the evaluation process and provide adequate training to the faculty members involved.
5. Plans for departmental activities such as workshops, industrial visits, and expert talks were discussed. It was agreed to organize a series of workshops and invite industry experts for talks to enrich the learning experience of students.
6. The procurement of library books for new students and suggestions for new book titles were discussed. It was decided to assess the current needs of students and acquire relevant books accordingly.
7. The reconstitution and restructuring of PERC/ICC/Proctorial members for all academic departments were discussed. It was decided to review the existing structure and make necessary adjustments to ensure effective functioning.
8. The feedback mechanism for faculty teaching various courses was discussed. It was agreed to implement a comprehensive feedback system to gather input from students and peers for faculty evaluation and improvement.
9. Plans for activities to be conducted by the Committee Extension were discussed. It was decided to organize outreach programs and community engagement initiatives to foster collaboration with external stakeholders.
10. The formation of the Examination Committee was approved unanimously.
11. The updating of the department's vision, mission, PEOs, and PSOs for all academic departments was discussed. It was decided to review and revise the statements to align with the current objectives and goals.
12. The verification of the updated course outcomes by course coordinators was discussed. It was agreed to ensure that the course outcomes are clearly defined, measurable, and aligned with program objectives.
13. Plans for the conduction of the Alumni meet for the session 2022-23 were discussed. It was decided to organize the event to facilitate networking among alumni and provide opportunities for professional development.
14. It was decided that the in-house ERP software would be purchased and implemented from the current session.



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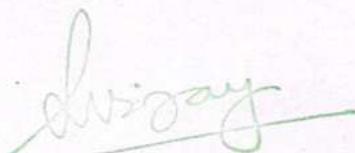
15. Preparations for the International conference IEEE ICACCM 2022 were discussed. It was decided to form organizing committees and initiate planning activities to ensure the success of the conference.
16. The meeting commenced with a review of the finalized placement calendar. Participants discussed the various placement activities outlined in the calendar, including job fairs, campus recruitment drives, and industry interaction sessions. Concerns were raised regarding the scheduling of events to ensure maximum student participation and engagement.
17. Additional matters were raised and discussed with the permission of the chair.

The meeting concluded with action items assigned to relevant individuals or committees for follow-up. The next meeting date and agenda items were also proposed for consideration.



(Dr. Nishant Saxena)  
Co-ordinator, IQAC  
TULA'S INSTITUTE  
DEHRADUN

Copy to:  
All actionee: for necessary action

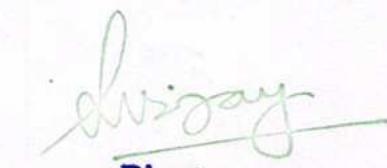


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## ACTION TAKEN REPORT

The action taken report of 33rd meeting of IQAC Committee (agenda item wise) held on 12/09/2022 is as follows:

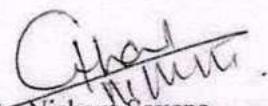
1. Reference agenda point IQAC.33.01: The minutes of the 32nd IQAC Meeting were reviewed and confirmed without any objections from the attendees.
2. Reference agenda point IQAC.33.02: Implemented a system for regular classroom observations and student feedback mechanisms to assure the quality of education delivery.
3. Reference agenda point IQAC.33.03: Encouraged faculty members to adopt innovative teaching methods and technologies to improve student engagement and learning outcomes.
4. Reference agenda point IQAC.33.04: The evaluation process for course files for the first cycle will be streamlined, and faculty members involved will receive adequate training for improvement.
5. Reference agenda point IQAC.33.05: Organized workshops, industrial visits, and expert talks to enrich students' learning experiences. Industry experts have been invited for upcoming sessions.
6. Reference agenda point IQAC.33.06: Enhanced the library's collection based on the needs of new students and faculty recommendations, ensuring access to the latest resources and literature.
7. Reference agenda point IQAC.33.07: Reviewed and adjusted the structure of PERC/ICC/Proctorial bodies across all academic departments to ensure their effective functioning.
8. Reference agenda point IQAC.33.08: Implemented a comprehensive feedback system for faculty, incorporating student and peer inputs for faculty evaluation and improvement.
9. Reference agenda point IQAC.33.09: Planned and set to organize outreach programs and community engagement initiatives, fostering collaboration with external stakeholders.
10. Reference agenda point IQAC.33.10: The formation of the Examination Committee was approved unanimously, and the committee has been constituted.
11. Reference agenda point IQAC.33.11: Initiated a review and revision of the department's vision, mission, PEOs, and PSOs to ensure alignment with current objectives and goals.



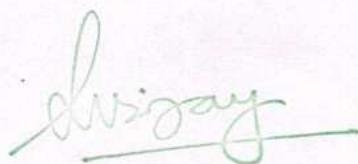
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12. Reference agenda point IQAC.33.12: Ensured that course outcomes are clearly defined, measurable, and aligned with program objectives through verification by course coordinators.
13. Reference agenda point IQAC.33.13: Planned the alumni meet to facilitate networking among alumni and provide professional development opportunities.
14. Reference agenda point IQAC.33.14: Decided to purchase and implement in-house ERP software starting from the current session 2022-23 to streamline administrative and academic processes.
15. Reference agenda point IQAC.33.15: Soft skill training is provided to students. On Campus Drives are conducted for final year students.
16. Reference agenda point IQAC.33.15: Formed organizing committees and initiated planning for the successful conduct of the international conference IEEE ICACCM 2022.

Additional Matters: Any additional matters raised and discussed with the permission of the chair will be addressed accordingly.



Dr. Nishant Saxena  
Co-ordinator, IQAC  
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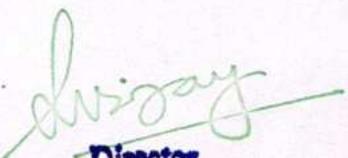


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Absent:	Reason
<b>Agenda:</b>	
IQAC Meeting	
Issues	Actions
IQAC.33.01: Confirmation of minutes of meeting of 32 <sup>nd</sup> IQAC Meeting.	No. 1 Coordinator IQAC 12/9/22.
IQAC.33.02: Discussion on Class Monitoring by the Dean's, HoD's.	2 All HoD's 20/9/22
IQAC.33.03: Discussion on Innovation in the teaching and learning process and its implementation.	3 All HoD's 26/9/22
IQAC.33.04: Discussion on course file collection & evaluation for the previous year.	4 All HoD's 07/10/22
IQAC.33.05: Discussion on the conduction of departmental activity (Workshop / Industrial Visits and Expert talk).	5 All HoD's 20/9/22
IQAC.33.06: Discussion on Library book Procurement for new students and ask for new book titles.	6 Librarian 20/9/22
IQAC.33.07: Reconstitution / restructure of PERC/ICC / Proctorial members for all academic departments.	7 Committee Head's —
IQAC.33.08: Recommendation of Faculty Teaching feedback. (Discussion on the feedback mechanism of the faculty members teaching various courses)	8 Mr.B.K. Sharma October 2022
IQAC.33.09: Discussion on the activities to be conducted by Committee Extension.	9 Mr. Emmanuel Gabriel 15/9/22
IQAC.33.10: Examination Committee formation approval.	10 Exam controller 15/9/22
IQAC.33.11: Updating the department's vision, mission, PEO, and PSOs for all academic departments.	11 All HoD's 30/9/22
IQAC.33.12: Verification of the updated course outcomes by course coordinators.	12 All HoD's 15/9/22
IQAC.33.13: Discussion on the conduction of the Alumni meet for the session 2022-23.	13 TPO —
IQAC.33.14: Discussion on the purchase of ERP software for the institute.	14 Coordinator IQAC —
IQAC.33.15: Discussion on the preparation of the international conference IEEE- ICACCM 2022.	15 Dean R&D November 2022
IQAC.33.16: Discussion on the conduction of placement activities as per the finalized placement calendar.	16 TPO 30/9/22
IQAC.33.17: Any other matter with the permission of the chair.	17 NA —

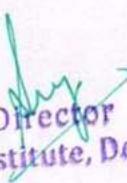
*Abhishek*  
Director  
Tula's Institute, Dehradun

# **Conferences/Seminars/Work shops on Quality Conducted**

  
Dr. Divyanshu  
Director  
Tula's Institute, Dehradun

**IEEE international Conference on  
Advances in Computing  
Communication and Material  
(ICACCM'22)**

**10<sup>th</sup>-11<sup>th</sup> November, 2022**

  
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## Conference Summary

2022 international conference on advances in computing communication and materials  
(ICACCM'22), Sponsored By AICTE, Technically Co-Sponsored by IEEE

10<sup>th</sup> – 11<sup>th</sup> November, 2022

Two days International Conference on Advances in Computing, Communication and Materials was inaugurated at Tula's Institute, Dehradun (10/11/2022). The welcome address was given by Dr Nishant Saxena, Conference general chair ICACCM 2022 in the November gathering of Dr Raghav Garg, Vice president (Technology), Prof. Pavan Kumar Chaubey, Registrar, Dr Ranit Kishore, Dean Agriculture and Management, Dr Sunil Semwal, Dean Research and Development, Dr. Tripuresh Joshi, R&D Coordinator, Mr. Abhishek Chakravorty, HOD ECE & EEE, Mr. Mukesh Pathela, HOD ASE, Mr. Ankit Jain, HOD ME, Mr. Vaibhav Kumar, TPO among others. The event was followed by the worship of Goddess Saraswati and lamp lightening by honorable dignitaries. The Chief Guest Professor Onkar Singh (honorable Vice Chancellor of Uttarakhand Technical University) addressed the Conference participants. In his address Professor Onkar Singh motivated students and young researchers to work upon sustainable and holistic technological development. Further in the inaugural session, all the dignitaries launched the Conference souvenir. In the first keynote session, Prof. David Asirvatham, Taylor University Malaysia delivered a talk on ideas for the future campus and shared his valuable thoughts regarding IEEE conference (ICACCM 2022). The second keynote session was delivered by Prof. Sudeb Dasgupta (IIT Roorkee). In his session he shared insightful visions on microelectronics and VLSI. He also shared his ideas about FINFET and its role in 5g and 6G wireless communication.

The second day started with the keynote of Prof. Bhim Singh, SERB National Science Chair; Emeritus Professor, IIT Delhi. In his keynote session, he discussed the development of EV's in India and how it is helpful to develop a sustainable environment

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**Mission:**

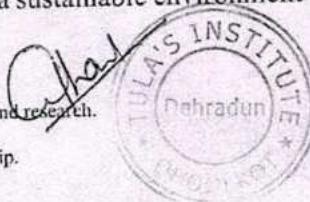
To promote intellectual and skilled human capital generation employment and entrepreneurship.

To be educational centre of excellence of multi ethnicity and diversity.

To establish as technology driven teaching learning institution.

To provide world class platform for research and innovation.

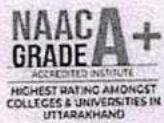
To inculcate social, environmental, heritage values.



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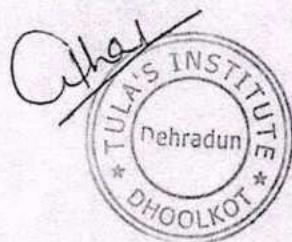
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for economic growth of the Indian and International economy. The second keynote for day two was delivered by Dr Deepak Joshi, Associate Professor at Centre for Biomedical Engineering, IIT Delhi. Dr Joshi discussed the scope for bio medical engineering in India, and how household development of Prosthetic organs helps citizens with reliability. The technical session was successfully completed.

Various research scholars and eminent professors from reputed institutes participated in this conference. All of them presented their conference paper in their respective domains. The conference was concluded by Dr Nishant Saxena Conference general chair ICACCM 2022 by thanking all the experts, delegates, participants and organizers.

#### Event Summary of ICACCM 2022:

Total research papers received	146 (One hundred forty-six)
Total Accepted papers for publication	72 (Seventy-Two)
Total Registered papers for publication in IEEE Xplore	59 (Fifty-Nine)
Total Technical Sessions Organized	08 (Eight)
Total Keynote Sessions Organized	05 (Five)



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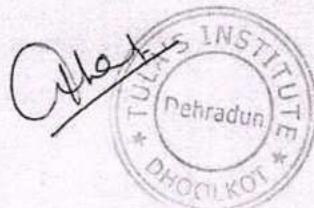
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## Conference Schedule

2022 international conference on advances in computing communication and materials  
(ICACCM'22), Sponsored By AICTE, Technically Co-Sponsored by IEEE  
10<sup>th</sup> – 11<sup>th</sup> November, 2022

### Day 1 Schedule (10<sup>th</sup> November, 2022):

S. No.	Time	Event
1	9:30 AM - 10:30 AM	Registration and High Tea
2	10:00 AM - 10:30 AM	Inauguration Ceremony
3	10:30 AM - 10:45 AM	Speech by Chief Guest (VC)
4	10:45 AM - 11:25 AM	Keynote by Dr. David Ashirvatham
		Token of Gratitude
5	11:25 AM - 12:05 PM	Keynote by Prof. Sudeb Dasgupta
		Token of Gratitude
6	12:05 PM - 12:45 PM	Keynote by Prof. R P S Gangwar
		Token of Gratitude
7	12:45 PM - 1:45 PM	Lunch
8	1:45 PM - 3:45 PM	Technical Session Track 1
		Technical Session Track 2
		Technical Session Track 3
		Technical Session Track 4
	3:45 PM - 4:30 PM	Tea



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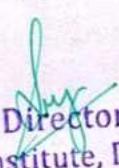
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## Conference Schedule

**2022 international conference on advances in computing communication and materials (ICACCM'22), Sponsored By AICTE, Technically Co-Sponsored by IEEE**

**10<sup>th</sup> – 11<sup>th</sup> November, 2022**

**Day 2 Schedule (11<sup>th</sup> November, 2022):**

S. No.	Time	Event
1	10:00 AM - 10:30 AM	Registration and High Tea
2	10:00 AM - 10:30 AM	Introduction to keynote speaker
3	10:30 AM - 10:45 AM	Welcome Talk by Conference Chair
4	10:45 AM - 12:15 PM	Keynote by Prof. Bhim Singh
		Token of Gratitude
5	12:15 PM - 01:10 PM	Keynote by Dr. Deepak Joshi
		Token of Gratitude
6	01:00 PM - 2:00 PM	Lunch
7	2:00 PM - 4:00 PM	Technical Session Track 5
		Technical Session Track 6
		Technical Session Track 7
		Technical Session Track 8
8	4:00 PM - 4:30 PM	Valedictory Session
9	4:30 PM - 4:45 PM	Tea



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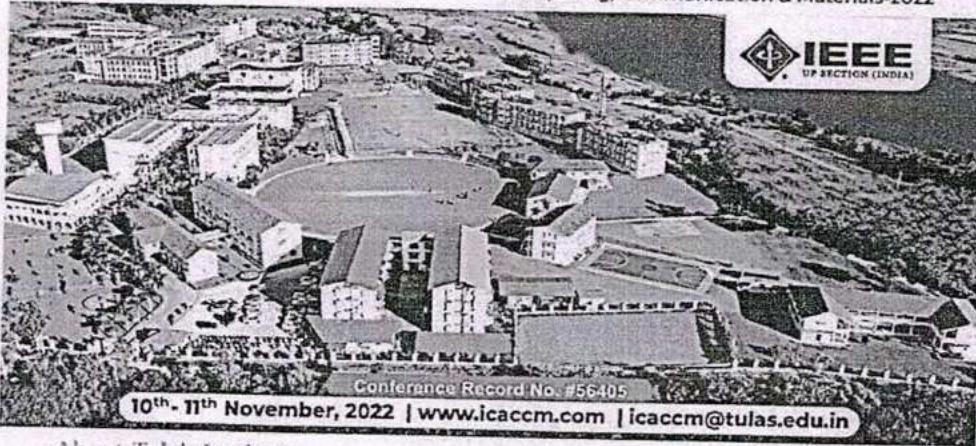
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International Conference on Advances in  
Computing, Communication & Materials-2022



Conference Record No. #56405

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#### About Tula's Institute

Tula's Institute, founded by Rishabh Educational Trust in 2006, is acknowledged as one of the "Top Engineering Colleges in Uttarakhand for its academic excellence. The Institute offers courses like B.Tech, M.Tech, BCA, MCA, B.Sc. (Agriculture), BBA, MBA and Diploma in Engineering with affiliations to Uttarakhand Technical University Dehradun, Sri Dev Suman Uttarakhand University, Badshahital, Tehri Garhwal, and Uttarakhand Board of Technical Education, Roorkee.

Tula's Institute is situated in the serene location of Dehradun, the state capital of Uttarakhand State in India. Spread across 22 acres, the Institute has separate house hostels for boys and girls, accommodation for staff, state of the art auditorium, cricket and football stadiums among other facilities. The Institute encourages personal and professional development of students and faculty members through respect, appreciation and commitment to outcome based education as a foundation for life-long learning, e-long learning.

#### About Conference:

The International Conference on Advances in Computing, Communication and Materials: ICACCM-2022 aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results about all aspects of Engineering.

Technology and Innovation. It also provides the premier interdisciplinary forum for scientists, engineers, and practitioners to present their latest research results, ideas, developments, and applications in all areas of Engineering Technology and Innovation. The conference will bring together leading academic scientists, researchers and scholars in the domain of interest from around the world.

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**Dr. Sandip Vijay**

Director, Tula's Institute, Dehradun, India.

#### Conference General Chair(s)

**Dr. Satish Kumar Singh**

Chairperson IEEE UP Section, India

**Dr. Nishant Saxena**

Dean Academics, Tula's Institute, Dehradun, India

#### Technical Chair(s)

**Dr. Raghav Garg**

Vice President (Tech.), Tula's Institute

**Dr. Vinay Rishiwal**

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International Conference on Advances in  
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MNNIT, Allahabad  
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DR. SEEMA AWASTHI  
IIT Kanpur  
DR. PAVAN KUMAR CHAUBEY  
Registrar, Tula's Institute

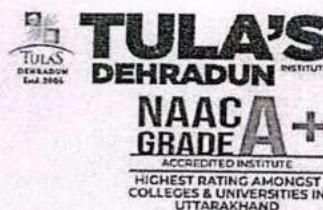
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DR. SHAILENDRA TIWARI  
TIET, Patiala  
MS. SHUCHITA SAXENA  
MIT, Moradabad  
DR. BALRAAJ SINGH  
GBPIET, Pauri Garhwal  
MS. INDERPREET KAUR  
Rohilkund University  
DR. AMIT SAXENA  
Mit Moradabad

Organising Chair

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DR. TRIPURESH JOSHI, TULA'S INSTITUTE  
MR. PURNENDU PRABHAT, TULA'S INSTITUTE

Technical Program Committee

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Pauri Garhwal  
DR. ASEEM CHANDEL  
Govt. Engineering college, Manipuri  
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IIT Delhi  
DR. RAHUL VAISH  
IIT Mandi  
DR. MANOJ BADONI  
Thapar Institute.  
DR. ROHTANG  
BTKIT Dwarakat  
DR. MAYANK AGGARWAL, PROFESSOR, CSE DEPTT.  
Guru Nanak Dev



Vision

To emerge as an academic centre producing world class professionals promoting innovation and research.

Mission:

To promote intellectual and skilled human capital generation employment and entrepreneurship.

To be educational centre of excellence of multi ethnicity and diversity.

To establish as technology driven teaching learning institution.

To provide world class platform for research and innovation.

To inculcate social, environmental, heritage values.

*[Signature]*  
Director  
Tula's Institute, Dehradun



# TULA'S DEHRADUN INSTITUTE

**NAAC GRADE A+**  
ACCREDITED INSTITUTE  
HIGHEST RATING AMONGST  
COLLEGES & UNIVERSITIES IN  
UTTARAKHAND

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IEEE Technically CO SPONSORED

## ICACCM 2022

International Conference on Advances in  
Computing, Communication & Materials-2022



Conference Record No. #56405

10<sup>th</sup>- 11<sup>th</sup> November, 2022 | [www.icaccm.com](http://www.icaccm.com) | [icaccm@tulas.edu.in](mailto:icaccm@tulas.edu.in)

Full Paper Submission Last Date:

01<sup>st</sup> September, 2022.

Acceptance Notification:

01<sup>st</sup> October, 2022.

Camera Ready paper:

10<sup>th</sup> October, 2022.

Registration Deadline:

05<sup>th</sup> October, 2022.



Scan the QR Code for paper submission

All papers must be submitted electronically at

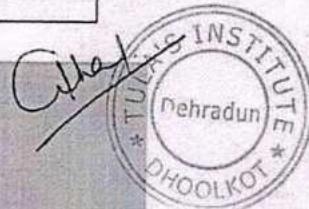
<https://cmt3.research.microsoft.com/ICACCM2022>

### Conference Registration Fees

Delegates	Category	Registration Fees
IEEE Member	Researchers/Academicians	Rs 5000
	Students	Rs 3000
	Foreign Participants	150 USD
Non IEEE Member	Researchers/Academicians	Rs 6000
	Students	Rs 4000
	Foreign Participants	175 USD
Industry Participants		Rs 8000

For any queries contact

**Dr. Nishant Saxena:** +91 7017510913  
**Dr. Sunil Semwal:** +91 8859373776  
**Dr. Tripuresh Joshi:** +91 9410793879



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*Suy*  
Director  
Tula's Institute, Dehradun



**TULA'S**  
**DEHRADUN** INSTITUTE

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ICACCM'22 Conference Banner



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## Geotagged Photographs

2022 international conference on advances in computing communication and materials

(ICACCM'22), Sponsored By AICTE, Technically Co-Sponsored by IEEE

10<sup>th</sup> – 11<sup>th</sup> November, 2022



Fig. 1: Lamp lighting the Inauguration Session of ICACCM'22



Fig 2. Conference souvenir launch on Inauguration Session ICACCM'22

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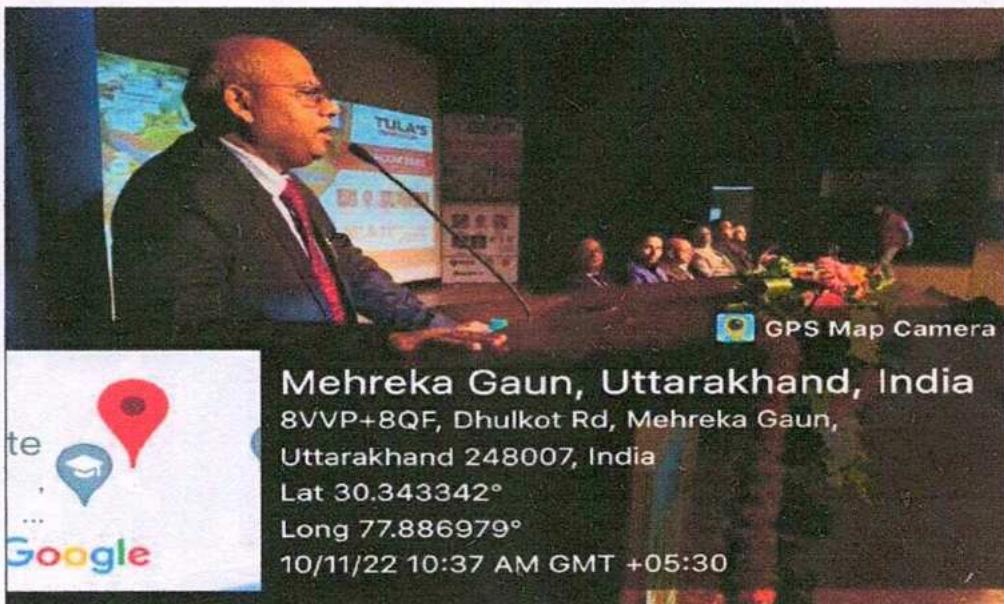


Fig 3. Address by Chief Guest Honorable Vice Chancellor (Prof. Onkar Singh) on Inauguration Session ICACCM'22

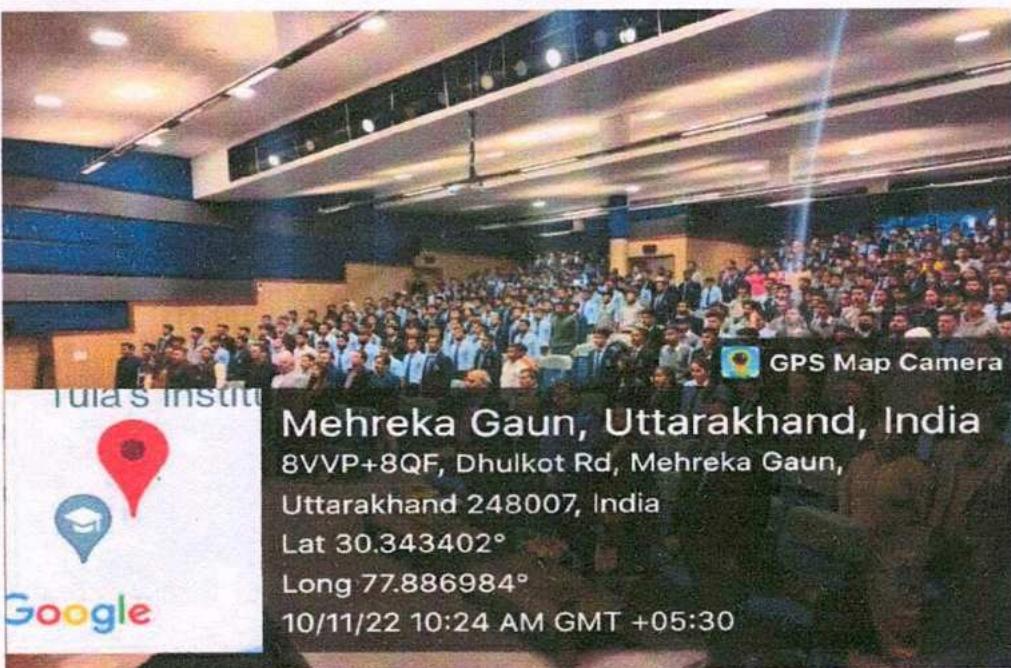


Fig 4. Inauguration Session ICACCM'22

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Fig 5. Group Photograph with dignitaries at Inauguration Session of ICACCM'22

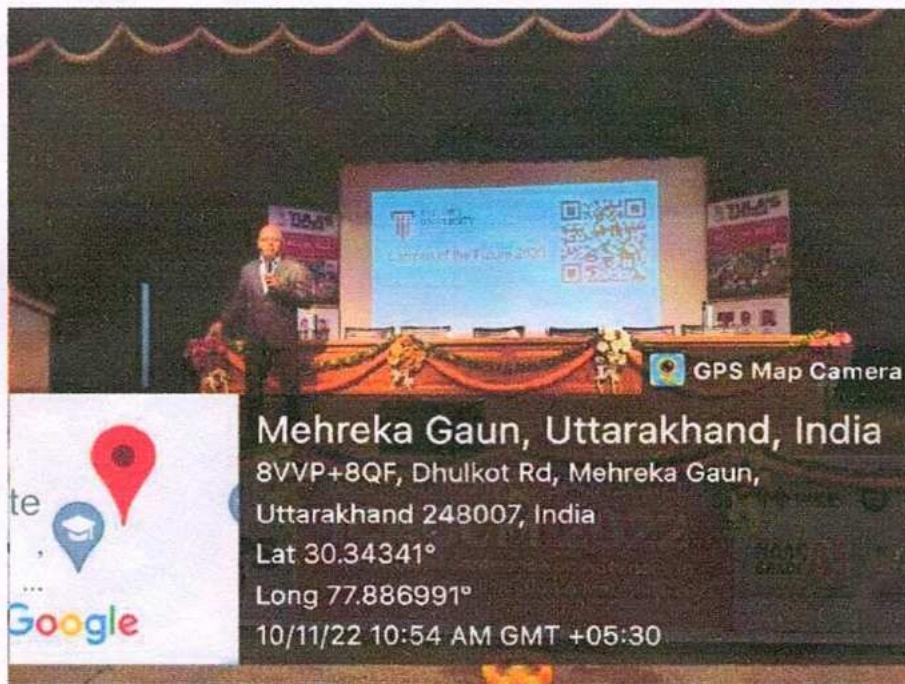


Fig 6. Keynote Session by Prof David Asirwatham at ICACCM'22, 10th Nov 2022

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*Dinesh*  
Director  
Tula's Institute, Dehradun

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Fig 17. Keynote Session by Prof. Bhim Singh at ICACCM'22, 11th Nov 2022



Fig 18. Keynote Session by Dr. Deepak Joshi at ICACCM'22, 11th Nov 2022

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Fig 19. Keynote Session by Dr. Deepak Joshi at ICACCM'22, 11th Nov 2022



Fig 20. Keynote Session by Dr. Deepak Joshi at ICACCM'22, 11th Nov 2022

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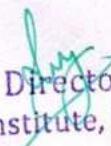
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Fig 25. Valedictory Session at ICACCM'22, 11th Nov 2022



Fig 26. Valedictory Session at ICACCM'22, 11th Nov 2022

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Director  
Tula's Institute, Dehradun



Fig 27. Valedictory Session at ICACCM'22, 11th Nov 2022



Fig 28. Vote of Thanks by Conference General Chair at ICACCM'22, 11th Nov 2022

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*[Signature]*  
Director  
Tula's Institute, Dehradun

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Fig 29. Group Photograph at Valedictory Session at ICACCM'22, 11th Nov 2022



Fig 30. Group Photograph at Valedictory Session at ICACCM'22, 11th Nov 2022

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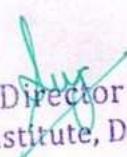
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Director  
Tula's Institute, Dehradun



RESEARCH AND DEVELOPMENT  
CELL IS ORGANIZING

**EXPERT TALK ON  
INTELLECTUAL  
PROPERTY RIGHTS**



**DR. LAKSHMI MEENA**  
Examiner of Patents,  
NIPAM Officer



**DR. VINITA SUYAL**  
Examiner of Patents,  
NIPAM Officer

8TH AUG, 2022  
2:30 PM - 4:30 PM

Scan to join  
the meeting



**Event Report: Expert Talk on Intellectual Property Rights**

Date: August 8, 2022

Time: 2:30 PM - 4:30 PM

Venue: Tula's Institute, Dehradun

Organizer: Research and Development Cell, Tula's Institute

**Event Description:**

An informative session on Intellectual Property Rights was conducted, featuring expert speakers from the field. The event aimed at enriching the understanding of IP rights among students and professionals alike.

**Speakers:**

1. Dr. Lakshmi Meena

Designation: Examiner of Patents, NIPAM Officer

Key Points Discussed: Dr. Lakshmi Meena elaborated on the processes involved in patent filing and the significance of securing patents in the technological sector. She emphasized the role of innovation in enhancing the IP landscape.

**Director**  
**Tula's Institute, Dehradun**

## 2. Dr. Vinita Suyal

Designation: Examiner of Patents, NIPAM Officer

Key Points Discussed: Dr. Vinita Suyal focused on the practical aspects of intellectual property in academia and research. She highlighted case studies where IP rights played a critical role in commercial and research settings.

### Audience Participation:

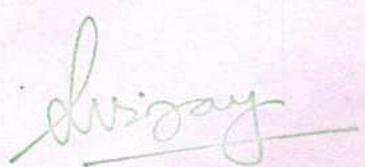
The session witnessed active participation from over 150 attendees, comprising students, faculty, and external visitors. The interactive Q&A session post-presentations provided a platform for attendees to clarify doubts and gain deeper insights into intellectual property management.

### Outcome:

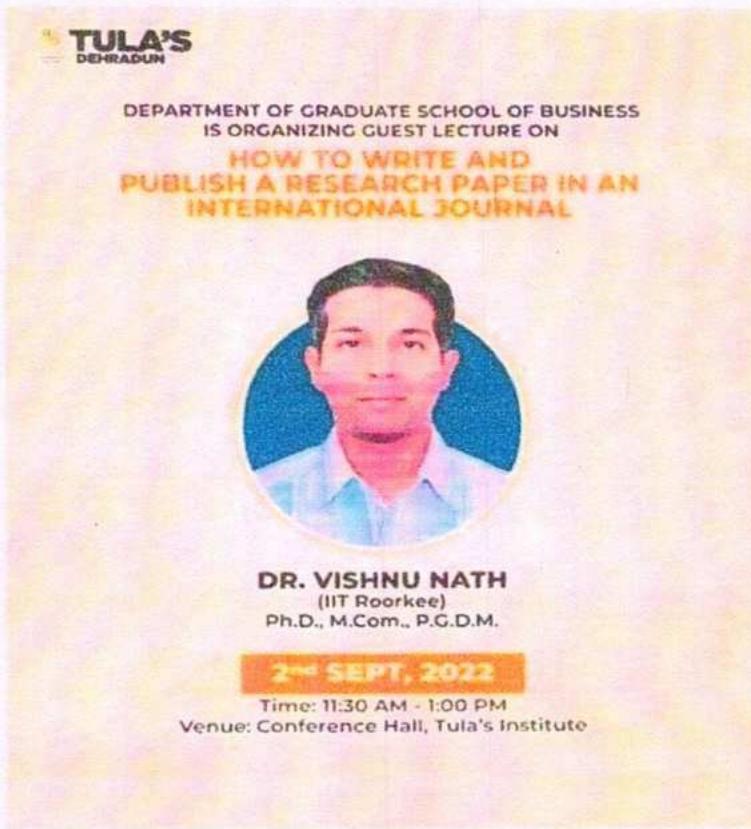
The talk successfully raised awareness about the importance of intellectual property rights. It empowered the attendees with knowledge to navigate the complexities of IP in their respective fields.

### Conclusion:

The expert talk on Intellectual Property Rights was a commendable effort by Tula's Institute's Research and Development Cell in fostering a better understanding of intellectual property among the future innovators and protectors of intellectual creations.



Director  
Tula's Institute, Dehradun



#### Event Overview:

Title: How to Write and Publish a Research Paper in an International Journal

Date: September 2, 2022

Time: 11:30 AM - 1:00 PM

Venue: Conference Hall, Tula's Institute

Speaker: Dr. Vishnu Nath (Ph.D., M.Com., P.G.D.M., IIT Roorkee)

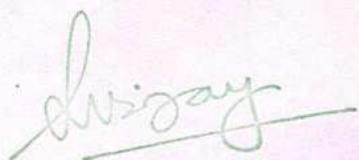
#### Objectives of the Event:

The main goal of the lecture was to equip students and faculty with the knowledge and skills necessary to successfully write and publish research papers in international journals, emphasizing the importance of research in academic and professional growth.

#### Attendees:

The lecture attracted a diverse group of participants including undergraduate and graduate students, faculty members, and budding researchers from the Department of Graduate School of Business and other departments within Tula's Institute.

#### Key Topics Covered:



Divyay  
Director  
Tula's Institute, Dehradun

1. Understanding Research Publication: Dr. Nath began by explaining the significance of publishing in peer-reviewed journals and the impact it has on both academic career progression and industry recognition.
2. Choosing the Right Journal: He discussed strategies for selecting appropriate journals that align with the topic and scope of one's research.
3. Writing Tips and Techniques: Detailed guidance was provided on structuring a research paper, including tips on crafting a compelling introduction, literature review, methodology, results, and discussion.
4. Peer Review Process: Insights were shared about the peer review process, including common reasons for rejection and how to respond to reviewers' comments.
5. Ethical Considerations: Dr. Nath emphasized the importance of ethics in research, including issues of plagiarism, data falsification, and the necessity of obtaining proper approvals.

#### Interaction and Engagement:

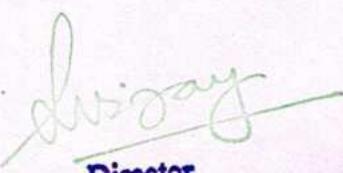
The session included a Q&A period, where Dr. Nath answered various questions from the audience, providing tailored advice on challenges they face in their research endeavors.

#### Feedback:

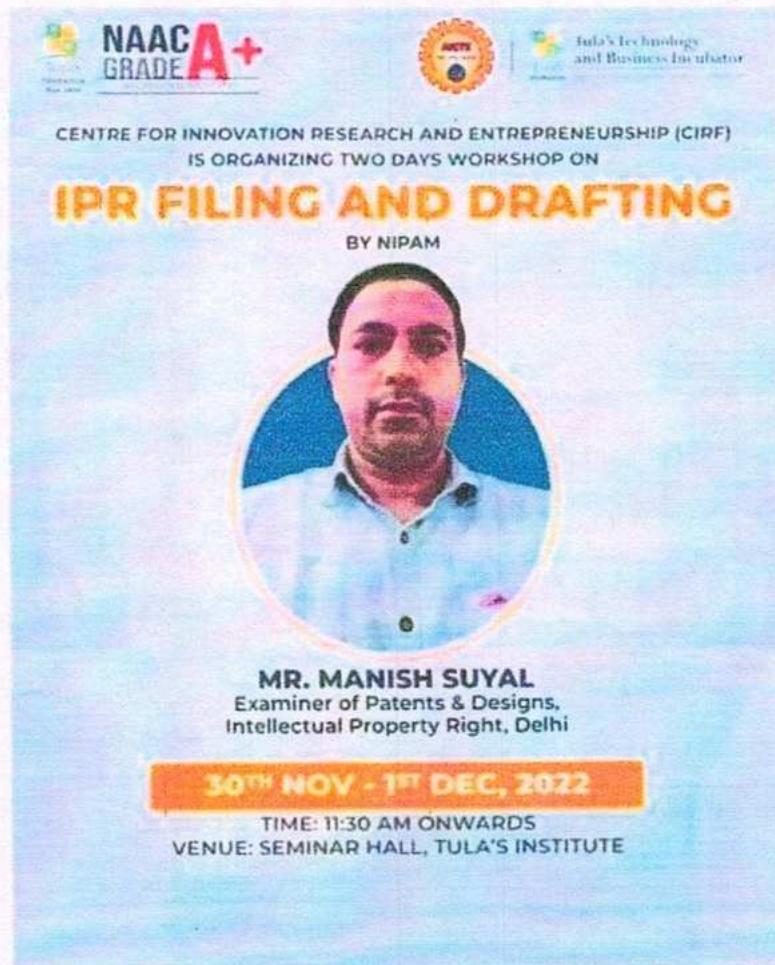
Attendee feedback was overwhelmingly positive, with many expressing appreciation for the clarity of the presentation and the practical, actionable advice given. Some suggested having more such workshops focusing on specific aspects of research writing.

#### Conclusion:

The event was deemed highly successful in providing valuable information and motivation to the attendees about publishing their research. The lecture not only enhanced their understanding of the publication process but also inspired them to actively pursue research opportunities.



Divyanshu  
Director  
Tula's Institute, Dehradun



#### Event Overview:

Title: IPR Filing and Drafting Workshop

Dates: November 30 - December 1, 2022

Time: Starting 11:30 AM

Venue: Seminar Hall, Tula's Institute

Speaker: Mr. Manish Suyal, Examiner of Patents & Designs, Intellectual Property Right, Delhi

Organizer: Centre for Innovation Research and Entrepreneurship (CIRE), Tula's Institute

#### Objectives:

The workshop aimed to provide comprehensive training on intellectual property rights (IPR) filing and drafting procedures. It was designed to enhance the understanding of IPR among students, faculty, and local entrepreneurs, focusing on practical aspects of patent and design examination.

*divyay*  
Director  
Tula's Institute, Dehradun

### **Participants:**

The event was attended by a mixed group of participants including students from various departments, faculty members, and local business owners interested in securing intellectual property rights for their innovations.

### **Key Topics Covered:**

1. Introduction to Intellectual Property Rights: Basics of IPR, including different types of intellectual property (IP) and their importance.
2. Patent Filing Process: Detailed steps involved in filing a patent, important considerations, and legal requirements.
3. Drafting of Patents: Techniques for drafting effective patent documents that meet the legal standards.
4. Designs and Trade Secrets: Guidance on protecting industrial designs and maintaining trade secrets.
5. Navigating IPR Challenges: Strategies to overcome common challenges in the IPR filing process.

### **Activities and Engagement:**

Interactive Sessions: Mr. Suyal conducted several interactive sessions where participants could ask specific questions related to their projects.

Practical Exercises: Hands-on exercises on drafting patent documents.

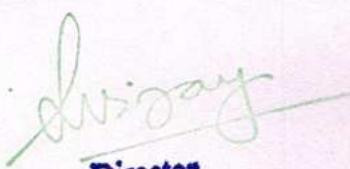
Group Discussions: Small group discussions to encourage collaboration and sharing of ideas among participants.

### **Feedback:**

Participants provided positive feedback on the workshop, appreciating the in-depth knowledge shared by Mr. Suyal and the practical insights into the IPR process. They valued the interactive nature of the sessions and the opportunity to engage directly with an expert in the field.

### **Conclusion:**

The two-day workshop was highly successful in demystifying the complexities of IPR for attendees and provided them with the tools and confidence to pursue intellectual property protection for their innovations. The hands-on approach was particularly effective in enhancing understanding and retention of the material covered.



Dr. Suyal  
Director  
Tula's Institute, Dehradun



RESEARCH AND DEVELOPMENT CELL  
IS ORGANIZING AN EXPERT TALK ON

# INTELLECTUAL PROPERTY RIGHT



WITH  
**MR. INDRA KUMAR MAHAWAR**

NIPAM Officer  
Group 'A' Gazetted DPIIT  
Ministry of Commerce and Industry

26 TH DEC, 2022  
1:30 PM - 3:00 PM

Google Meet  
Scan to join  
the meeting



## Event Overview:

Title: Expert Talk on Intellectual Property Right

Date: December 26, 2022

Time: 1:30 PM - 3:00 PM

Format: Online (Google Meet)

Speaker: Mr. Indra Kumar Mahawar, NIPAM Officer, Group 'A' Gazetted DPIIT, Ministry of Commerce and Industry

**Objectives:** The talk was designed to enlighten students, researchers, and faculty about the critical aspects of intellectual property rights, focusing on the legal frameworks and strategic importance of IP in fostering innovation and protecting creative works.

*Aditya*  
Director  
Tula's Institute, Dehradun

**Audience:**

This event targeted a wide array of participants including students across various departments, faculty members, researchers, and individuals with interests in intellectual property laws and practices.

**Key Content Delivered:**

1. Introduction to IP Rights: Mr. Mahawar started with a basic overview of what intellectual property rights encompass, including patents, copyrights, trademarks, and trade secrets.
2. Importance of IP for Innovators: The significance of securing IP rights for innovators and businesses to safeguard their inventions and gain competitive advantages was emphasized.
3. IP Laws and Regulations: Detailed explanation of current IP laws and regulations in India, how they align with international laws, and the role of DPIIT in enforcing these laws.
4. Filing for IP Protection: Step-by-step guidance on the process of filing for IP protection, including tips for effective application.
5. Case Studies: Several case studies were discussed to illustrate the practical application of IP laws and the consequences of IP infringement.

**Engagement and Interaction:**

**Q&A Session:** A vibrant Q&A session followed the talk, where participants engaged with Mr. Mahawar on various intricate aspects of IP rights.

**Interactive Polls:** Short interactive polls were conducted to understand the participants' prior knowledge and their learning progress during the talk.

**Feedback:**

The feedback collected from participants was overwhelmingly positive. They appreciated the depth of information provided and the clarity of presentation. Many participants expressed an increased understanding of the importance of intellectual property rights and showed interest in further educational opportunities on this topic.

**Conclusions:**

The expert talk by Mr. Indra Kumar Mahawar was successful in raising awareness about intellectual property rights among the academic and research community at the institute. It highlighted the necessity of IP protection in today's innovative and competitive environment.

*Indra Kumar*  
Director  
Tula's Institute, Dehradun



GRADUATE SCHOOL OF BUSINESS  
IS ORGANIZING A GUEST LECTURE ON  
**RESEARCH PAPER  
WRITING**



**DR. TANU KATHURIA**

Research Scientist  
& Economist

**14<sup>TH</sup> JAN, 2023**  
**2:00 PM ONWARDS**

Google Meet  
TO JOIN THE MEETING  
PLS SCAN THE QR CODE



EVENT COORDINATORS: DR. PREETI RANA & DR. KAMLESH JOSHI

**Event Overview:**

Title: Guest Lecture on Research Paper Writing

Date: January 14, 2023

Time: 2:00 PM Onwards

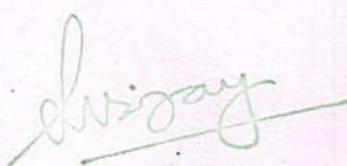
Format: Online via Google Meet

Speaker: Dr. Tanu Kathuria, Research Scientist and Economist

Event Coordinators: Dr. Preeti Rana & Dr. Kamlesh Joshi

**Objectives:**

The primary objective of this lecture was to guide students and faculty on effective research paper writing techniques, aiming to enhance their skills in producing publishable academic work.



Director  
Tula's Institute, Dehradun

**Audience:**

The lecture was intended for students and faculty of the Graduate School of Business and other interested parties from Tula's Institute who were keen on improving their research writing skills.

**Key Content Delivered:**

**Basics of Research Writing:** Dr. Kathuria started with the fundamentals of academic research, including identifying research gaps and formulating research questions.

**Structure of a Research Paper:** Detailed discussion on the typical structure of a research paper, including sections like abstract, introduction, literature review, methodology, results, and discussion.

**Writing Style and Techniques:** Emphasis on academic writing style, referencing techniques, and avoiding plagiarism.

**Publishing in Academic Journals:** Tips on selecting the right journals for submission, understanding the peer review process, and responding to feedback.

**Ethical Considerations:** Overview of ethical considerations in research, including consent and confidentiality.

**Activities and Engagement:**

**Interactive Discussions:** Participants engaged in discussions about challenges they face while writing research papers.

**Q&A Session:** A vibrant question and answer session where Dr. Kathuria addressed specific queries from attendees.

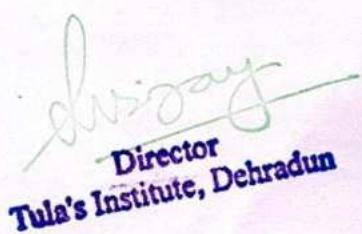
**Practical Exercises:** Brief exercises on drafting sections of a research paper, which helped in understanding the practical application of the concepts discussed.

**Feedback:**

The feedback from participants was extremely positive, highlighting the clarity of explanation and the relevance of the content to their academic needs. Many expressed a desire for more such sessions focusing on advanced topics in research writing.

**Conclusion:**

The guest lecture on research paper writing was highly beneficial for attendees, equipping them with essential skills and knowledge to enhance their academic writing abilities. The session was well-received, and the engagement level was high.



Dr. Divyanshu  
Director  
Tula's Institute, Dehradun



We are hosting a grand event!

## EXPLORING THE EMERGING STARTUP ECOSYSTEM IN UTTARAKHAND



**MR. PRATEEK GUPTA**  
Cluster Head, IDFC FIRST Bank



**MS. POOJA KUMAR**  
Director, Innoe Intellecs



**MR. BINAY BISHT**  
Area Sales Manager,  
IDFC FIRST Bank



**MR. MANEESH KUMAR**  
Additional Director, STPL, Ministry  
of Electronics & IT



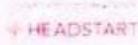
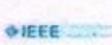
**MR. ABHISHEK SRIVASTAVA**  
Sr. Client Associate Partner,  
Start Up Banking, North

**25TH FEB, 2023**

TIME: 11:00 AM ONWARDS

VENUE: SEMINAR HALL, TULA'S INSTITUTE

ECOSYSTEM PARTNERS:



### Event Overview:

Title: Exploring the Emerging Startup Ecosystem in Uttarakhand

Date: February 25, 2023

Time: 11:00 AM Onwards

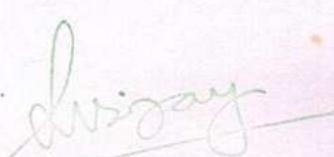
Venue: Seminar Hall, Tula's Institute

Sponsored by: IDFC FIRST Bank, in association with Moneycontrol

Ecosystem Partners: Startup Uttarakhand, IEEE, Uttarakhand, and Headstart

### Objectives:

The event aimed to delve into the growing startup landscape in Uttarakhand, providing insights from industry experts, facilitating networking opportunities, and discussing support mechanisms for startups in the region.

  
**Dr. Divyajyoti Singh**  
Director  
Tula's Institute, Dehradun

**Prominent Speakers:**

Mr. Prateek Gupta, Cluster Head, IDFC FIRST Bank  
Ms. Pooja Kumar, Director, Innovate Intellects  
Mr. Binay Bisht, Area Sales Manager, IDFC FIRST Bank  
Mr. Maneesh Kumar, Additional Director, STPI, Ministry of Electronics & IT  
Mr. Abhishek Srivastava, Sr. Client Associate Partner, Start Up Banking, North

**Key Topics Covered:**

Startup Trends in Uttarakhand: Analysis of current trends and future potential within the state's startup ecosystem.  
Financial Support: Discussion on various funding avenues available for startups, including venture capital, loans, and government grants.  
Policy Environment: Insight into the local and national policies affecting startups, particularly those based in Uttarakhand.  
Success Stories: Presentation of case studies and success stories from local startups that have achieved significant milestones.  
Challenges and Solutions: An open discussion on the challenges faced by startups in the region and possible solutions.

**Activities and Engagement:**

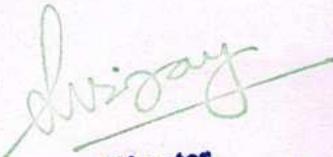
Panel Discussions: Insightful discussions among the speakers, providing varied perspectives on startup dynamics.  
Networking Sessions: Designated time slots for networking, allowing attendees to connect with speakers and other entrepreneurs.  
Interactive Q&A: Active participation from the audience during the Q&A sessions, addressing specific queries related to starting and running a business in Uttarakhand.

**Feedback:**

Feedback from participants was overwhelmingly positive, with many appreciating the depth of knowledge shared by the speakers and the opportunity to engage with industry leaders and peers. Participants also valued the practical advice and networking opportunities provided.

**Conclusion:**

The event successfully highlighted the vibrant startup ecosystem in Uttarakhand and provided valuable insights and networking opportunities to budding entrepreneurs and established business leaders alike. It served as a significant platform for discussion on innovation, growth, and challenges in the startup sector.



Divyanshu  
Director  
Tula's Institute, Dehradun



GRADUATE SCHOOL OF BUSINESS  
IS ORGANIZING A SESSION ON

## CASE WRITING



**PROF (DR) RAJAT AGARWAL**  
Associate Dean, DOMS IITR

**3RD MARCH, 2023**

TIME: 2:00 PM ONWARDS  
VENUE: SEMINAR HALL, TULA'S INSTITUTE

**EVENT COORDINATOR:**  
Ms. Laxmi Negi, Ms. Megha Ahuja

### Event Overview:

Title: Session on Case Writing

Date: March 3, 2023

Time: 2:00 PM Onwards

Venue: Seminar Hall, Tula's Institute

Speaker: Prof. (Dr.) Rajat Agarwal, Associate Dean, DOMS IITR

Event Coordinators: Ms. Laxmi Negi, Ms. Megha Ahuja

### Objectives:

*Dipak*  
Director  
Tula's Institute, Dehradun

The session aimed to enhance the skills of students and faculty in writing business cases, which are crucial for academic research and teaching in business studies. The workshop focused on methodologies for developing compelling case studies that are both informative and engaging.

**Audience:**

The workshop was attended by students, faculty members, and aspiring case writers from Tula's Institute and other institutions interested in mastering the art of case writing.

**Key Content Delivered:**

**Fundamentals of Case Writing:** Prof. Agarwal introduced the basic elements of a business case, including the structure, objectives, and the importance of setting a clear learning agenda.

**Research Techniques:** Techniques for conducting effective research to gather data for case studies.

**Writing Process:** Detailed discussion on the narrative style, data integration, and how to make the case interactive and thought-provoking for readers.

**Publishing Cases:** Guidance on the submission process for case studies to academic journals and case repositories.

**Ethical Considerations:** Best practices in maintaining confidentiality and ethical standards while writing and publishing case studies.

**Activities and Engagement:**

**Workshop Activities:** Participants engaged in hands-on activities where they drafted outlines for their own cases based on templates provided by Prof. Agarwal.

**Interactive Discussions:** Lively discussions were held on common challenges in case writing and innovative solutions to these issues.

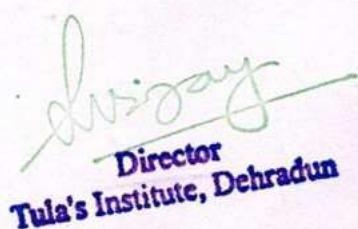
**Feedback Sessions:** Prof. Agarwal provided individual feedback on case outlines drafted by participants during the session.

**Feedback:**

Participants provided positive feedback, appreciating the practical insights and detailed guidance provided by Prof. Agarwal. Many highlighted the value of the hands-on activities that allowed them to apply what they learned immediately.

**Conclusion:**

The session was highly successful, equipping participants with essential skills and knowledge in case writing. It fostered a deeper understanding of the intricacies involved in creating educational business cases that effectively communicate real-world challenges and solutions.



Divyanshu  
Director  
Tula's Institute, Dehradun



# HACKATHON - 2023

NATIONAL LEVEL  
MARATHON CODING COMPETITION



20TH - 21ST APRIL, 2023

CONTACT DETAILS

Dr. Sunil Semwal, 885937366 | Dr. Tirupresh Joshi, 9410793879

Collaborative Partners  
 

Eco-system Partner  
 HEADSTART

REGISTRATION  


## Event Overview:

Title: Hackathon 2023

Dates: April 20 - 21, 2023

Venue: Tula's Institute, Dehradun

Prizes: Cash prize worth ₹500,000 and a startup booster program worth ₹1,000,000

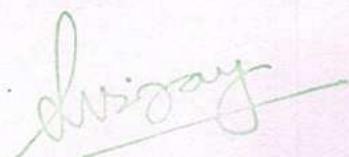
Contact Persons: Dr. Sunil Semwal, Dr. Tirupresh Joshi

Collaborative Partners: Incutopia, EDUGYAN

Ecosystem Partner: Headstart Foundation

## Objectives:

The Hackathon aimed to provide a platform for students and professionals across the nation to showcase their coding skills, foster innovation, and solve real-world problems through intensive programming challenges.



Director  
Tula's Institute, Dehradun

### **Participants:**

The competition attracted a diverse group of participants, including university students, software developers, and budding entrepreneurs from across the country.

### **Format and Rules:**

The competition was structured as a continuous 24-hour coding marathon. Participants could compete in teams or individually. They were tasked with developing software solutions to a variety of problems provided at the start of the event.

### **Key Highlights:**

**Innovative Solutions:** Participants developed innovative software applications and tools, addressing challenges in various domains such as healthcare, education, and environmental sustainability.

**Mentorship:** Experienced mentors from the partnering organizations provided guidance and support to the participants throughout the event.

**Judging and Evaluation:** Solutions were judged based on creativity, scalability, impact, and technical complexity. The panel included industry experts and academicians.

### **Activities and Engagement:**

**Opening Ceremony:** Kick-off with speeches from key figures in academia and the tech industry, setting the stage for the competition.

**Coding Sessions:** Participants engaged in intense coding sessions, with regular check-ins by mentors.

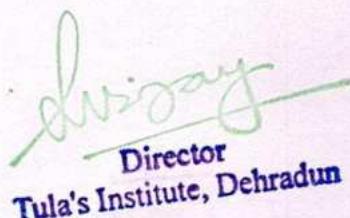
**Workshops:** Several technical workshops were conducted by collaborative partners, offering insights into advanced programming techniques and industry practices.

**Networking Opportunities:** The event facilitated networking, allowing participants to connect with peers and industry professionals.

### **Event Summary**

Tula's Institute organized a National level Marathon Coding Competition Tula's Hackathon 2023 on 20th and 21st April 2023. The two-day event witnessed the participation of talented individuals and teams from various organizations across different states of India.

The program started with Sarshwati Vandana and the national anthem, followed by the welcome note from Dr. Anil Kumar, Director, Tula's Institute, who formally welcomed the Honorable Chief guest Professor Durgesh Pant, Director General UCOST, Dr. Lokesh Sharma Director, Department of Information Technology, School of Information Technology, Manipal University Jaipur, Dr. Sumit Shrivastava Director, Department of Information Technology, Manipal University Jaipur, Dr. Mahesh Jangid Associate Professor, Department of Computer



Dr. Durgesh Pant  
Director  
Tula's Institute, Dehradun

Science & Engineering, Manipal University Jaipur, Mr. Balaji Ayyangar (Lead architect Trikon), and participants from various organizations from different states and organizations.

The Honorable Chief Guest Professor Durgesh Pant, Director General UCOST, addressed the audience and encouraged the participants to compete with the best of their talent. In the first keynote session, Dr. Lokesh Sharma, Deputy Director (Department of Information Technology, School of Information Technology, Manipal University Jaipur), presented a session on the application of AI and ML, where he shared inciteful applications of artificial intelligence and machine learning in modern-day.

The second keynote session was presented by Mr. Balaji Ayyanger, (Lead architect Trikon), who shared information on Finance technology, Block chain, IOT and had a wonderful interaction with the participants for the guidelines of the program, Dr. Anand Kumar Gupta shared Do's and Don'ts, along with the important rules and regulations for the participants, in order to ensure the successful and smooth functioning of the program.

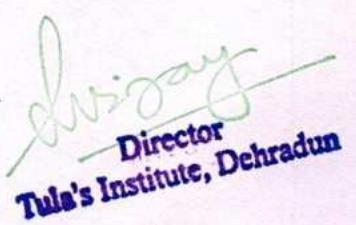
After 30 hours of coding, the results were announced during the valedictory session. The first prize was won by the Team of Sachin from MIT Moradabad. The second prize was awarded to the Team of Mohit Kumar from Tula's Institute, and the third prize was given to the Team of Naman Bajpayee, also from Tula's Institute. Additionally, two Consolation Prizes were given to the Team of Nikhil Mathur from Tula's Institute and the Team of Kalpana Mehta from Chandigarh University.

Dr. Raghav Garg, Vice President (Technology), appreciated the participants and took part in the prize distribution ceremony. Dr. Sunil Semwal, Dean R&D, Dr. Tripuresh Joshi, Coordinator R&D, Mr. Vaibhav TPO, Dr. Sandeep Kumar, and Mr. Sandeep Gautam were also present during the event.

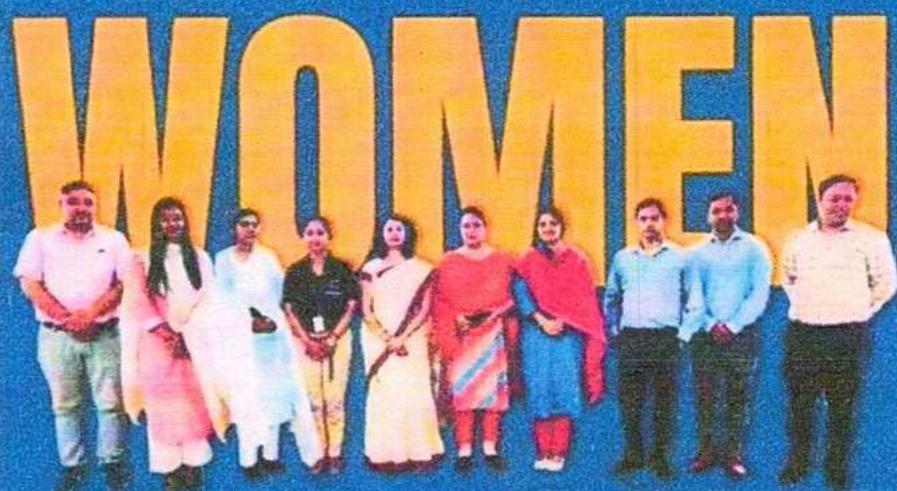
The event was a great success, and the participants worked hard to showcase their coding skills. Such events provide an excellent opportunity for students and professionals to showcase their skills and learn from industry experts, which can help them grow and succeed in their careers.

#### **Feedback:**

Feedback collected from participants and spectators was overwhelmingly positive, noting the high level of organization, the quality of problems solved, and the overall energetic atmosphere. Many appreciated the learning and networking opportunities provided by the event.



Divyanshu  
Director  
Tula's Institute, Dehradun



# Entrepreneurship Development

*Expert Talk*



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## Event Overview:

Title: Women Entrepreneurship Development Expert Talk

Venue: Tula's Institute, Dehradun

Focus: Promoting and fostering women entrepreneurship

Contact Information: +91-6366937159; Visit Tula's Institute Website

## Objectives:

The event aimed to empower women by providing insights and guidance on entrepreneurship, highlighting the opportunities and challenges faced by women entrepreneurs. It sought to inspire and motivate women to pursue entrepreneurial ventures and provide them with the necessary tools and knowledge to succeed.

*Dwijay*  
Director  
Tula's Institute, Dehradun

**Audience:**

The event targeted aspiring and established women entrepreneurs, students, faculty members, and local businesswomen interested in expanding their entrepreneurial endeavors.

**Speakers and Panelists:**

The poster features a diverse group of speakers and panelists, presumably including successful entrepreneurs, educators, and business leaders who are knowledgeable in the fields of entrepreneurship and business development.

**Key Topics Covered:**

Entrepreneurial Opportunities for Women: Discussion on various opportunities available for women entrepreneurs in different sectors.

Challenges Faced by Women Entrepreneurs: An exploration of the specific challenges that women face in the entrepreneurial ecosystem and strategies to overcome them.

Success Stories: Sharing inspiring stories of women who have successfully established their businesses.

Resource Availability: Information on resources and support systems available for women entrepreneurs, including funding, mentoring, and networking opportunities.

Skill Development: Workshops and sessions focused on developing specific skills such as business planning, digital marketing, and financial management tailored for entrepreneurial success.

**Activities and Engagement:**

Panel Discussions: Engaging discussions with experts sharing their insights and experiences.

Networking Sessions: Opportunities for attendees to network with peers and established entrepreneurs.

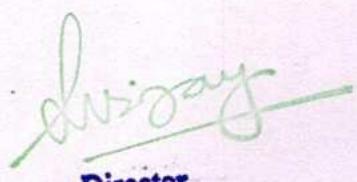
Interactive Q&A: A segment allowing attendees to ask questions and interact directly with the speakers to gain deeper understanding and personalized advice.

**Feedback:**

The feedback from participants was overwhelmingly positive, with many highlighting the valuable insights gained from the speakers and the encouraging environment that supported women's entrepreneurship. Participants appreciated the practical advice and the inspiration drawn from success stories.

**Conclusion:**

The Women Entrepreneurship Development Expert Talk was a significant event that successfully inspired and empowered women by highlighting the tools, challenges, and opportunities in entrepreneurship. It provided a platform for learning, networking, and growth, encouraging more women to venture into and thrive in business.



Dr. Divyanshu  
Director  
Tula's Institute, Dehradun



#### Event Report: 3-Day Hands-On Training on MATLAB Programming

Date: 20th - 22nd July 2023

Venue: Lab 5, Tula's Institute

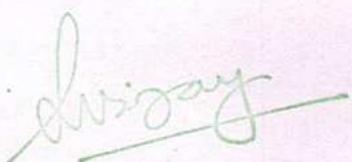
Organized by: CIRE, Tula's Institute

#### Overview:

The 3-day hands-on training program on MATLAB Programming, held at Tula's Institute, was a resounding success, attracting numerous participants eager to enhance their skills in MATLAB. The event was meticulously organized by CIRE and featured expert trainers who are well-versed in the intricacies of MATLAB programming.

#### Trainers:

Mr. Manoj Kumar - Senior Application Engineer at DesignTech Systems Pvt. Ltd.



Dr. Divyanshu Chandel  
Director  
Tula's Institute, Dehradun

Dr. Dhruv Chandel - Member of the Education Team at MathWorks.

**Program Highlights:**

The training covered a wide array of topics, designed to provide a thorough understanding of MATLAB's capabilities. Participants had the opportunity to engage in practical sessions, which allowed them to apply theoretical knowledge in real-world scenarios. The sessions were structured to cater to both beginners and advanced users, ensuring a comprehensive learning experience for all attendees.

**Key Takeaways:**

In-depth knowledge of MATLAB's environment and its applications.

Enhanced ability to write efficient MATLAB codes and scripts.

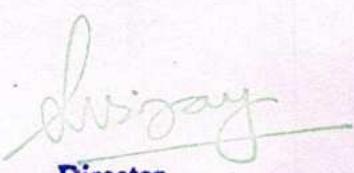
Practical experience through hands-on sessions which included problem-solving and project simulations.

**Feedback:**

The feedback received from participants was overwhelmingly positive, with many commending the expertise of Mr. Manoj Kumar and Dr. Dhruv Chandel. The hands-on approach was particularly appreciated, as it enabled participants to better grasp complex concepts and techniques.

**Conclusion:**

The 3-day training program on MATLAB Programming proved to be an invaluable opportunity for attendees to boost their technical skills under the guidance of seasoned professionals. Tula's Institute looks forward to organizing more such events in the future to foster learning and development in various technical fields.



Divyajyoti Singh  
Director  
**Tula's Institute, Dehradun**

**Collaborative Quality  
Initiatives  
With  
other Institutions**

**Criteria 3.5.1 Number of Collaborative activities for research, Faculty exchange,  
Student exchange/ internship per year**

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- Establish as technology driven teaching learning institution.
- Provide world class platform for research and innovation.
- Inculcate social, environmental, heritage values.

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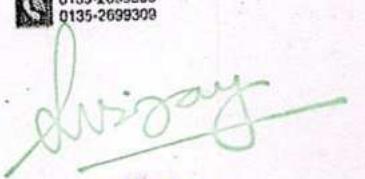
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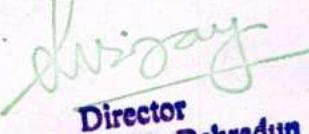
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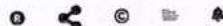
## Switching and Analog/RF performance improvement of Graded Channel Double Gate Junctionless FET: A Simulation Study

Publisher: IEEE

Cite This

PDF

Shivam Kumar ; Rajendra Joshi ; Tripuresh Joshi ; Sunil Semwal All Authors ...



49

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#### Abstract



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#### Document Sections

##### I. Introduction

##### Abstract:

A graded-channel double gate junction less FET (GC-DG-JL-FET) is investigated in this paper, to improve switching and RF performance of the device. The channel-region of ... [View more](#)

##### II. Device Structure and Simulation Setup

##### Metadata

A graded-channel double gate junction less FET (GC-DG-JL-FET) is investigated in this paper, to improve switching and RF performance of the device. The channel-region of the proposed structure comprises of two non-overlapping materials. The first region is constructed using Silicon-Germanium (*SiGe*) , and the second is composed of Silicon (Si), having channel lengths  $L_{C1}$  and  $L_{C2}$  , respectively. The region wise uniform doping concentration profiles are used for this study, which are  $N_{d1}$  for region one and  $N_{d2}$  for region two. The Hafnium Oxide ( $HfO_2$ ) is used as gate oxide. The operation of the proposed device assessed using drain current ( $I_{ds}$ ) , trans-conductance ( $g_m$ ) , trans-conductance generation efficiency ( $g_m/I_{ds}$ ) , unity gain cutoff frequency ( $f_t$ ) . Further, for a fixed channel length (20 nm), the lengths of the two non-overlapping regions (i.e.  $L_{C1}$  and  $L_{C2}$  ) of GC-DG-JLFET is optimized using 2D-simulations to analyze the effect of the variation in the RF-performance of the structure. It is noted, an increment in  $L_{C1}$  improves electrostatic control of the gate under the OFF state which enhances the RF characteristics of the proposed device. When optimized, the GC-DG-JL-FET for  $L_{C1} = 15$  nm offers a peak  $g_m$  and  $f_t$  of  $1580 \mu S/\mu m$  and 470 GHz, respectively for a total channel length of 20 nm. On account of such results, the GC-DG-JL-FET device structure can be an apropos choice for analog/RF applications.

##### III. Results and Discussion

##### Abstract:

A graded-channel double gate junction less FET (GC-DG-JL-FET) is investigated in this paper, to improve switching and RF performance of the device. The channel-region of the proposed structure comprises of two non-overlapping materials. The first region is constructed using Silicon-Germanium (*SiGe*) , and the second is composed of Silicon (Si), having channel lengths  $L_{C1}$  and  $L_{C2}$  , respectively. The region wise uniform doping concentration profiles are used for this study, which are  $N_{d1}$  for region one and  $N_{d2}$  for region two. The Hafnium Oxide ( $HfO_2$ ) is used as gate oxide. The operation of the proposed device assessed using drain current ( $I_{ds}$ ) , trans-conductance ( $g_m$ ) , trans-conductance generation efficiency ( $g_m/I_{ds}$ ) , unity gain cutoff frequency ( $f_t$ ) . Further, for a fixed channel length (20 nm), the lengths of the two non-overlapping regions (i.e.  $L_{C1}$  and  $L_{C2}$  ) of GC-DG-JLFET is optimized using 2D-simulations to analyze the effect of the variation in the RF-performance of the structure. It is noted, an increment in  $L_{C1}$  improves electrostatic control of the gate under the OFF state which enhances the RF characteristics of the proposed device. When optimized, the GC-DG-JL-FET for  $L_{C1} = 15$  nm offers a peak  $g_m$  and  $f_t$  of  $1580 \mu S/\mu m$  and 470 GHz, respectively for a total channel length of 20 nm. On account of such results, the GC-DG-JL-FET device structure can be an apropos choice for analog/RF applications.

##### IV. Conclusion

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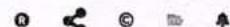
## An Innovative Approach to Neonatal Intensive Unit Care System for New Born babies

Publisher: IEEE

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Rajinder Tiwari ; Gurpreet Raina ; Sunil Semwal All Authors ...



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**Abstract:**

One of the most essential, critical, and sensitive areas in the biomedical world is premature baby care. To cope with the exterior environment, a preterm newborn requires... [View more](#)

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**▼ Metadata****Abstract:**

One of the most essential, critical, and sensitive areas in the biomedical world is premature baby care. To cope with the exterior environment, a preterm newborn requires a similar milieu to that of the womb. The device delivers precise information about the newborn baby and continuously sends information to guardians or doctors who are far away from the youngster. Infants must be housed in an incubator to give a similar environment to that of the womb. A newborn incubator maintains a constant temperature and relative humidity. The temperature of the air must be kept constant. The purpose of this discussion is to plan and implement a control system that will operate and keep track of the dominant parameters. One of the most crucial, delicate, and significant areas in the biomedical profession is preterm baby care. For a preterm baby to adapt to the outside world, their surroundings must be exactly like that of the womb. The system keeps on checking various parameters in real time of an incubator or baby cradle and will inform the admin about all values of the baby cradle globally. Even we can check the position of the baby by using the camera with the device and can get notifications from the incubator using IOT. The system is really helpful now a days because it requires less human use as we can put the baby anywhere so that the parents can do their work easily and monitor all the activities of the baby and took a good care of the infants by getting the notifications on phone. This system is really helpful for the infants who need extra care after their birth.

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## Artificial Intelligence Based Visually Impaired Assist System

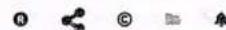
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##### I. Introduction

##### Abstract:

In present work, a system is proposed which is unique in a way that there is a requirement of visually impaired friendly buildings. In current scenario when a visually im... [View more](#)

##### III. Simulation Setup and Proposed Methodology

##### Metadata

##### Abstract:

In present work, a system is proposed which is unique in a way that there is a requirement of visually impaired friendly buildings. In current scenario when a visually impaired person enters a building which is Visually Impaired (VI) friendly, an attendant hands him over braille based navigation chart or electronic guide system. The proposed system automatically detects a visually impaired person makes an announcement, generates an alert message from the basket where VI person enabled braille based guide maps are kept. The system was tested and it is able to detect blind persons with good accuracy.

##### IV. Results and Discussions

##### V. Conclusion and Future Work

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## Intelligent Control and Stability Assessment of Smart Grid Required for Electric Vehicles

Publisher: IEEE

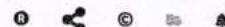
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According to Electric Vehicles volumes, there is a rapid increase in the number of Electric Vehicles globally and it has reached to 6.75 million vehicles on road. By 2030... [View more](#)

II. Literature Survey

III. Proposed Methodology

IV. Results and Discussion

V. Conclusion&future Scope

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#### Abstract:

According to Electric Vehicles volumes, there is a rapid increase in the number of Electric Vehicles globally and it has reached to 6.75 million vehicles on road. By 2030, the Indian markets are expected to see rise of 49 percent. That means there will be sudden increase in the Electric load. The conventional grids are not ready for such dynamically changing load environment. Therefore, an intelligent control and stability assessment of futuristic smart grid required for electric vehicles is presented in the paper along with its mode of operations and stability analysis prediction.

Authors

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Published in: 2022 International Conference on Advances in Computing, Communication and Materials (ICACCM)

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DOI: 10.1109/ICACCM56405.2022.10009516

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## Harmonics Mitigation Based on Fuzzy Logic Controller

Publisher: IEEE

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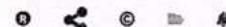
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#### Abstract:

The purpose of this study is to explain adverse effects of harmonics on the supply system and the methodologies to eliminate these in some extent. This work also explains the harmonics distortion as major concern related to the power quality and reliability. This work includes the designing of an automatic controller based fuzzy logic type, in which an intentional generation of harmonic wave in phase opposition of the system harmonics is done to nullify it. The obtained result is then compared with the results of conventional controller of power circuit containing number of nonlinear circuit elements.

II. Problem Areas

III. Types of Harmonic Filters

IV. Shunt Active Power Filter

V. Simulation Results

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## A Simulation Study of Si/SiGe Dual Insulator Double Gate Heterostructure Junctionless FET (DI-DG-HJL-FET) for RF Applications

Publisher: IEEE

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Deepak Kumar Sharma ; Rajendra Joshi ; Tripuresh Joshi ; Priyanka Dhuliya All Authors ...

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This paper propounds the RF characteristics of an improved Double Gate Junctionless FET (JL-DG-FET). Here, we have studied a Dual Insulator Double Gate Heterostructure Ju... [View more](#)

##### II. Device Structure and Simulation Setup

##### Metadata

##### Abstract:

This paper propounds the RF characteristics of an improved Double Gate Junctionless FET (JL-DG-FET). Here, we have studied a Dual Insulator Double Gate Heterostructure Junctionless FET (DI-DG-HJL-FET) structure which exhibits an enhancement in the subthreshold slope (SS) and  $I_{on}/I_{off}$  ratio. The DI-DG-HJL-FET device is studied using two-dimensional simulations to analyze the effect of implementing doping engineering and incorporating a Dual Insulator (DI) structure in the RF parameters. The  $Si_{1-x}Ge_x$  layer of DI-DG-HJL-FET has a lower doping density as compared to the strained silicon layer. The doping engineering not only reduces the SS but also increases the  $I_{on}/I_{off}$  for 20 nm channel length. The DI – DG – HJL – FET device offers a peak transconductance ( $g_m$ ) and cut-off frequency ( $f_t$ ) of 3600  $\mu S/\mu m$  and 750 GHz respectively, at a gate length of 20 nm. The results of the DI-DG-HJL-FET structure insinuate it as a promising device for future RF applications.

##### III. Results and Discussion

##### IV. Conclusion

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## Electric Vehicles (EV's): A brief review

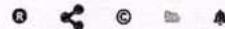
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In today's fast changing world a sustainable model of development is prescribed. Environment and climate change has taken center stage and instigated governments to think... [View more](#)

##### II. Concept of Electric Vehicle

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##### Abstract:

In today's fast changing world a sustainable model of development is prescribed. Environment and climate change has taken center stage and instigated governments to think on measures to propel growth without harming the environment. Combustion Engine Vehicles have always been vast emitter of gases like CO, CO<sub>2</sub>, NO<sub>2</sub> Etc. Which harm the environment and thus the climate as a whole. Electric Vehicles being non emitters of these poisonous gasses helps save the environment. Electric Vehicle (EV) being a complete system comprises of different subsystems. Be it the motors, batteries, controls and charging each of it is a system in itself. In this paper a brief outlay as to what is an EV, different types, key components, charging schemes and future technologies that can be introduced in the system is discussed.

##### III. Types of Electric Vehicles

##### IV. Components of Electric Vehicles

##### V. Advances in EV Technologies

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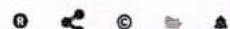
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## Analyzing Consumer Behavior Predictions: A Review of Machine Learning Techniques

Publisher: IEEE

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These days, most models of consumer behaviour are built using machine learning and data mining techniques applied to actual customer information, and every model is tailored... [View more](#)

II. Literature Survey

III. Consumer Involvement

IV. Situational Variables

V. Proposed Strategy

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**Abstract:** These days, most models of consumer behaviour are built using machine learning and data mining techniques applied to actual customer information, and every model is tailored to relate to a specific question at certain duration. Customer behaviour forecasting is a challenging and uncertain endeavour. So, the correct method and strategy are necessary for creating models of client behaviour. It is challenging for a marketer to manipulate a prediction model for their own objectives, so that they can decide the best course of marketing activity for each individual customer or subset of customers. While this formulation may seem complicated, most customer models are far more straightforward. As a result of this requirement, most consumer behaviour models tend to disregard a large number of relevant elements, leading to less-than-reliable forecasts. This study reviews the available literature on the topic of analysing consumer behaviour by means of various machine learning and data mining approaches. Implementation in Python is feasible due to the software's ease of use and the importance of accuracy, error rate, and precision.

**Published In:** 2022 International Conference on Advances in Computing, Communication and Materials (ICACCM)**Date of Conference:** 10-11 November 2022**DOI:** 10.1109/ICACCM56405.2022.10009209  
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## Design a Heat-Transfer Device That is More Effective for Better Solar Energy Resource and Utilization

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II. Literature Survey

III. Experimental Setup,  
Design, and Modelling

IV. Result and Discussion

V. Conclusions

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#### Abstract:

The heat transfer characteristics of solid versus perforated rectangular shapes connected on a flat surface in a rectangular duct have been investigated in this study. Da... [View more](#)

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##### Abstract:

The heat transfer characteristics of solid versus perforated rectangular shapes connected on a flat surface in a rectangular duct have been investigated in this study. Data for various flow and geometrical conditions were gathered and used in the performance studies. A system model that accounts for exergetic components in solar power air heating systems is being developed. In the scenario mentioned above, a man-made roughness in the form of various projections on the heat transmission surface causes turbulence and breaks up the laminar replacement layer. It increases the coefficient of heat transmission rate while requiring the least amount of pumping power possible to operate the system efficiently.

**Published in:** 2022 International Conference on Advances in Computing, Communication and Materials (ICACCM)

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# Synthesis and mechanical characterization of natural fibre polymer matrix laminated hybrid composites reinforced with glass-fibre and flax-fibre synthesized by hand-lay-up techniques

Publisher: IEEE

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#### Abstract:

In the current study, natural fibre polymer laminated hybrid composites were synthesized using flax and glass fibres. The hand-lay-up fabrication route was used to develop the natural fibre polymer matrix composites (NFPMCs). The final structures of hybrid laminated composite have excellent chemical resistance, better mechanical properties, low density, and low cost. Such composites structures are suitable for the construction of automobile and aircraft bodies due to their remarkable weight to strength properties and ratio. Natural fibre composites (NFCs) with polymer matrix are an advanced and fascinating green option for materials used in the construction of automobiles and aircraft. The glass fibre and flax fibre reinforced laminate offer exceptional strength with reduced weight because structural components require light materials. The tensile and compression tests were carried out on a Hounsfield tensometer, and strain gauges were used to measure the extension and contractions. Additionally, impact strength was tested with an impact testing machine using a method created by Izod and Charpy, and flexural strength was calculated using an Instron universal testing machine. Finally, in the case of the Charpy test, the impact strength showed 54kJ/m<sup>2</sup> along the fibre direction, which is 3.4 times higher than the transverse fibre direction. Similarly, in the case of the Izod test, the impact strength along fibre direction is 17kJ/m<sup>2</sup>, which is three times higher than the transverse fibre direction. Similarly, the tensile and flexural properties of fabricated hybrid composites are remarkably improved.

### Metadata

#### Abstract:

In the current study, natural fibre polymer laminated hybrid composites were synthesized using flax and glass fibres. The hand-lay-up fabrication route was used to develop the natural fibre polymer matrix composites (NFPMCs). The final structures of hybrid laminated composite have excellent chemical resistance, better mechanical properties, low density, and low cost. Such composites structures are suitable for the construction of automobile and aircraft bodies due to their remarkable weight to strength properties and ratio. Natural fibre composites (NFCs) with polymer matrix are an advanced and fascinating green option for materials used in the construction of automobiles and aircraft. The glass fibre and flax fibre reinforced laminate offer exceptional strength with reduced weight because structural components require light materials. The tensile and compression tests were carried out on a Hounsfield tensometer, and strain gauges were used to measure the extension and contractions. Additionally, impact strength was tested with an impact testing machine using a method created by Izod and Charpy, and flexural strength was calculated using an Instron universal testing machine. Finally, in the case of the Charpy test, the impact strength showed 54kJ/m<sup>2</sup> along the fibre direction, which is 3.4 times higher than the transverse fibre direction. Similarly, in the case of the Izod test, the impact strength along fibre direction is 17kJ/m<sup>2</sup>, which is three times higher than the transverse fibre direction. Similarly, the tensile and flexural properties of fabricated hybrid composites are remarkably improved.

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| Conference paper | First Online: 18 January 2023

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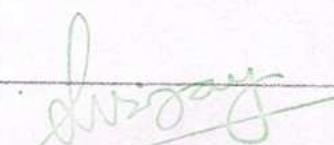
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## Abstract



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## Chapter



### Memory Designing Using Low-Power FETs for Future Technology Nodes

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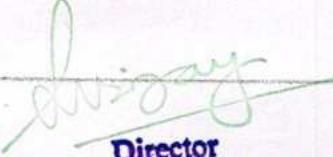
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## Role of Cloud Computing in Goods and Services Tax(GST) and Future Application

Publisher: IEEE

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Rakesh Kumar ; Samta Kathuria.; Rupa Khanna Malhotra ; Anil Kumar ; Anita Gehlot ; Kapil Joshi All Authors

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##### II. Theoretical Backround

##### III. Research Methodology

##### IV. Challenges In Tradition Return Filling System

##### V. Role of Cloud Computing In Goods and Services Tax

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#### Abstract:

Due to the availability of IT infrastructure and a shift in government advisors' perspectives, cloud-based e-governance is currently becoming a reality. To effectively monitor and manage governmental policies, this article offers a practical strategy that combines the capabilities of cloud computing and social media analytics. The foundation of every economic system is taxation. Tax evasion, tax calculation, compliance process, and return filling are some major regulatory challenges. This is a problem that technology can handle perfectly. India's implementation of the goods and services tax is a significant shift in indirect taxation that would not have been achieved without technology. The manual processes used in the pre-GST era resulted in cost compliance issues and input tax credit ambiguities. Important technologies utilized in GST include big data, AI, cloud computing, etc. This study emphasize about role of cloud computing in GST.

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#### Abstract:

Due to the availability of IT infrastructure and a shift in government advisors' perspectives, cloud-based e-governance is currently becoming a reality. To effectively monitor and manage governmental policies, this article offers a practical strategy that combines the capabilities of cloud computing and social media analytics. The foundation of every economic system is taxation. Tax evasion, tax calculation, compliance process, and return filling are some major regulatory challenges. This is a problem that technology can handle perfectly. India's implementation of the goods and services tax is a significant shift in indirect taxation that would not have been achieved without technology. The manual processes used in the pre-GST era resulted in cost compliance issues and input tax credit ambiguities. Important technologies utilized in GST include big data, AI, cloud computing, etc. This study emphasize about role of cloud computing in GST.

**Published in:** 2023 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS)

**Date of Conference:** 23-25 March 2023

**DOI:** 10.1109/ICSCDS56580.2023.10104597

**Date Added to IEEE Xplore:** 25 April 2023

**Publisher:** IEEE

**ISBN Information:**

**Conference Location:** Erode, India



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## E-Recruitment using Artificial Intelligence as Preventive Measures

Publisher: IEEE

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Organization is starting to incorporate AI capabilities into their hiring procedures and further enhances the likelihood of applications. These favorable associations bet... [View more](#)

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Organization is starting to incorporate AI capabilities into their hiring procedures and further enhances the likelihood of applications. These favorable associations between views regarding the employment of AI in the process of hiring and the propensity to apply for jobs have numerous significant practical ramifications. Based on my examination of a variety of research papers, this paper presents my perspective on the integration of AI into E- Recruitment. The result of the study confirms that AI adoption encourages employers to reduce the complexity of candidate sourcing, screening and evaluation in the recruitment process. AI offers recruiters promising solutions to optimize talent acquisition, improve the quality of the hiring process, and eliminate human biases. As a result, we can conclude that the incorporation of AI technology into the recruitment process results in innovative way of work that makes all the difference. A sustainable competitive advantage can be achieved through dependability, time savings, cost effectiveness, and a better candidate experience. As intelligent AI technologies gradually replace routine administrative tasks, AI will be used more and more to produce better and more effective results.

**Published in:** 2023 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS)

**Date of Conference:** 23-25 March 2023

**DOI:** 10.1109/ICSCDS56580.2023.10105102

**Date Added to IEEE Xplore:** 25 April 2023

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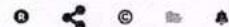
## Imperative Role of Artificial Intelligence and Big Data in Finance and Banking Sector

Publisher: IEEE

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SectorV. Research Findings and  
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#### Abstract:

In contrast to human intelligence, which comes from innate knowledge, artificial intelligence (AI) and big data refers to the mental capacity demonstrated by robots. AI h... [View more](#)

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#### Abstract:

In contrast to human intelligence, which comes from innate knowledge, artificial intelligence (AI) and big data refers to the mental capacity demonstrated by robots. AI has been revolutionized banking and the financial sector and affected on human labor as well as other stakeholders. The concept of "Industry 4.0" dramatically altered how organizations operate today. The five maturity levels of the model are initial, managed, defined, established, and digitally oriented. Requirement to secure, improve the quality, and meet the interests of both clients and financial institutions is increasing day by day. Technology become base of the financial institute. This paper examines various technology models used in the financial and banking industries. The study focusses on digital technology in the banking and finance industries for gaining understanding of the topic and identifying new areas. Study examines futuristic challenges of technology in banking sectors.

Published in: 2023 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS)

Date of Conference: 23-25 March 2023

DOI: 10.1109/ICSCDS56580.2023.10105062

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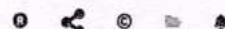
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#### Abstract:

The plant producers have a hard time identifying nutritional inadequacies in their crops. The capacity to recognize these comprehensive nutritional deficiencies could help regulate crops properly. Using image processing, Convolutional Neural Network (CNN), the researchers were able to categorize and identify complete nutritional deficiencies in various cultivars. The prototypes would provide prescribed plant fertilizers once nutrient insufficiency was recognized. Iron (Fe), magnesium (Mg), potassium (K), nitrogen (N), calcium (Ca) and complete nutrition were examined. For classifying the image processing techniques were used to turn the images into grayscale & binary data. Using identification and prediction, CNN predicts complete nutritional deficiencies in the plant. CNN high accuracy of detection and diagnosis of nutrient deficits in different cultivars, according to the results compared with Artificial Neural Network (ANN) and DenseNet-121. The design has been tested and the results demonstrate a better way to classify and diagnose complete nutritional deficits in different cultivars.

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**Published in:** 2023 International Conference on Device Intelligence, Computing and Communication Technologies, (DICCT)

**Date of Conference:** 17-18 March 2023

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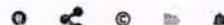
## Significance of Emerging Technological Advancements in Transition of Green Economy

Publisher: IEEE

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Reeta Rautela ; Shravan Kumar ; Shweta Pandey ; Namrata Prakash ; Praveen Kumar Malik ; Anil Kumar All Authors ⓘ

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##### Abstract:

UNEP's SDGs agenda 2030 focuses on the reduction of negative environmental impacts to achieve green economy. Industry 4.0 calls for energy efficient and clean energy technologies as a solution to reduce the impacts of global warming and climate change to achieve Sustainable Development Goals set by United Nations Environment Programme. United Nations Environment Programme is promoting green economy as an alternative solution to achieve sustainable development. Exponential technologies have a significant Role in achieving all the Sustainable Development Goals. United Nations Environment Programme in its report on 'Technology and Innovation' has expected that by the year 2025, the market growth of technologies would be \$3.2 trillion. In this regard study covers the frontier technologies- Artificial Intelligence (AI) and Machine Learning, the Internet of things (IoT), Big Data Analytics and Block chain. The present study is related to SDG 8 and 9. This paper analyzes the significance of technological advancements for green economy. The study analyzes that technological advancements have a significant Role in sustainable developmental aspects. Therefore, to attain green economy, there is a need to encourage research and innovation on energy and environment.

#### III. Significance of Technological Advancements In Transition Towards Green Economy

#### IV. Policy Initiatives To Invest In R&D At Global Level

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Published in: 2023 IEEE Devices for Integrated Circuit (DevIC)

  
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## Design of a Reliable Copyright Management System Based on Blockchain

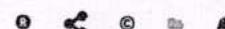
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#### Abstract:

Although data exchange and transparency are encouraged by the Internet, digital information is not protected by it. It has become challenging to publish the Digital Rights Management system in today's digital environment that can be regarded as well-protected. The value of digital work that is quickly accessible in open-source settings will eventually be zero to the creator. Nonetheless, anyone can download and make copies of content because it is available online. Since the value of data is typically based on how difficult it is to access, the worth of online content gradually declines. It may serve as a good alternative to the aforementioned issues. In this paper, we suggest a blockchain-based approach for a DCM system. In order to keep information transparent and secure, we store the details of copyright transactions on the blockchain. Smart Contract replaces the requirement for centralised servers to validate identities and issue licences by ensuring the validity of copyright transactions and issuing licences automatically. The possibility for using blockchain based to address the issue of managing digital copyright. This paper outlines a complete digital copyright management system (DCMS) centred on a public blockchain.

**Published in:** 2023 IEEE Devices for Integrated Circuit (DevIC)**Date of Conference:** 07-08 April 2023**DOI:** 10.1109/DevIC57758.2023.10134983**Date Added to IEEE Xplore:** 29 May 2023**Publisher:** IEEE

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# Optimization Methods for Image Edge Detection Using Ant and Bee Colony Techniques

| Conference paper | First Online: 30 May 2023

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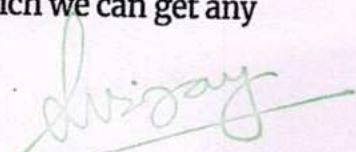
Sachin Kumar [✉](#), Sandeep Kumar, Brajendra Kumar, Sandeep Sharma & Harshita Chaudhary

Part of the book series: Lecture Notes in Networks and Systems ((LNNS, volume 628))

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## Abstract

In a computer image analysis, the main aim is to produce the image with specified appearance that provides more convenience for society and machines to detect, identify, and understand the situation. Image processing is the technique from which we can get any



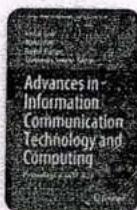
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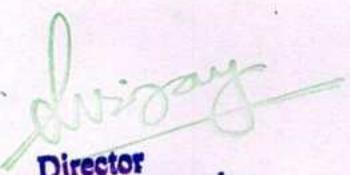
Abhiujjwal Pradhan , Ritu Pal, Sachin Kumar, Sakshi Koli, Bharti Kalra & Waris Nawaz

 Part of the book series: Lecture Notes in Networks and Systems ((LNNS, volume 628))

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## Abstract

The traditional method of raising your hand in a classroom to say “present ma’am” or “yes ma’am” or whatever other things you would say is kind of fading away, Image processing is becoming increasingly important in the digital world. Magicians play an important function in today's information era. Visual processing is necessary in the area of biometrics to identify

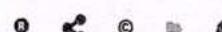
  
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## An Intelligent and Effective Framework for Reduction of Diabetes Risk

Publisher: IEEE

[Cite This](#)[PDF](#)Amit Kumar Mishra ; Neha Tripathi ; Ashish Gupta ; Neeraj Kumar Pandey ; Deepak Singh Rana ; Manoj Diwakar [All Authors](#) ...1  
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Diabetes mellitus is characterized by a sedentary lifestyle, poor nutrition, and workplace stress, that could result in neurological damage, cardiovascular disease, seizures... [View more](#)

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##### Abstract:

Diabetes mellitus is characterized by a sedentary lifestyle, poor nutrition, and workplace stress, that could result in neurological damage, cardiovascular disease, seizures, renal failure, as well as other serious medical conditions. Hyperglycemia could be efficiently managed unless diagnosed early and accurately. Techniques based on machine learning (ML) are especially effective at predicting, but also detecting hyperglycemia later. This assignment would aim to investigate hypoglycemic episodes using supervised and unsupervised machine learning methods. From 2018 to 2022, studies on hyperglycemia treatment were included in the evaluation. Hyperglycemia has been forecasted overall incredible precision using judgment tree-based techniques such as Logistic Regression, SVM, XGBoost, AdaBoost, etc. Unmonitored learning methods like LDA and KMean could help with feature extraction as well as unique identification in huge datasets. As a hybrid model of supervised and unsupervised machine learning approaches, K-Mean and SVM have also been used to interpret and analyze hyperglycemia with great confidence.

**Published in:** 2023 International Conference on Computational Intelligence, Communication Technology and Networking (CICTN)

**Date of Conference:** 20-21 April 2023

**DOI:** 10.1109/CICTN57981.2023.10140921

**Date Added to IEEE Xplore:** 07 June 2023

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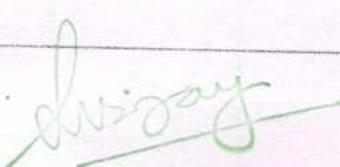
**Anuj Kumar, Raja Kumar Murugesan, Harshita Chaudhary, Neha Singh, Kapil Joshi**  &  
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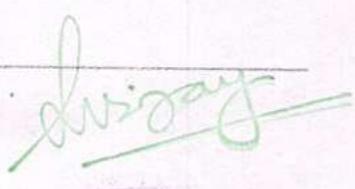
Riya Kukreti, Ritu Pal, Pratibha Dimri, Sakshi Koli & Kapil Joshi 

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## Influences of forced frequency and its Static Analysis of Kaplan Turbine Shaft with Different Engineering Materials

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In the present investigation, the SolidWorks software tool was employed for failure analysis of the Kaplan turbine shaft using modal test analysis. The failure analysis h... [View more](#)

##### II. EXPERIMENTAL PROCEDURE

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##### Abstract:

In the present investigation, the SolidWorks software tool was employed for failure analysis of the Kaplan turbine shaft using modal test analysis. The failure analysis has been performed the concerning applied load at different frequencies (285.92, 288.69, 348.65, 353.12, 369.23, and 382.65Hz). The turbine shaft generally fails due to excess load and high speed, such type of failure can be minimized using optimal load and appropriate materials. Shafts are the generally used in the turbine and it is subjected to failure due to a large number of stresses induced at the coupling of shaft and flange. This analysis was carried out for different materials used and analyzed which material was more suitable for this application on behalf of the yielding strength of the materials. The main objective of this work is appropriate material for the shaft and reduced the value of stresses. In this work, two types of material (AISI-1040 carbon steel and Forged steel) have been taken and performed the test to get the desired property.

##### III. RESULTS AND DISCUSSION

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##### Abstract:

In the present investigation, the SolidWorks software tool was employed for failure analysis of the Kaplan turbine shaft using modal test analysis. The failure analysis has been performed the concerning applied load at different frequencies (285.92, 288.69, 348.65, 353.12, 369.23, and 382.65Hz). The turbine shaft generally fails due to excess load and high speed, such type of failure can be minimized using optimal load and appropriate materials. Shafts are the generally used in the turbine and it is subjected to failure due to a large number of stresses induced at the coupling of shaft and flange. This analysis was carried out for different materials used and analyzed which material was more suitable for this application on behalf of the yielding strength of the materials. The main objective of this work is appropriate material for the shaft and reduced the value of stresses. In this work, two types of material (AISI-1040 carbon steel and Forged steel) have been taken and performed the test to get the desired property.

##### IV. CONCLUSION

#### Authors

In the present investigation, the SolidWorks software tool was employed for failure analysis of the Kaplan turbine shaft using modal test analysis. The failure analysis has been performed the concerning applied load at different frequencies (285.92, 288.69, 348.65, 353.12, 369.23, and 382.65Hz). The turbine shaft generally fails due to excess load and high speed, such type of failure can be minimized using optimal load and appropriate materials. Shafts are the generally used in the turbine and it is subjected to failure due to a large number of stresses induced at the coupling of shaft and flange. This analysis was carried out for different materials used and analyzed which material was more suitable for this application on behalf of the yielding strength of the materials. The main objective of this work is appropriate material for the shaft and reduced the value of stresses. In this work, two types of material (AISI-1040 carbon steel and Forged steel) have been taken and performed the test to get the desired property.

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Published In: 2022 2nd International Conference on Innovative Sustainable Computational Technologies (CISCT)

#### References

Date of Conference: 23-24 December 2022

DOI: 10.1109/CISCT55310.2022.10046570

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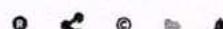
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#### Abstract:

In the present investigation, we aimed to improve the solar still's efficiency by modifying the absorber plate's shape and thus intensifying the insulating plate's area. Solar stills are gaining one of the most cost-effective methods of producing distilled water, and many current investigators are working on it. Solar still can be used to purify saline water by employing the heat of solar irradiance to convert water into steam, which is then condensed on the reflective surface and accumulated in a container via a channel. In this work, a solar still have designed with an absorber plate folded in the shape of stairs and geometric dimples on the plate surface. Also, on the 10 steps of the absorber plate, several dimples with a radius of 3 mm were formed to increase their surface area. An inclined traditional type solar still (ICSS) was also built to compare the efficiency of the modified stepped solar still (MSSS) against that of the traditional solar still designs. During the analysis, it was found that the Productivity and efficiency of modified solar stills were significantly higher than those of conventional solar stills. When tested at a water depth of 1cm, the maximum Productivity per hour of the modified solar still was 0.30 kg per hour, while the conventional type solar still was 0.23 kg per hour. The performance level of the modified solar still was 18.80%, while the overall efficiency of the traditional ones still was 15.44%. The present results showed that the overall performance of the MSSS still was highly (3.34%) efficient than that of ICSS.

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## Imperative role of customer segmentation technique for customer retention using machine learning techniques

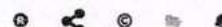
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##### Abstract:

Customer segmentation is crucial for businesses to employ as a tool to guide them toward more successful marketing and product development. Customers can be divided into essentially infinite segments. Businesses need to have a deeper grasp of their customers' behaviour from all angles if they want to retain their business. Earlier segmentation techniques may have helped identify the client segments that need more attention. However, they were unable to spot a pattern in client attrition to take alternative measures. Finding patterns in customer behaviour, predicting consumer behaviour, and providing customers with better options and opportunities have become increasingly important for fostering customer-company engagement. It became crucial to divide up clients into groups based on their behaviours and personal information. The most effective and adaptable analytical frameworks and machine learning models for client segmentation are examined in this review paper.

##### III. Data Selection Approach

##### IV. Customer Segmentation techniques and Methodology

##### V. Literature review and comparative analysis

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**Published In:** 2023 International Conference on Artificial Intelligence and Smart Communication (AISC)**Date of Conference:** 27-29 January 2023**DOI:** 10.1109/AISC56616.2023.10085487**Date Added to IEEE Xplore:** 03 April 2023**Publisher:** IEEE

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## Comparing Performance And Computational Efficiency Of Face Recognition Approaches

Publisher: IEEE

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Eshani Akanksha Bisht ; Purnendu Prabhat ; Sachin Kumar All Authors

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Some of the simplest tasks for a human to accomplish are the most difficult for a machine to solve. Face recognition is an example of this type of problem. Researchers have been attempting to solve face recognition since the 1960s. It's come a long way, and there have been many potential solutions offered. Most of these solutions are provided based on machine learning techniques. The utilisation of edge devices such as smartphones, smartwatches, automotive devices, and other smart home products has skyrocketed the use and development of face recognition in recent years. The main goal of this research paper is to do a thorough investigation and then choose the finest potential solutions for a face recognition application. This study's main objective was to evaluate various solutions theoretically and experimentally. It is not possible to experimentally evaluate every face recognition method available in literature. So, we conducted a literature survey and chose 3 of the most accurate models, namely FaceNet, MobileNet and InceptionResNet. The famous five celebrity faces dataset is used to train and test the models on Google Colab platform. Among all the three models, it was found that FaceNet provided the most reliable results in terms of accuracy while being computationally efficient. In the future, other methods and models for face recognition can be investigated and applied. Finding a model that is even more accurate than FaceNet will be an interesting task.

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The term "Internet of Things" (IoT) is used to describe the collection of data and the connectivity of items to the web that requires little to no human interaction. The IoT is a network of interconnected devices that can collect and disseminate information. Increased security and privacy worries accompany the launch of new devices due to the proliferation of Internet connections and the development of cutting-edge technology like the IoT. These days, the IoT is used everywhere, but especially in logistics, manufacturing, and healthcare. While these emerging IoT applications greatly enhance the usefulness of smart objects, they also present new security risks. Because of this, adapting existing intrusion detection systems (IDS) for use with IoT networks is a topic of intense study. Many IDS experts have found success with machine learning (ML) and deep-learning (DL) techniques. By combining deep extraction through the Convolutional autoencoder with deep learning to identify the best features, this work delivers an improved IDS that can be used for anomaly detection. Improves to the deep learning approach include an evaluation of hyperparameter effectiveness, a stage of feature pruning using an autoencoder neural network, and an examination of the sturdiness of the most effective deep neural networks for circumstances exaggerated by Gaussian noise over some of the features in question. Despite the noise, the results show that the formed IoT dataset is useful for anomaly detection with deep learning methods.

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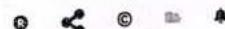
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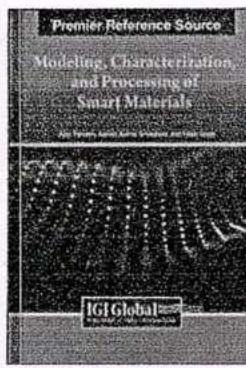
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## Industry Requirement and Future Prospects of Lightweight AlMg2Si Functionally Graded Materials for Automotive Engine Components: Review

Subhash Chandra Ram (/affiliate/subhash-chandra-ram/449706/), Awani Bhushan (/affiliate/awani-bhushan/449707/), Sunkulp Goel (/affiliate/sunkulp-goel/449708/)

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### Abstract

The present study provides a comprehensive state-of-the-art on currently available information about the advancement of Al-Mg2Si in-situ FG-composites for various automotive application domains, as well as their inherent benefits and drawbacks. Additionally, the chapter explored how a functionally graded material (FGMs) might serve as a suitable replacement material for automotive components. FGMs can be practically modified through the modification of their constituents to meet particular functional needs. The production of FGMs employs an extensive range of approaches. Taking into consideration Al-Si-Mg alloy as the starting materials, the fabrication methods are categorized as follows: liquid processes, gaseous processing, and solid particle methods. This chapter describes the typical centrifugal casting technique for Al-Mg2Si in-situ functionally graded lightweight composites. Optical and SEM analysis of reinforced phase Mg2Si particles, Al-Si eutectic phases, and  $\alpha$ -Al grains size were presented in detail.

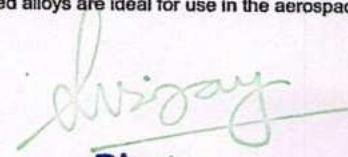
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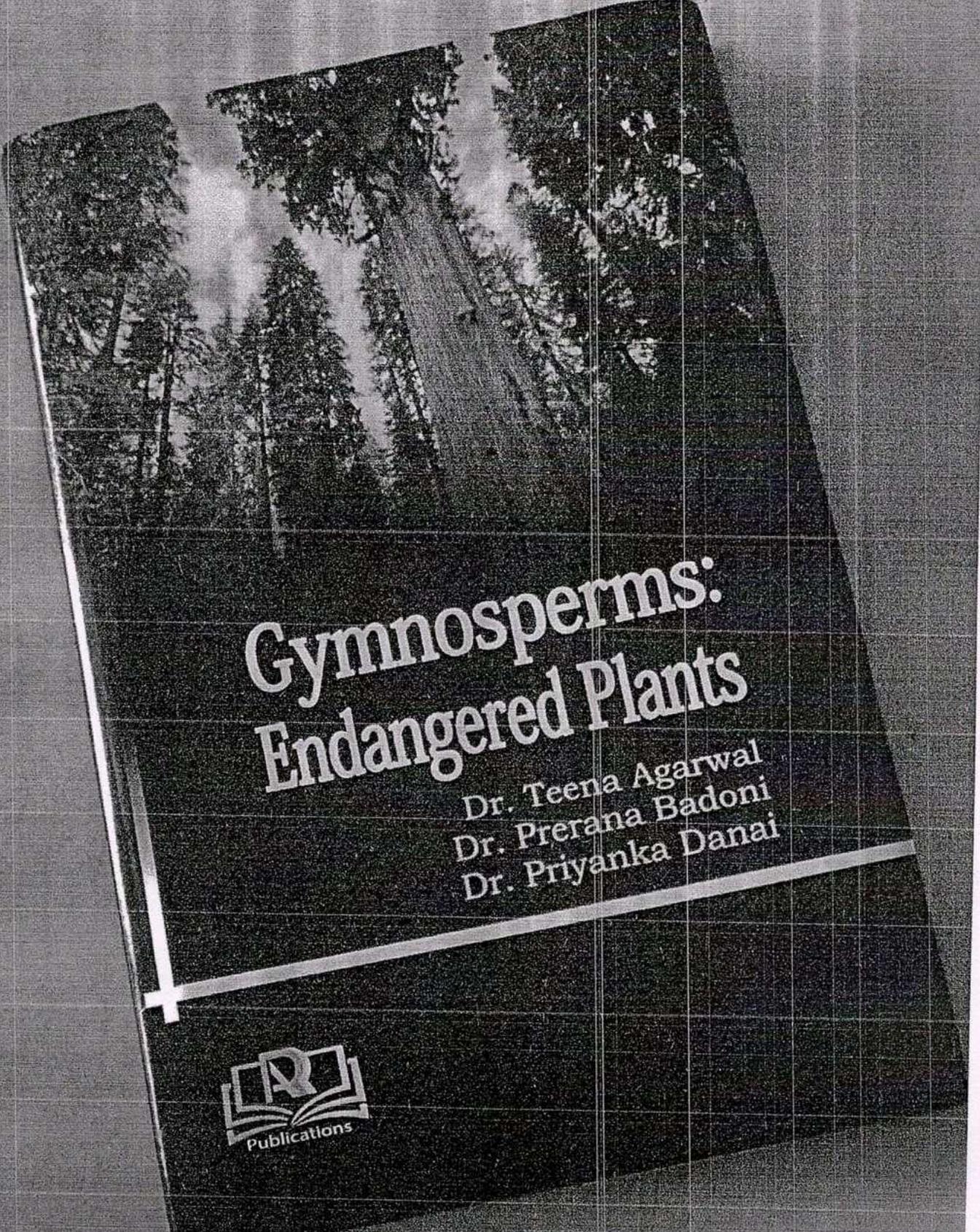
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## 1. Introduction

Particularly in the automotive and aerospace industries, the production and demand for lightweight materials have recently expanded. Conventional components such as steel as well as iron casting have higher tensile strength but are heavier in weight than aluminum alloy. The majority of researchers and educators now believe that cast iron and steel can be replaced by alloys based on aluminium and silicon in the production of engine parts. A356 and A319, the two most widely used aluminium alloys, are employed in automobile parts but do not have the necessary tribological qualities (Watanabe et al., 2011; Sobczak et al., 2009; Zhang et al., 1999). The manufacturing of functionally graded materials (FGM) and their design made it possible to produce composite materials with different microstructures and proportions. Moreover, the wear resistance will be offered if the degree of distribution of hard reinforcing particles in the surface layers is altered. The flexibility and hardness of the middle and opposing side layers will eventually grow as a result of their gradual depletion throughout the reinforcing phase. Potential candidate materials include functionally graded aluminum-based composites reinforced with Mg2Si for use in aerospace, automotive, and other applications.

Functionally graded composites (FG-Composites) are made of heterogeneous materials that have been purposefully adjusted to have a variety of conflicting properties. FGMs are employed in a variety of industries, including automobiles, chemicals and petrol, mitigation, and space exploration (Kumar et al., 2021; Ram et al., 2017; Ram et al., 2023). The production of functional qualities of any component is only achievable with a gradient distribution of dispersed phase particles (Xu, F. M., et al. 2004). Aluminium has several applications, including the fabrication of lightweight structural components with varying qualities using various alloys. Aluminium and its alloys are commonly used in manufacturing businesses as well as research endeavours due to their outstanding castability and desirable features. Many desired qualities of aluminium and its alloys include high stiffness, ductility, high strength-to-weight ratio, good thermal stability, good conductivity and durability. They are also less expensive when compared to other readily available and commonly used low-density alloys (Melgarejo et al., 2008). Because of their great flowability and castability, Al-Si-based alloys are ideal for use in the aerospace and

  
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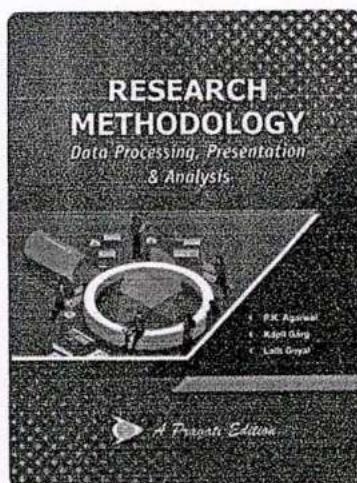


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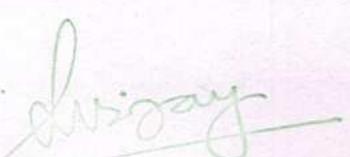
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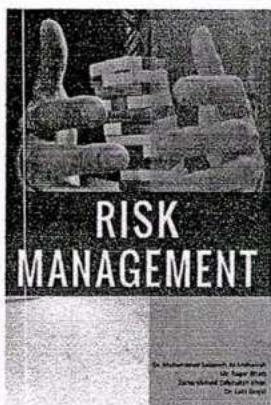
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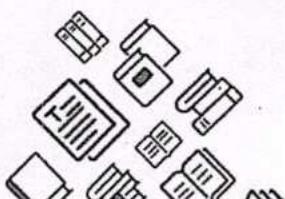
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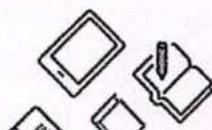
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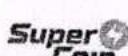
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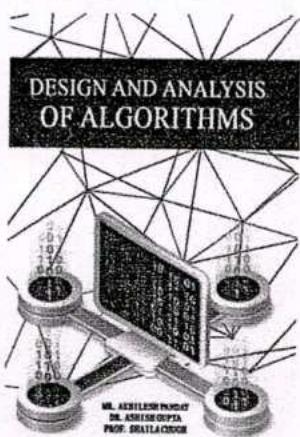
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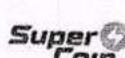
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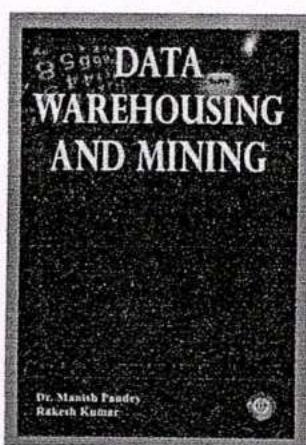
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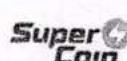
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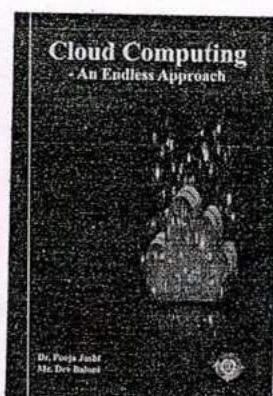
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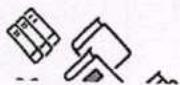
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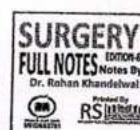
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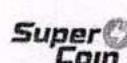
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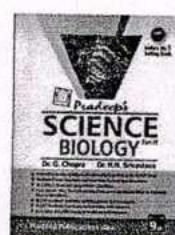
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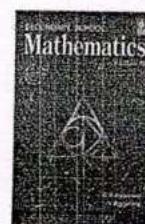
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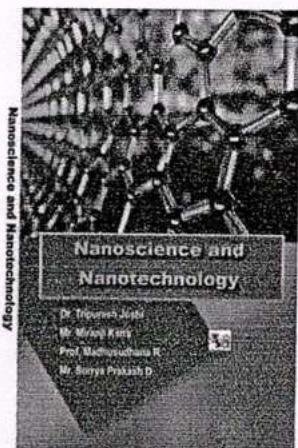
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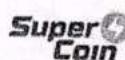
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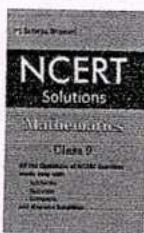
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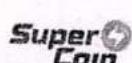
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# Documents of NIRF

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**National Institutional Ranking Framework**  
 Ministry of Education  
 Government of India  
 Welcome to Data Capturing System: AGRICULTURE AND ALLIED SECTORS

Submitted Institute Data for NIRF'2024'

Institute Name: Tulas Institute [IR-G-C-21282]

**Sanctioned (Approved) Intake**

Academic Year	2022-23	2021-22	2020-21	2019-20	2018-19	2017-18
UG [4 Years Program(s)]	120	120	120	120	-	-

**Total Actual Student Strength (Program(s) Offered by Your Institution)**

(All programs of all years)	No. of Male Students	No. of Female Students	Total Students	Within State (Including male & female)	Outside State (Including male & female)	Outside Country (Including male & female)	Economically Backward (Including male & female)	Socially Challenged (SC+ST+OBC Including male & female)	No. of students receiving full tuition fee reimbursement from the State and Central Government	No. of students receiving full tuition fee reimbursement from Institution Funds	No. of students receiving full tuition fee reimbursement from the Private Bodies	No. of students who are not receiving full tuition fee reimbursement
UG [4 Years Program(s)]	221	72	293	33	256	4	0	126	17	0	0	109

**Placement & Higher Studies**

**UG [4 Years Program(s)]: Placement & higher studies for previous 3 years**

Academic Year	No. of first year students intake in the year	No. of first year students admitted in the year	Academic Year	No. of students admitted through Lateral entry	Academic Year	No. of students graduating in minimum stipulated time	No. of students placed	Median salary of placed graduates(Amount in Rs.)	No. of students selected for Higher Studies
2017-18	120	55	2018-19	0	2020-21	52	5	250000(Two lakh fifty thousand)	5
2018-19	120	99	2019-20	0	2021-22	80	4	250000(Two lakh fifty thousand)	7
2019-20	120	97	2020-21	0	2022-23	82	12	250000(Two lakh fifty thousand)	10

**Ph.D Student Details**

Ph.D (Student pursuing doctoral program till 2022-23 Students admitted in the academic year 2023-24 should not be entered here.)			
		Total Students	
Full Time			0
Part Time			0
No. of Ph.D students graduated (including Integrated Ph.D)			
		2022-23	2021-22
Full Time		0	0
Part Time		0	0
2020-21			

*Tulas Institute, Dehradun  
Director*

**Financial Resources: Utilised Amount for the Capital expenditure for previous 3 years**

Academic Year	2022-23	2021-22	2020-21
	Utilised Amount	Utilised Amount	Utilised Amount
<b>Annual Capital Expenditure on Academic Activities and Resources (excluding expenditure on buildings)</b>			
Library	543364 (Five Lakh forty three thousand three hundred sixty four)	280026 (Two Lakh eighty thousand twenty six)	89815 (Eighty nine thousand eight hundred fifteen)
New Equipment for Laboratories	1238923 (Twelve Lakh thirty eight thousand nine hundred twenty three)	1093422 (Ten Lakh ninety three thousand four hundred twenty two)	225114 (Two Lakh twenty five thousand one hundred fourteen)
Engineering Workshops	0 (Zero)	0 (Zero)	0 (Zero)
Studios	0 (Zero)	0 (Zero)	0 (Zero)
Other expenditure on creation of Capital Assets (excluding expenditure on Land and Building)	2168848 (Twenty one Lakh sixty eight thousand eight hundred forty eight)	1478452 (Fourteen Lakh seventy eight thousand four hundred fifty two)	419953 (Four Lakh nineteen thousand nine hundred fifty three)

**Financial Resources: Utilised Amount for the Operational expenditure for previous 3 years**

Academic Year	2022-23	2021-22	2020-21
	Utilised Amount	Utilised Amount	Utilised Amount
<b>Annual Operational Expenditure</b>			
Salaries (Teaching and Non Teaching staff)	25452644 (Two crore fifty four lakh fifty two thousand six hundred forty four)	20017454 (Two crore seventeen thousand four hundred fifty four)	18648030 (One core eighty six lakh forty eight thousand thirty)
Maintenance of Academic Infrastructure or consumables and other running expenditures(excluding maintenance of hostels and allied services,rent of the building, depreciation cost, etc)	9445055 (Ninty four lakh forty five thousand fifty five)	7672791 (Seventy six Lakh seventy two thousand seven hundred ninety one)	2542568 (Twenty five lakh forty two thousand five hundred sixty eight)
Seminars/Conferences/Workshops	941924 (Nine Lakh forty one thousand nine hundred twenty four)	235707 (Two Lakh thirty five thousand seven hundred seven)	547519 (Five Lakh forty seven thousand five hundred nineteen)

**IPR**

Calendar year	2022	2021	2020
No. of Patents Published	5	0	0
No. of Patents Granted	0	0	0

**Sponsored Research Details**

Financial Year	2022-23	2021-22	2020-21
Total no. of Sponsored Projects	2	0	0
Total no. of Funding Agencies	2	0	0
Total Amount Received (Amount in Rupees)	797000	0	0
Amount Received in Words	Seven lakh ninety seven thousand	Zero	Zero

**Consultancy Project Details**

Financial Year	2022-23	2021-22	2020-21
----------------	---------	---------	---------

Total no. of Consultancy Projects	0	0	0
Total no. of Client Organizations	0	0	0
Total Amount Received (Amount in Rupees)	0	0	0
Amount Received in Words	Zero	Zero	Zero

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1. Do your institution buildings have Lifts/Ramps?	Yes, more than 40% of the buildings
2. Do your institution have provision for walking aids, including wheelchairs and transportation from one building to another for handicapped students?	Yes
3. Do your institution buildings have specially designed toilets for handicapped students?	Yes, more than 60% of the buildings

**Faculty Details**

Srno	Name	Age	Designation	Gender	Qualification	Experience (In Months)	Currently working with Institution?	Joining Date	Leaving Date	Association type
1	ASHISH UPADHYAY	37	Assistant Professor	Male	M.Sc.	84	Yes	01-10-2021	--	Regular
2	ANIKESH SHARMA	26	Assistant Professor	Male	M.Sc.	36	Yes	18-10-2021	--	Regular
3	DIVYA RAWAT	26	Assistant Professor	Female	M.Sc.	24	Yes	10-11-2021	--	Regular
4	SHIVENDRA MISHRA	26	Assistant Professor	Male	M.Sc.	36	Yes	01-12-2021	--	Regular
5	DR PRERNA BADONI	39	Associate Professor	Female	Ph.D	168	Yes	01-12-2021	--	Regular
6	PANKAJ SINGH NEGI	26	Assistant Professor	Male	M.Sc.	36	Yes	08-12-2021	--	Regular
7	DR PREM SINGH VERMA	37	Assistant Professor	Male	Ph.D	60	Yes	05-09-2022	--	Regular
8	Dr Rupinder Kaur	38	Associate Professor	Female	Ph.D	156	Yes	29-08-2022	--	Regular
9	Dr Rekha dhanai	43	Associate Professor	Female	Ph.D	84	Yes	05-09-2022	--	Regular
10	Rupali Kaushik	26	Assistant Professor	Female	M.Sc.	36	Yes	01-05-2023	--	Regular
11	DR ANITA CHAUHAN	44	Associate Professor	Female	Ph.D (Agriculture)	12	No	03-01-2022	03-07-2023	Regular

*Tula's Institute, Dehradun*  
Director, Dehradun

**National Institutional Ranking Framework**  
 Ministry of Education  
 Government of India  
 Welcome to Data Capturing System: AGRICULTURE AND ALLIED SECTORS

Submitted Institute Data for NIRF'2024\*

Institute Name: Tulas Institute [IR-G-C-21282]

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**UG [4 Years Program(s)]: Placement & higher studies for previous 3 years**

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2018-19	120	99	2019-20	0	2021-22	80	4	250000(Two lakh fifty thousand)	7
2019-20	120	97	2020-21	0	2022-23	82	12	250000(Two lakh fifty thousand)	10

**Ph.D Student Details**

Ph.D (Student pursuing doctoral program till 2022-23 Students admitted in the academic year 2023-24 should not be entered here.)			
Total Students			
0			
0			
No. of Ph.D students graduated (including Integrated Ph.D)			
2022-23		2021-22	
0		0	
0		0	
2020-21			
0		0	
0		0	

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**Financial Resources: Utilised Amount for the Capital expenditure for previous 3 years**

Academic Year	2022-23	2021-22	2020-21
	Utilised Amount	Utilised Amount	Utilised Amount
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Studios	0 (Zero)	0 (Zero)	0 (Zero)
Other expenditure on creation of Capital Assets (excluding expenditure on Land and Building)	2168848 (Twenty one Lakh sixty eight thousand eight hundred forty eight)	1478452 (Fourteen Lakh seventy eight thousand four hundred fifty two)	419953 (Four Lakh nineteen thousand nine hundred fifty three)

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	Utilised Amount	Utilised Amount	Utilised Amount
<b>Annual Operational Expenditure</b>			
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Maintenance of Academic Infrastructure or consumables and other running expenditures(excluding maintenance of hostels and allied services,rent of the building, depreciation cost, etc)	9445055 (Ninty four lakh forty five thousand fifty five)	7672791 (Seventy six Lakh seventy two thousand seven hundred ninety one)	2542568 (Twenty five lakh forty two thousand five hundred sixty eight)
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**IPR**

Calendar year	2022	2021	2020
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No. of Patents Granted	0	0	0

**Sponsored Research Details**

Financial Year	2022-23	2021-22	2020-21
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Total no. of Funding Agencies	2	0	0
Total Amount Received (Amount in Rupees)	797000	0	0
Amount Received in Words	Seven lakh ninety seven thousand	Zero	Zero

**Consultancy Project Details**

Financial Year	2022-23	2021-22	2020-21
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Total no. of Consultancy Projects	0	0	0
Total no. of Client Organizations	0	0	0
Total Amount Received (Amount in Rupees)	0	0	0
Amount Received in Words	Zero	Zero	Zero

**PCS Facilities: Facilities of physically challenged students**

1. Do your institution buildings have Lifts/Ramps?	Yes, more than 40% of the buildings
2. Do your institution have provision for walking aids, including wheelchairs and transportation from one building to another for handicapped students?	Yes
3. Do your institution buildings have specially designed toilets for handicapped students?	Yes, more than 60% of the buildings

**Faculty Details**

Srno	Name	Age	Designation	Gender	Qualification	Experience (In Months)	Currently working with institution?	Joining Date	Leaving Date	Association type
1	ASHISH UPADHYAY	37	Assistant Professor	Male	M.Sc.	84	Yes	01-10-2021	--	Regular
2	ANIKESH SHARMA	26	Assistant Professor	Male	M.Sc.	36	Yes	18-10-2021	--	Regular
3	DIVYA RAWAT	26	Assistant Professor	Female	M.Sc.	24	Yes	10-11-2021	--	Regular
4	SHIVENDRA MISHRA	26	Assistant Professor	Male	M.Sc.	36	Yes	01-12-2021	--	Regular
5	DR PRERNA BADONI	39	Associate Professor	Female	Ph.D	168	Yes	01-12-2021	--	Regular
6	PANKAJ SINGH NEGI	26	Assistant Professor	Male	M.Sc.	36	Yes	08-12-2021	--	Regular
7	DR PREM SINGH VERMA	37	Assistant Professor	Male	Ph.D	60	Yes	05-09-2022	--	Regular
8	Dr Rupinder Kaur	38	Associate Professor	Female	Ph.D	156	Yes	29-08-2022	--	Regular
9	Dr Rekha dhanai	43	Associate Professor	Female	Ph.D	84	Yes	05-09-2022	--	Regular
10	Rupali Kaushik	26	Assistant Professor	Female	M.Sc.	36	Yes	01-05-2023	--	Regular
11	DR ANITA CHAUHAN	44	Associate Professor	Female	Ph.D (Agriculture)	12	No	03-01-2022	03-07-2023	Regular

This Institute, Dehradun  
Director



**National Institutional Ranking Framework**  
 Ministry of Education  
 Government of India  
 Welcome to Data Capturing System: AGRICULTURE AND ALLIED SECTORS

Submitted Institute Data for NIRF'2024'

Institute Name: Tulas Institute [IR-G-C-21282]

**Sanctioned (Approved) Intake**

Academic Year	2022-23	2021-22	2020-21	2019-20	2018-19	2017-18
UG [4 Years Program(s)]	120	120	120	120	-	-

**Total Actual Student Strength (Program(s) Offered by Your Institution)**

(All programs of all years)	No. of Male Students	No. of Female Students	Total Students	Within State (Including male & female)	Outside State (Including male & female)	Outside Country (Including male & female)	Economically Backward (Including male & female)	Socially Challenged (SC+ST+OBC Including male & female)	No. of students receiving full tuition fee reimbursement from the State and Central Government	No. of students receiving full tuition fee reimbursement from Institution Funds	No. of students receiving full tuition fee reimbursement from the Private Bodies	No. of students who are not receiving full tuition fee reimbursement
UG [4 Years Program(s)]	221	72	293	33	256	4	0	126	17	0	0	109

**Placement & Higher Studies**

**UG [4 Years Program(s)]: Placement & higher studies for previous 3 years**

Academic Year	No. of first year students intake in the year	No. of first year students admitted in the year	Academic Year	No. of students admitted through Lateral entry	Academic Year	No. of students graduating in minimum stipulated time	No. of students placed	Median salary of placed graduates(Amount in Rs.)	No. of students selected for Higher Studies
2017-18	120	55	2018-19	0	2020-21	52	5	250000(Two lakh fifty thousand)	5
2018-19	120	99	2019-20	0	2021-22	80	4	250000(Two lakh fifty thousand)	7
2019-20	120	97	2020-21	0	2022-23	82	12	250000(Two lakh fifty thousand)	10

**Ph.D Student Details**

Ph.D (Student pursuing doctoral program till 2022-23 Students admitted in the academic year 2023-24 should not be entered here.)				Total Students
Full Time				0
Part Time				0
No. of Ph.D students graduated (including Integrated Ph.D)				
Full Time	0	2022-23	2021-22	2020-21
Part Time	0		0	0

**Tula's Institute, Dehradun**  
**Director**

Total no. of Consultancy Projects	0	0	0
Total no. of Client Organizations	0	0	0
Total Amount Received (Amount in Rupees)	0	0	0
Amount Received in Words	Zero	Zero	Zero

**PCS Facilities: Facilities of physically challenged students**

1. Do your institution buildings have Lifts/Ramps?	Yes, more than 40% of the buildings
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11	DR ANITA CHAUHAN	44	Associate Professor	Female	Ph.D (Agriculture)	12	No	03-01-2022	03-07-2023	Regular

**Financial Resources: Utilised Amount for the Capital expenditure for previous 3 years**

Academic Year	2022-23	2021-22	2020-21
	Utilised Amount	Utilised Amount	Utilised Amount
<b>Annual Capital Expenditure on Academic Activities and Resources (excluding expenditure on buildings)</b>			
Library	543364 (Five Lakh forty three thousand three hundred sixty four)	280026 (Two Lakh eighty thousand twenty six)	89815 (Eighty nine thousand eight hundred fifteen)
New Equipment for Laboratories	1238923 (Twelve Lakh thirty eight thousand nine hundred twenty three)	1093422 (Ten Lakh ninety three thousand four hundred twenty two)	225114 (Two Lakh twenty five thousand one hundred fourteen)
Engineering Workshops	0 (Zero)	0 (Zero)	0 (Zero)
Studios	0 (Zero)	0 (Zero)	0 (Zero)
Other expenditure on creation of Capital Assets (excluding expenditure on Land and Building)	2168848 (Twenty one Lakh sixty eight thousand eight hundred forty eight)	1478452 (Fourteen Lakh seventy eight thousand four hundred fifty two)	419953 (Four Lakh nineteen thousand nine hundred fifty three)

**Financial Resources: Utilised Amount for the Operational expenditure for previous 3 years**

Academic Year	2022-23	2021-22	2020-21
	Utilised Amount	Utilised Amount	Utilised Amount
<b>Annual Operational Expenditure</b>			
Salaries (Teaching and Non Teaching staff)	25452644 (Two crore fifty four lakh fifty two thousand six hundred forty four)	20017454 (Two crore seventeen thousand four hundred fifty four)	18648030 (One core eighty six lakh forty eight thousand thirty)
Maintenance of Academic Infrastructure or consumables and other running expenditures(excluding maintenance of hostels and allied services,rent of the building, depreciation cost, etc)	9445055 (Ninty four lakh forty five thousand fifty five)	7672791 (Seventy six Lakh seventy two thousand seven hundred ninety one)	2542568 (Twenty five lakh forty two thousand five hundred sixty eight)
Seminars/Conferences/Workshops	941924 (Nine Lakh forty one thousand nine hundred twenty four)	235707 (Two Lakh thirty five thousand seven hundred seven)	547519 (Five Lakh forty seven thousand five hundred nineteen)

**IPR**

Calendar year	2022	2021	2020
No. of Patents Published	5	0	0
No. of Patents Granted	0	0	0

**Sponsored Research Details**

Financial Year	2022-23	2021-22	2020-21
Total no. of Sponsored Projects	2	0	0
Total no. of Funding Agencies	2	0	0
Total Amount Received (Amount in Rupees)	797000	0	0
Amount Received in Words	Seven lakh ninety seven thousand	Zero	Zero

**Consultancy Project Details**

Financial Year	2022-23	2021-22	2020-21
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Tulsi Institute Dhruv Director

# **Orientation Programme**

# **INDUCTION**

# **REPORT**



**TULA'S**  
**DEHRADUN**  
**Estd. 2006**

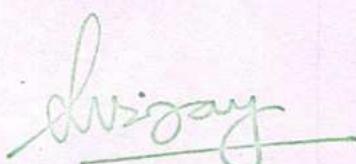
**Session: 2022-23**

(From 5<sup>th</sup> Sept to 24<sup>th</sup> Sept 2022)

*Shivay*  
Director  
Tula's Institute, Dehradun

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Director  
Tula's Institute, Dehradun

**Schedule for Student Induction Programme 2022-23**

Date	Particulars	09:30 a.m. to 10:30 a.m.	10:30 a.m. to 11:30 a.m.	11:30 a.m. to 12:30 p.m.	1:30 p.m. to 02:30 p.m.	02:30 p.m. to 04:00 p.m.
05-Sept				Registration of Students		
06-Sept	Introduction Session	<ul style="list-style-type: none"> <li>• Settlement of students</li> <li>• Videos of Tula's Institute</li> </ul>	<ul style="list-style-type: none"> <li>• Ice Breaking Session</li> </ul>	<ul style="list-style-type: none"> <li>• 1460 ways of how to live your life</li> </ul>	<ul style="list-style-type: none"> <li>• 1460 ways of how to live your life</li> </ul>	<ul style="list-style-type: none"> <li>• Division of team</li> <li>• Fun Activities</li> </ul>
Team A and Team B (Team Building Activity)	<ul style="list-style-type: none"> <li>• Introduction PPT</li> </ul>	<ul style="list-style-type: none"> <li>• Indoor Activity (Balloon Activity, Puzzle Solving)</li> </ul>	<ul style="list-style-type: none"> <li>• Indoor Activity (Dumb Charades, Relay Painting)</li> </ul>	<ul style="list-style-type: none"> <li>• Outdoor Activates (Tug-of-War)</li> </ul>	<ul style="list-style-type: none"> <li>• Outdoor Activates (Water Relay, Blind Fold Football)</li> </ul>	
Team C and Team D (Model Making Activity)	<ul style="list-style-type: none"> <li>• Introduction PPT</li> </ul>	<ul style="list-style-type: none"> <li>• Division of Groups</li> <li>• Start of Model Making</li> </ul>	<ul style="list-style-type: none"> <li>• Model Making</li> </ul>	<ul style="list-style-type: none"> <li>• Display of the Models</li> </ul>	<ul style="list-style-type: none"> <li>• Display of the Models</li> <li>• Judges Inspection</li> </ul>	
Team E (Goal Setting and Responsible Citizen)	<ul style="list-style-type: none"> <li>• Interactive Session (Goal Setting)</li> </ul>	<ul style="list-style-type: none"> <li>• Classroom Activities (Animal chit game, Name game)</li> </ul>	<ul style="list-style-type: none"> <li>• Classroom Activities (Solve the riddle/KYC, Using tags)</li> </ul>	<ul style="list-style-type: none"> <li>• Ice Breaking session (Hip-hip hurray, sweet distribution)</li> </ul>	<ul style="list-style-type: none"> <li>• Indoor Activities (Newspaper activity, Discussion and video, Poster Making)</li> </ul>	
Team F (Goal Setting and Responsible Citizen)	<ul style="list-style-type: none"> <li>• Interactive Session (Responsible Citizen)</li> </ul>	<ul style="list-style-type: none"> <li>• Ice Breaking session (Hip-hip hurray, sweet distribution)</li> </ul>	<ul style="list-style-type: none"> <li>• Indoor Activities (Newspaper activity, Discussion and video, Poster Making)</li> </ul>	<ul style="list-style-type: none"> <li>• Interactive Session (Goal Setting)</li> </ul>	<ul style="list-style-type: none"> <li>• Classroom Activities (Animal chit game, Name game, Solve the riddle/KYC, Using tags)</li> </ul>	
Team G (Wheel of Life)	<ul style="list-style-type: none"> <li>• Wheel of Life</li> </ul>	<ul style="list-style-type: none"> <li>• Worksheet of wheel of life</li> </ul>	<ul style="list-style-type: none"> <li>• Activity</li> </ul>	Movie Screening		

Date	Particulars	09:30 a.m. to 10:30 a.m.	10:30 a.m. to 11:30 a.m.	11:30 a.m. to 12:30 p.m.	1:30 p.m. to 02:30 p.m.	02:30 p.m. to 04:00 p.m.
	Team H (Wheel of Life)		Movies		• Wheel of Life	• Worksheet of wheel of life
10-Sept			Himalayan Day Celebration and Guest Lecture by the team of experts			
14-Sep	Academic Sessions	• Director	• Dean Academic	• HOD Session to their respective students according to the courses.	• Departmental sessions	
15-Sep			Proficiency Test and Painting Competition			
16-Sep	Tula's got Talent (Audition)		Tula's got Talent (Audition)	Rendezvous Season 5	TGT Finale	
17-Sep			Sports Day			

Important:

- There will be extension activities for all the groups during these time schedules.

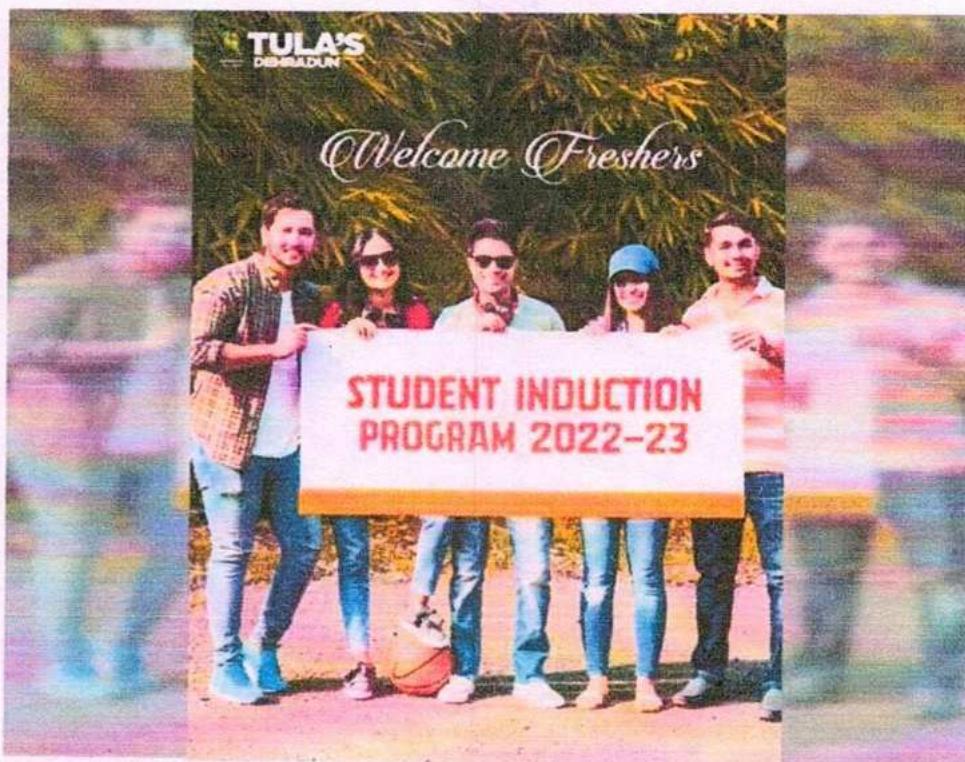
## About Tula's Institute



Tula's Institute is dedicated to serving the community by recognizing the diverse needs of individuals. We encourage personal and professional development through respect, appreciation, and a commitment to general education, as a foundation for lifelong learning. Tula's Institute is the Ranked as No. 9 College in North India for:

Tula's Institute believes in providing the best possible facilities to its students. We endeavor to create a congenial atmosphere to nurture talent through the support and guidance of experienced faculty members with access to state-of-the-art infrastructure. The Institute is committed to offering the best possible facilities to ensure quality education for the students. The Institute provides excellent infrastructural and ICT facilities with well-equipped laboratories, a modern computer center, spacious and well-furnished classrooms, seminar hall, library, workshop, and fully airconditioned & spacious auditorium. Tula creates a perfect blend of academicians, researchers, and professionals from both public and private sectors who contribute to the Institute's academic excellence in the state of Uttarakhand.

## About Induction Program

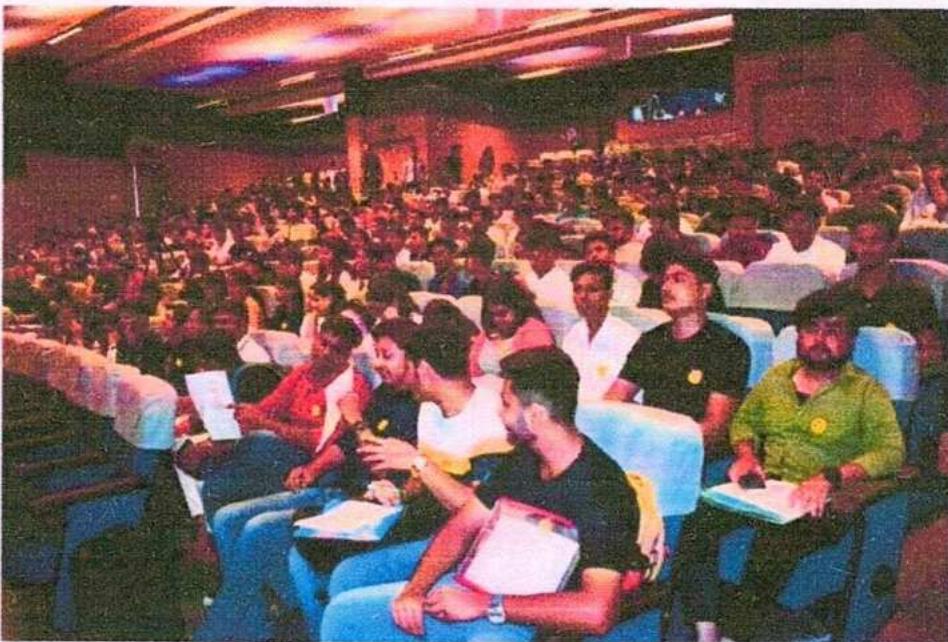


Change is inevitable. The transition period is always challenging. As is the transition from pre-university academics to a professional curriculum for students. After the rigorous training and planning required to enroll in a professional college, students deserve time to unwind, form new relationships with fellow students, and become acquainted with their new surroundings. The induction program assists in making first-year students feel at ease by providing opportunities to showcase their talents and interests and shape their character.

An induction program is a forerunner of various on-campus and off-campus activities designed specifically for new students to fill the gap. The Induction Program is a wonderful blend of literary activities, cultural activities, personality development activities, Universal Human Values sessions, sports, and many other activities.

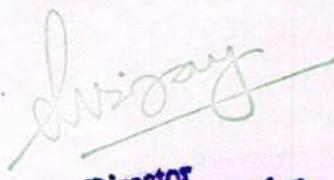
Tula's Institute believes that two main aspects are leading to good education, a supportive, nurturing environment, and exposure to growing technological innovations thus conducting a 21 days induction program for the newly admitted students.

**Day 1**  
**Registration and Inauguration**



**The induction program** started on 5<sup>th</sup> September 2022 with the registration of newly admitted students. Nearly 500 students reported on day one of the induction program. As the student intake was high in number, the committee had developed a consensus to split the mass of students into Ten groups. Students participated in the registration and reporting procedure with enthusiasm. The induction team extended their active assistance to entrants to complete the registration process smoothly. During the process, the personnel attended to the queries of students successfully. As per the directives of the AICTE, handouts containing an overview of the program, the schedule of the entire Induction program, and welcome kits were distributed to the entrants during the registration process.



  
Dr. Divyanshu Singh  
Director  
Tula's Institute, Dehradun



Nikhil Bhardwaj, Personality development trainer guiding the students about the induction program.

## DAY 2

### TEAM BUILDING AND LEADERSHIP

#### Objectives of Team Building and Leadership Activities

- 1) Working in a team, inculcating the values within the students for the team.
- 2) It is always about WE and US, not I or ME.
- 3) Assisting the member when things are not going your way.
- 4) Being supportive and helpful
- 5) Working for a common objective.
- 6) Attainment of TEAM goals.

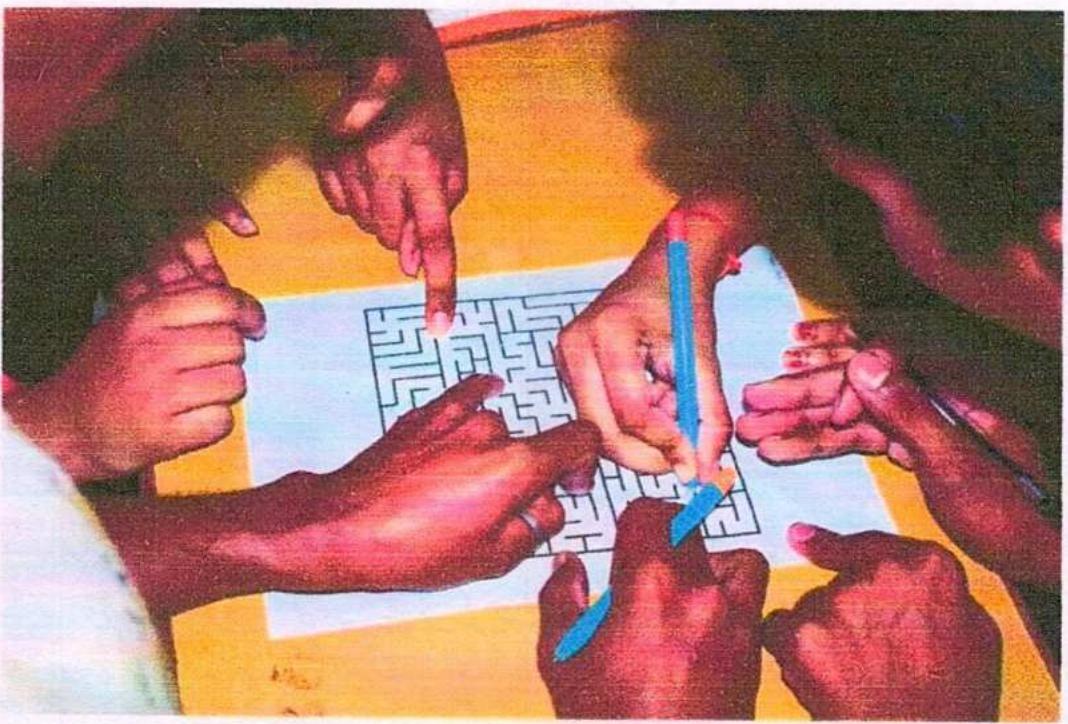
The Team building activities for the students were planned on the first day of the Induction program starting with the classroom activities for all the students in their respective classes.

The students started the session by playing a few games at the beginning which was fun for them and entertaining. The activities were planned with a time limit. Some of the activities planned were Ice-breaking activities like balloon activity, Relay Painting, Dumb Charades, and Puzzle Solving. These activities were planned as indoor activities. All of the activities planned for students will aid in team bonding and will improve workplace projects that require teamwork.



Balloon activity done by students to learn the coordination

Students gain a better understanding of each other's strengths, weaknesses, and interests after participating in team-building activities together. This understanding allows them to work even more effectively together in the future. Certain activities can be designed to improve group communication and conflict resolution.



*Students playing the puzzle-solving game*

Collaboration within a group can aid in the resolution of difficult problems. Brainstorming is an excellent way for the team to exchange ideas and come up with innovative solutions. Teams can find the best solutions by working together.

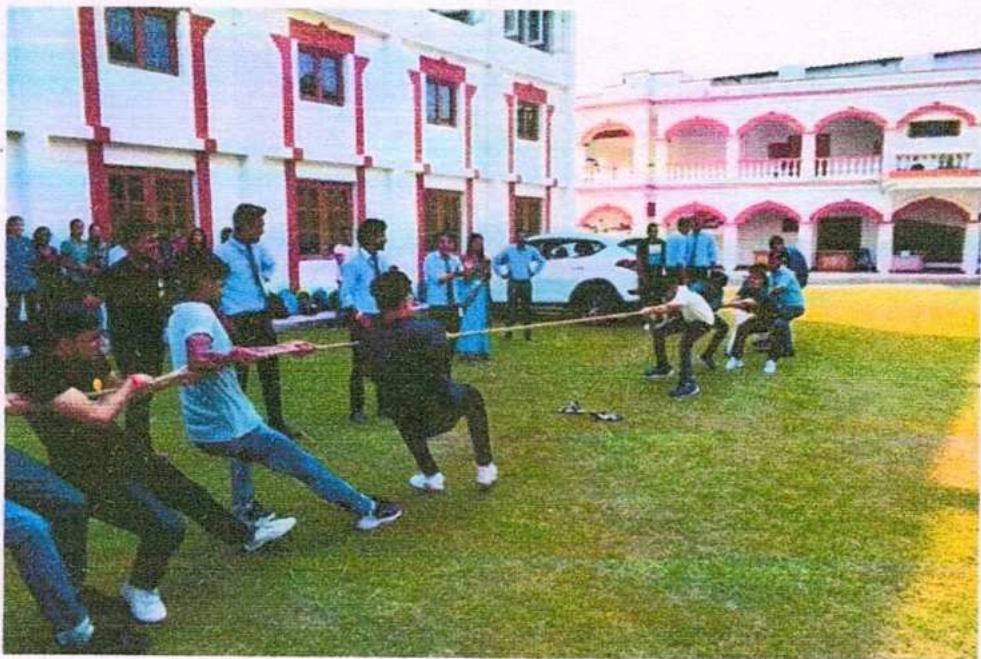


Dr. Divyay  
Director  
Tula's Institute, Dehradun



*Dumb charades activities*

After the completion of team building activities, the students were taken for the outdoor activities where they played various games such as Water-Relay, Tug-o-War, and Blind football.



*Students showing their skills during Tug-o-War*

The motive for such games was to make a bond between the students and team them how to work on the ground and how to coordinate with each other.

*Divyanshu*

Director  
Tula's Institute, Dehradun



*Water Relay as a part of team building and leadership activities*

### **The outcome of Team Building and Leadership Activity**



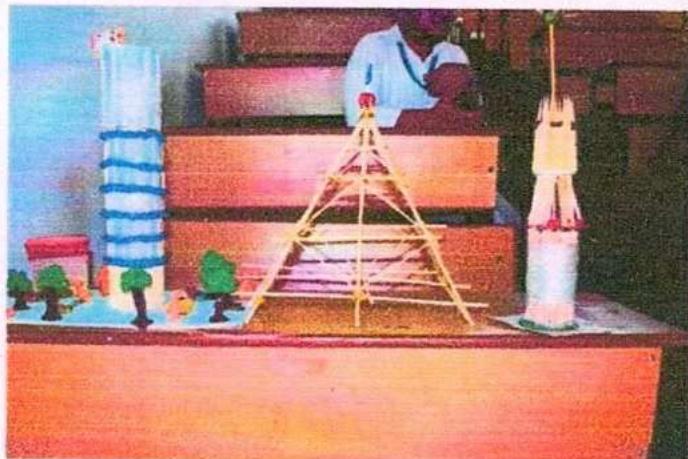
A handwritten signature in black ink, which appears to read "Anil Ray". A green horizontal line is drawn through the signature.

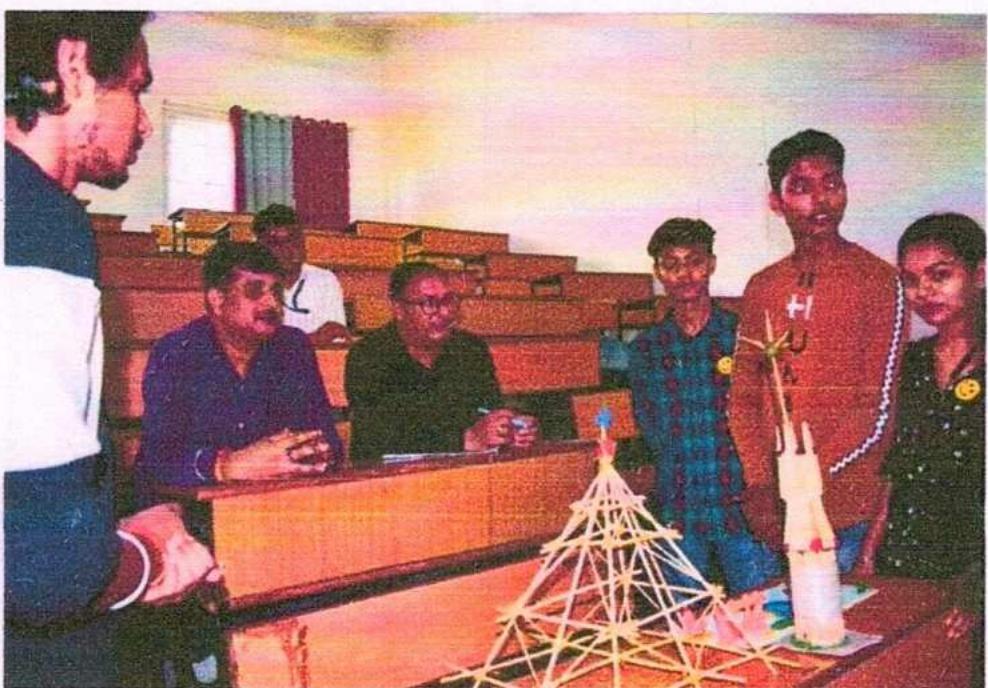
Director  
Tula's Institute, Dehradun

**DAY 3**  
**Model Making Competition**

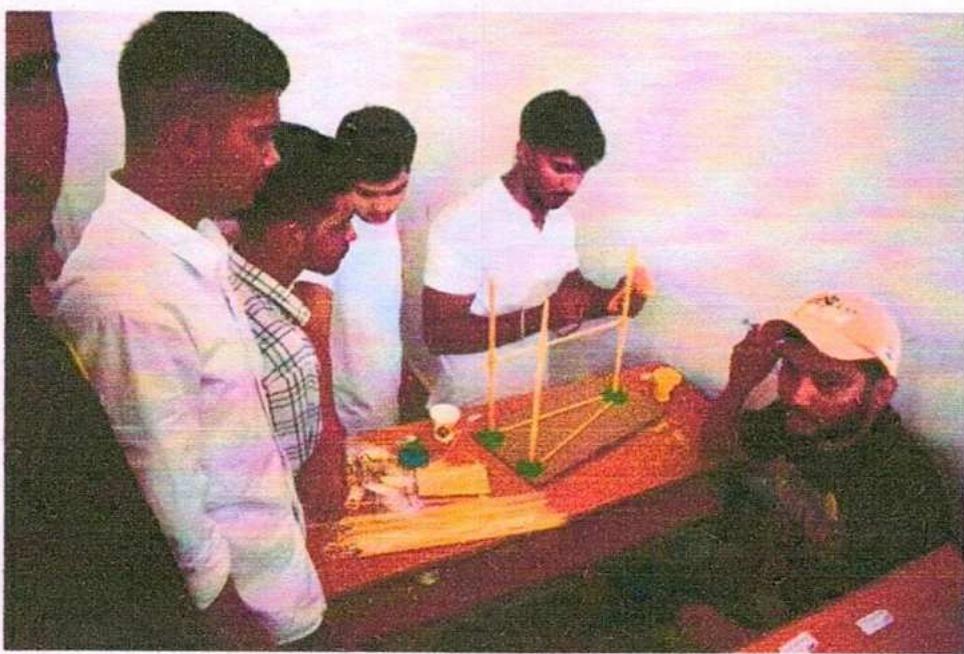


As part of the student induction program, the Model Making activity was organized on the 3<sup>rd</sup> day. The particular activity is organized to encourage students to brainstorm and come up with their own ideas for new models. These activities build confidence among the students and develop critical thinking skills in them. These events are a fun-filled activity-based learning time for these students. It expands their ability to think and design their own easy-to-use affordable models out of basic raw materials like popsicle sticks, bamboo sticks, crafting wire, and thermacol sheets. The students were given the task to make models such as tower making, bridge making, house making.





The aim of the induction program is to help students who come from diverse backgrounds to adjust to the new environment and inculcate in them the ethos of skills and human values. This competition was conducted in order to engage students to show their creativity and also to give wings to their imagination and thoughts. The competition was all about the enhancement of the students.

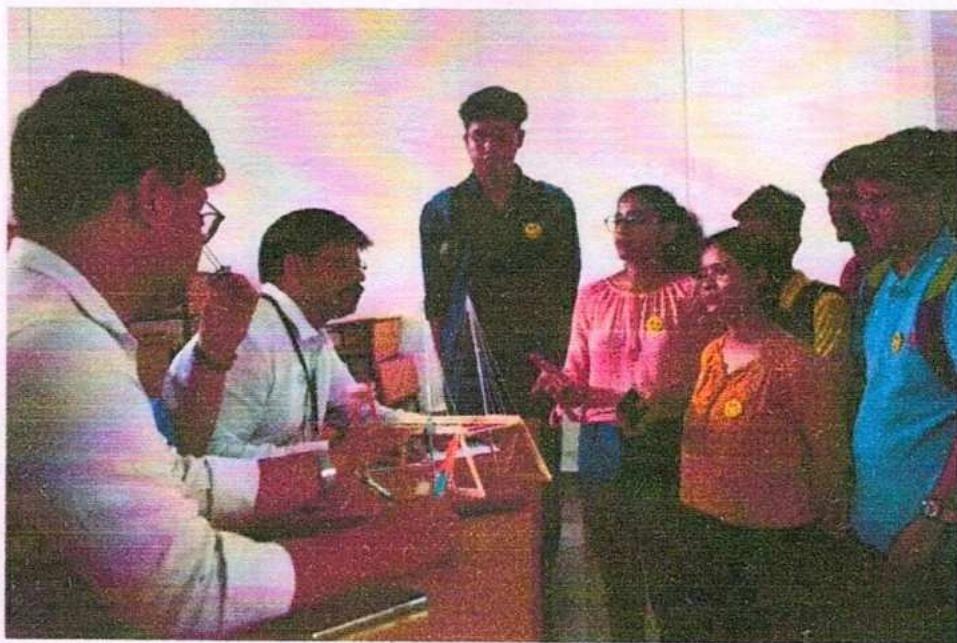


This activity was designed as a group fun activity where 10-15 members of students worked together to achieve a common goal and respective objective under different teams as **A, B, C, D, E, F, G, H,& I.**

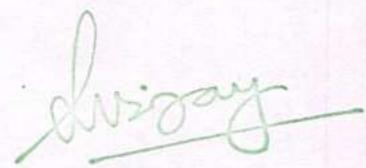


Model Making activity was organized to provide the students with the problem statement and raw materials. The aim is to check the understanding and concept clarity of the students through a 360-degree knowledge test, where they have to conceptualize ideas, design, get involved in resource management and exhibit the models. In a time-bound event, the students compete to develop models which are evaluated on the basis of functionality, usability, and stability. The

presentation of the models made by the students is also judged and evaluated. These events develop critical thinking skills in the students, by providing them with a fun-filled activity-based learning time.



Before the start of the activity, students were briefed about the bridges and tower their different functions and applications, and also shown various types of bridges and structures through the help of a Powerpoint presentation. They were also briefed about the process to create such models by using materials like Bamboo sticks, Thermopolis Sheets, Popsicle sticks, etc provided on different days. The theme assigned to the students was based on Rural and Urban cities.

A handwritten signature in green ink, which appears to read "Divyanshu".

**Director**  
**Tula's Institute, Dehradun**

## Day 4

### Ice Breaking and Team Building Activities

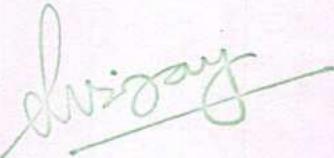
The Tulas Institute's induction program prioritized fostering a sense of community among its incoming first-year students. To achieve this, they implemented several engaging activities. One such activity was a variation of the classic "Two Truths and a Lie." Students took turns sharing three statements about themselves, two of which were true and one a creative fabrication. The group then tried to guess the lie, sparking laughter and conversation as students revealed unexpected details about themselves. Another activity that got students moving was a "Find Someone Who" scavenger hunt.

A list of prompts was prepared, each requiring students to find someone who matched the description, such as "Find someone who speaks three languages" or "Find someone who has the same hometown as you." This encouraged students to mingle, discover shared interests, and build connections. Finally, the Tulas Institute incorporated a collaborative art project. Students were divided into small groups and provided with art supplies. Each group created a mural or piece of art that represented their hopes and dreams for their time at the institute.

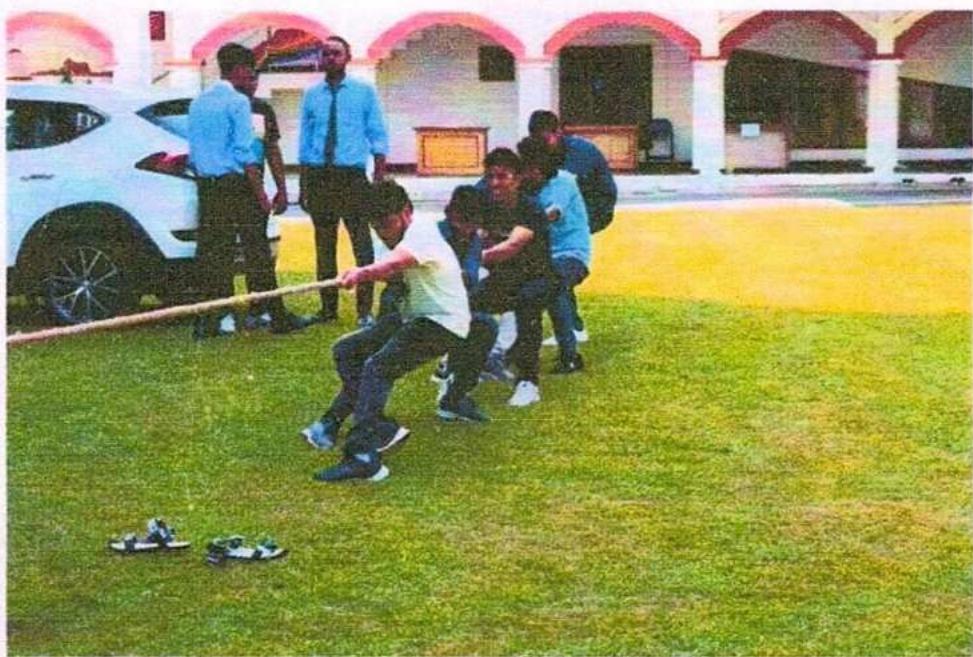
This activity fostered teamwork, creativity, and a sense of belonging as students contributed to a shared project that will be displayed in the institute.

### Objectives

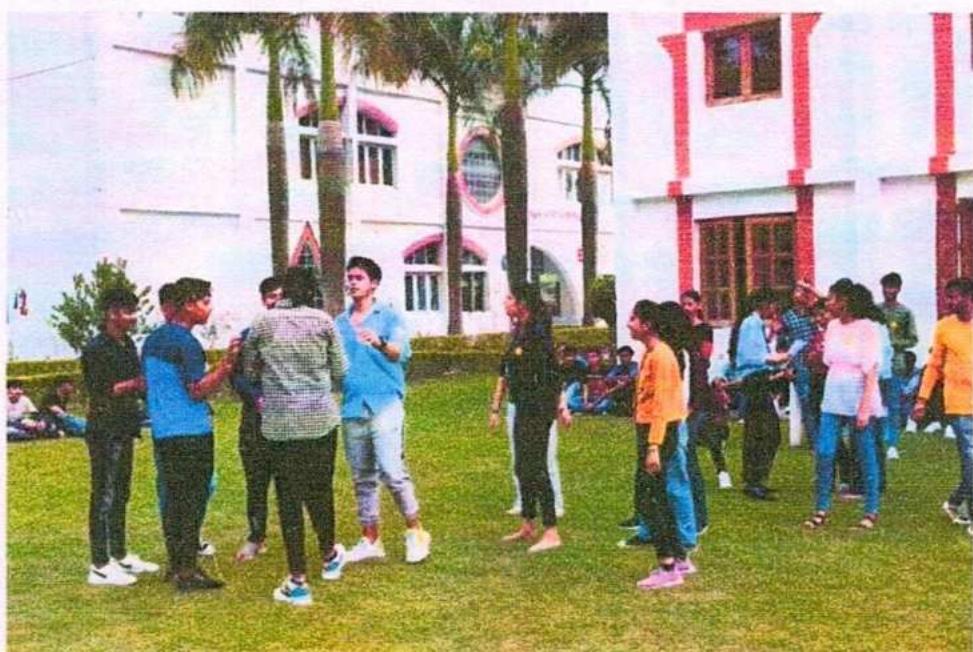
- Break the ice & build connections.
- Discover shared interests & spark friendships.
- Encourage teamwork & creative expression.



Dr. Divyanshu  
Director  
Tula's Institute, Dehradun



Students participating in the tug-of-war challenge



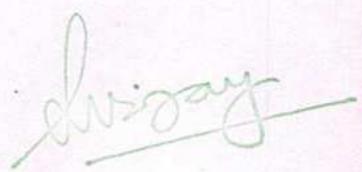
Ice Breaking activities

A handwritten signature in blue ink, which appears to read "Shivay". Below the signature is a horizontal line.

Director  
Tula's Institute, Dehradun



Ice Breaking activities



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Director  
Tula's Institute, Dehradun

## Day 5

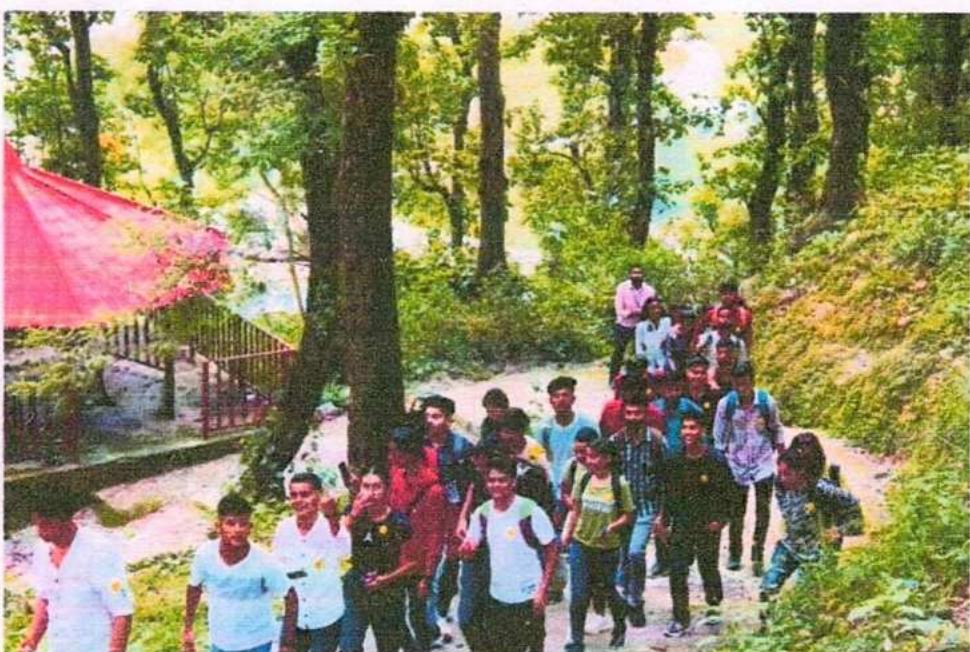
### Santala Devi Trek with a Cleanliness Drive: A Rewarding Challenge

The Santala Devi trek, nestled in the Garhwal Himalayas, culminated in a unique opportunity to combine physical challenge with environmental responsibility. This trek led participants to the sacred Santala Devi temple, rewarding them with breathtaking views and a sense of spiritual connection. However, the program extended beyond the traditional trek. It incorporated a vital cleanliness drive, aiming to leave the mountain trails pristine for future generations.

Participants engaged in collecting waste along the designated route, promoting eco-consciousness and minimizing the environmental impact of their journey. This initiative fostered a sense of responsibility towards the natural environment and educated participants on the importance of sustainable travel practices. By combining the trek with a cleanup effort, the program fostered a deeper appreciation for the beauty of the Himalayas while ensuring its preservation.

#### Objectives

- Promote Adventure and Physical Well-being
- Foster Environmental Responsibility
- Combine Spiritual Connection with Environmental Action



Trekking and cleanliness drive at the way to Sanatala Devi Trek, D.Dun



Cleanliness Drive by the 1<sup>st</sup> year students



Trekking and cleanliness drive by the students during Induction

*Divyanshu*  
Director  
Tula's Institute, Dehradun

## Day 6

### Unveiling Your Compass: The Wheel of Life Activity

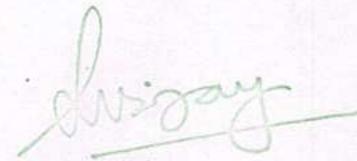
The Tulas Institute's induction program delved deeper into self-discovery through the "Wheel of Life" activity. This introspective exercise provided students with a visual tool to assess their current level of satisfaction in various key life domains. Imagine a wheel divided into sections, each representing an important area like career, health, relationships, finances, personal growth, and fun. Students then evaluated their satisfaction in each domain on a scale, typically from very dissatisfied to very satisfied.

By plotting these scores on the wheel, a clear visualization emerged, highlighting areas that flourished and those that might have required more attention. This self-reflection allowed students to identify personal priorities and set goals for a more balanced and fulfilling life. Perhaps a student scored low on "fun and recreation," prompting them to consider joining a club or exploring new hobbies. The Wheel of Life empowered students to take ownership of their well-being and chart a course for a future aligned with their values.

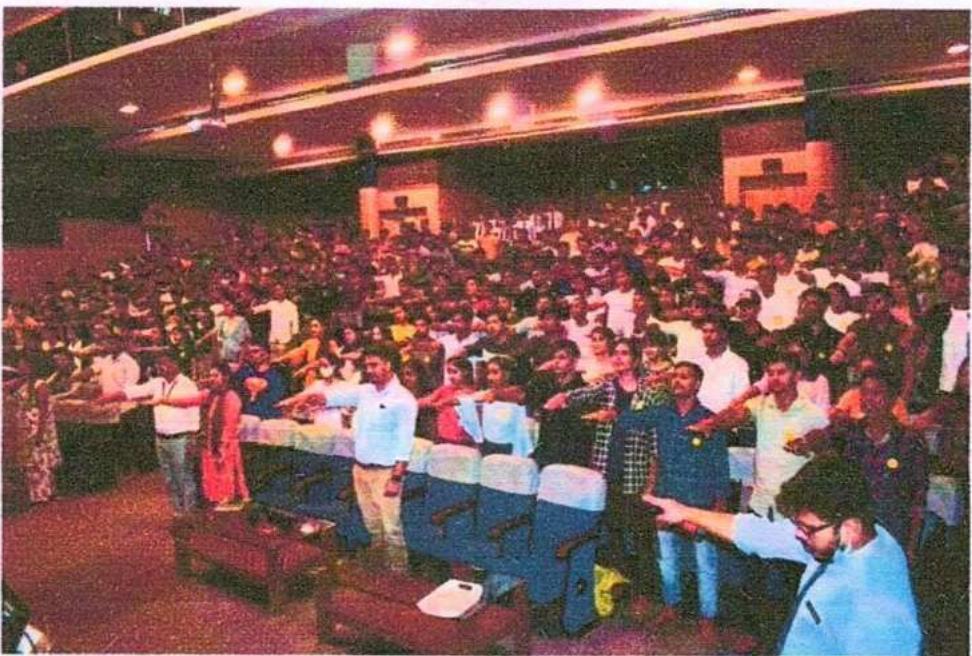
This activity went beyond mere self-assessment. After completing the individual wheel, students engaged in group discussions, sharing their insights and offering support to their peers. This fostered a sense of community and allowed students to learn from each other's experiences, creating a supportive network as they embarked on their academic journey.

### Objectives

- Assess satisfaction in key life areas (career, health, relationships, etc.).
- Identify personal priorities and set goals for a more balanced life.
- Foster a supportive community through shared self-reflection.



Dr.  
Tula's Institute, Dehradoon

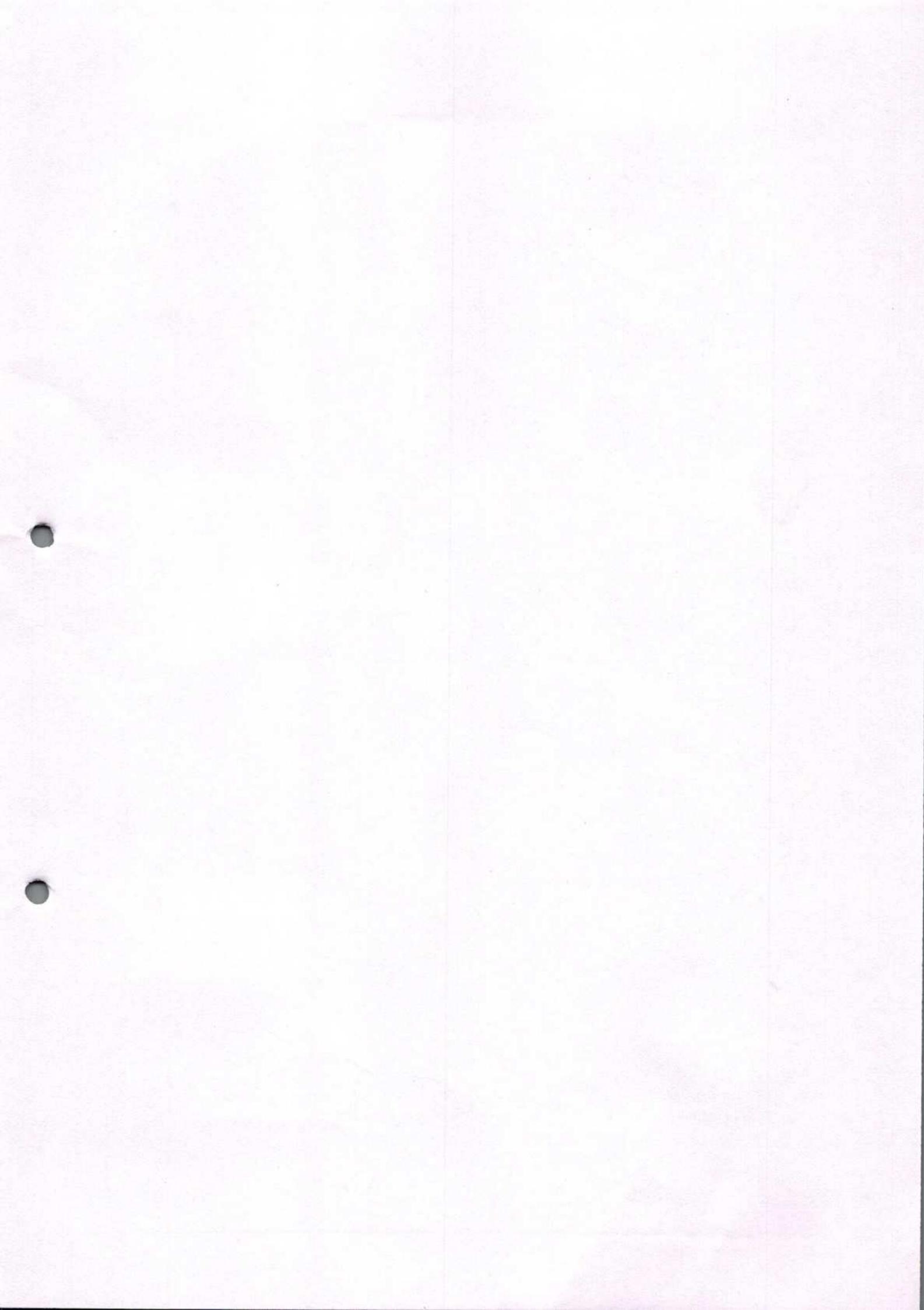


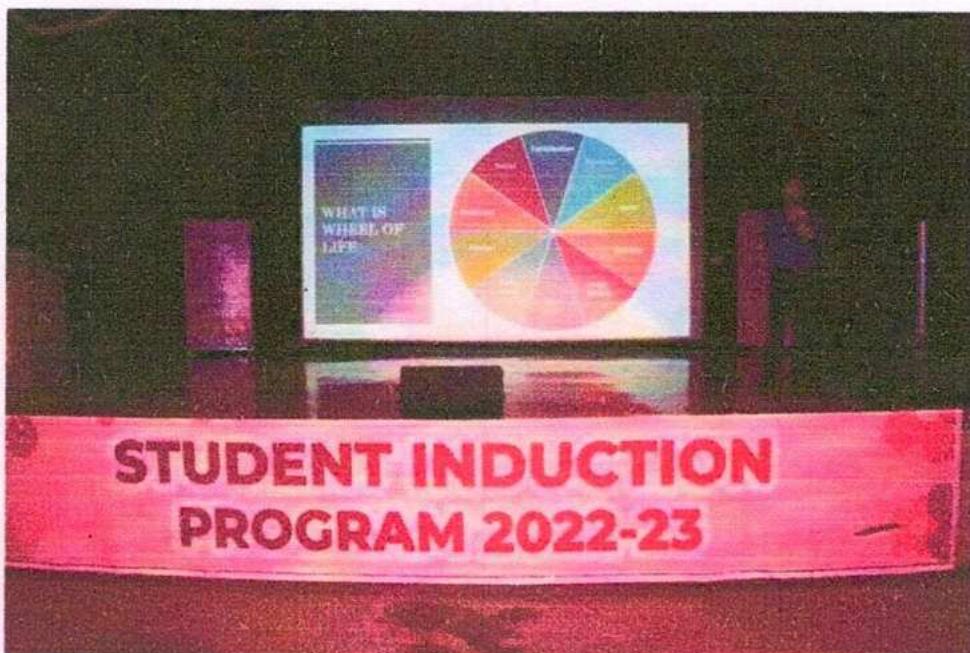
Students taking pledge



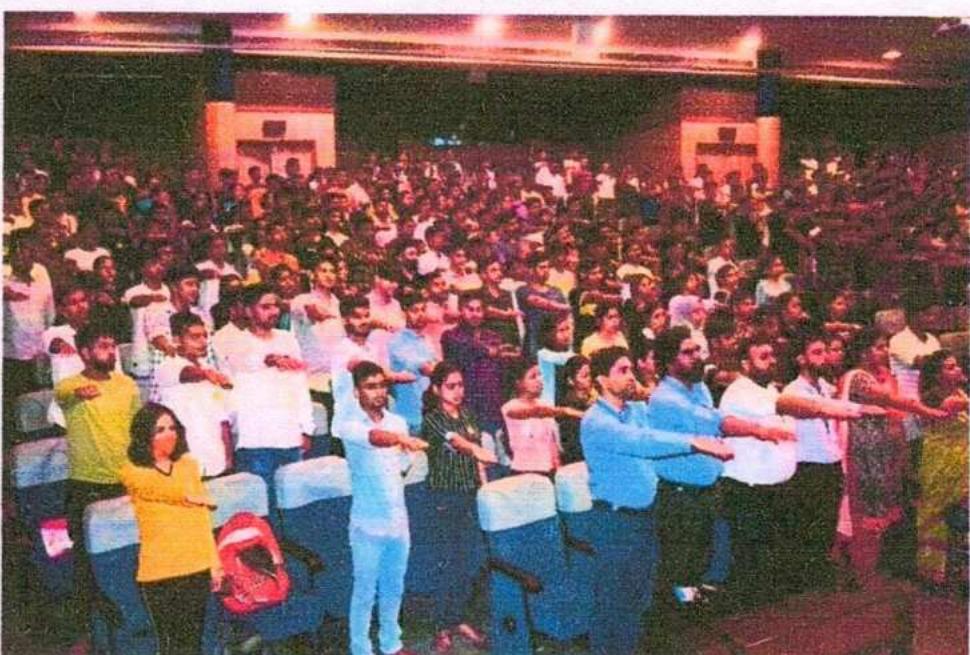
Students listening to the lectures

Dr. Sugay  
Director  
Tula's Institute, Dehradun





Presentation about the wheel of life



Students and faculties taking pledge

Director  
Tula's Institute, Deemed to be University

## Day 7

### Unleashing Creativity: The Tulas Institute Painting Competition

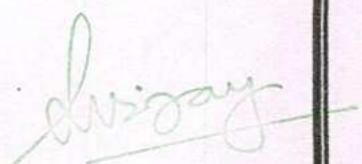
The Tulas Institute induction program culminated in a vibrant "Painting Competition," where first-year students expressed themselves artistically. This activity provided a platform for students to showcase their creativity and explore various artistic mediums. Whether seasoned painters or complete novices, the competition encouraged all participants to embrace the joy of artistic expression.

The competition could be structured in a few ways. The theme could be open-ended, granting students complete creative freedom, or it could be centered on a specific topic relevant to their new student experience, like "First Impressions of Tulas Institute" or "Hopes and Dreams for the Future." This flexibility catered to diverse artistic styles and allowed students to connect the theme to their own experiences.

This past induction program's painting competition fostered a sense of community and celebrated the unique talents of each student. Friendly competition created a lively atmosphere, while an exhibition of the completed works allowed participants to admire each other's creations and celebrate the collective artistic spirit of the incoming year.

#### Objectives

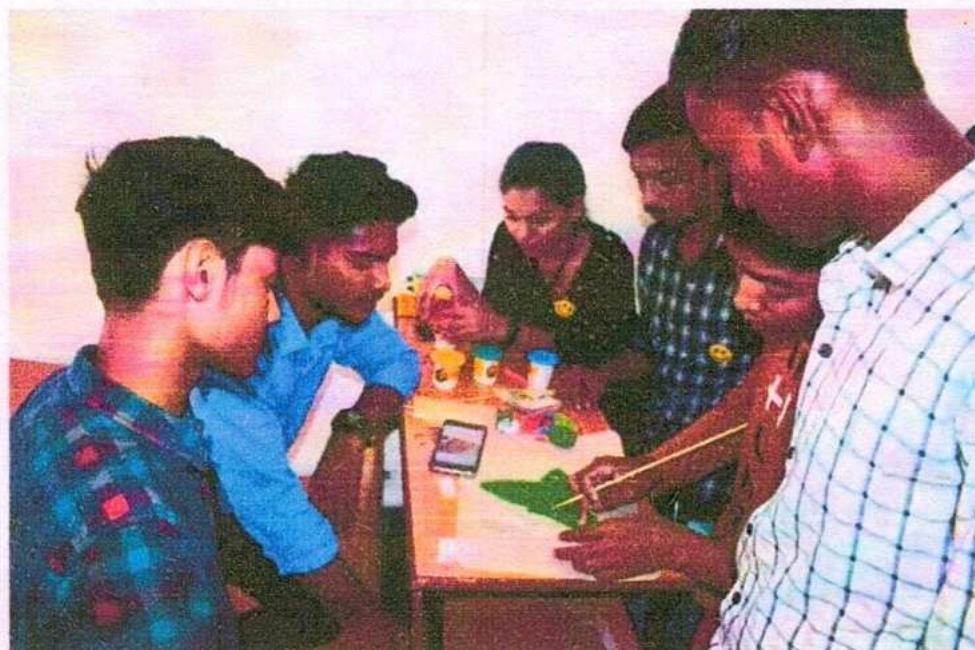
- Showcase creativity and explore artistic mediums in a welcoming environment.
- Express individual perspectives through a chosen theme (open-ended or specific).
- Foster community spirit and celebrate diverse artistic talents through friendly competition and exhibition.



Dr. Jayant Patel  
Director  
Tula's Institute, Dehradoon



Students doing painting



Students doing painting

*disway*  
Director  
Tula's Institute, Dehradun

## Day 8

### Motivational session and career guidance

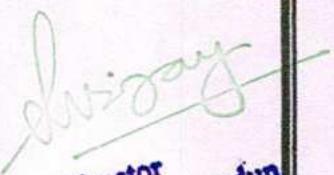
The Tulas Institute's induction program concluded with a powerful one-two punch: a motivational session followed by career guidance. This final act served as a springboard, igniting a fire of enthusiasm and purpose within the incoming students. An inspiring speaker, perhaps a successful alumnus or a renowned figure, would have shared their personal journey, detailing their experience overcoming challenges and achieving their dreams. This session aimed to instill a growth mindset, encouraging students to view obstacles as opportunities for learning and development.

Following the motivational session, the program transitioned to career guidance. Here, students gained valuable insights into navigating the professional landscape. Experts likely conducted workshops on resume writing, interview skills, or exploring potential career paths aligned with their academic interests. This practical advice equipped students with the tools and knowledge they needed to chart their course towards future success.

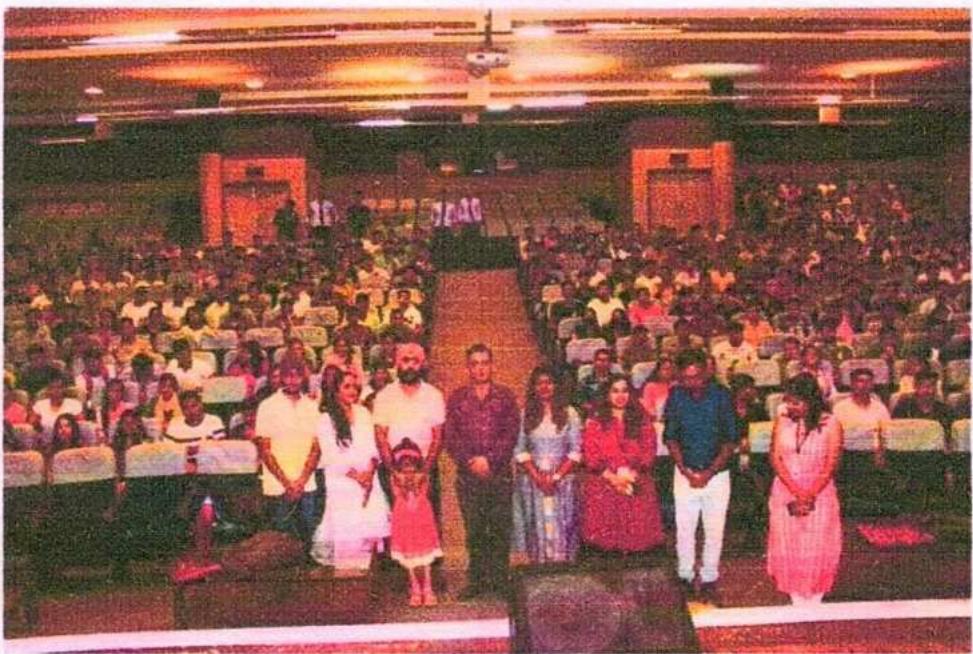
By combining motivation with practical guidance, the Tulas Institute empowered their new students to not only dream big but also develop the necessary skills and strategies to translate those dreams into reality. This holistic approach set them on a path towards a fulfilling academic journey and a rewarding career.

### Objectives

- Ignite passion and a growth mindset through inspiring talks.
- Equip students with practical skills for career exploration and success.
- Empower students to bridge the gap between dreams and reality.



Divyanshu  
Director  
Tula's Institute, Dehradun



The guest and the management of Tula's clicked group photographs

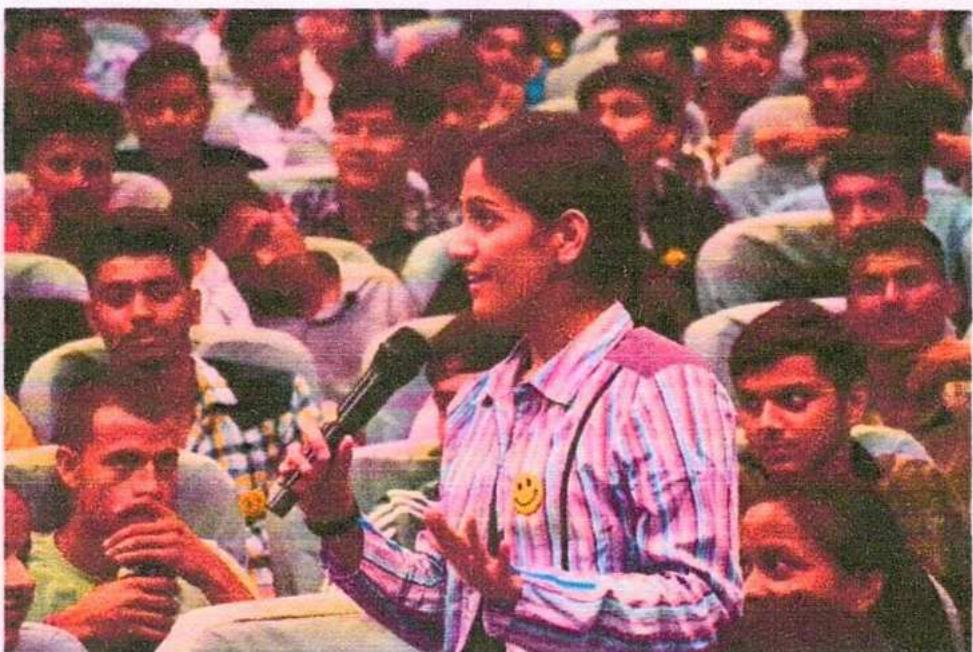


Student interaction during the session

*divyay*  
Director  
Tula's Institute, Dehradun



Group photograph after the event



Student asking the query

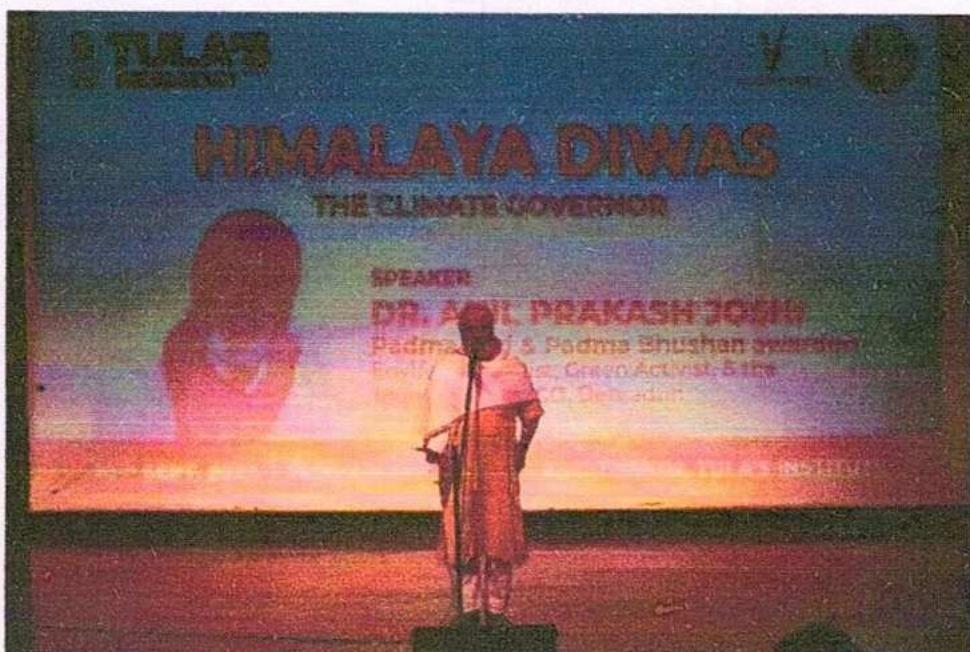
## Day 9

### Himalayan Day Celebration

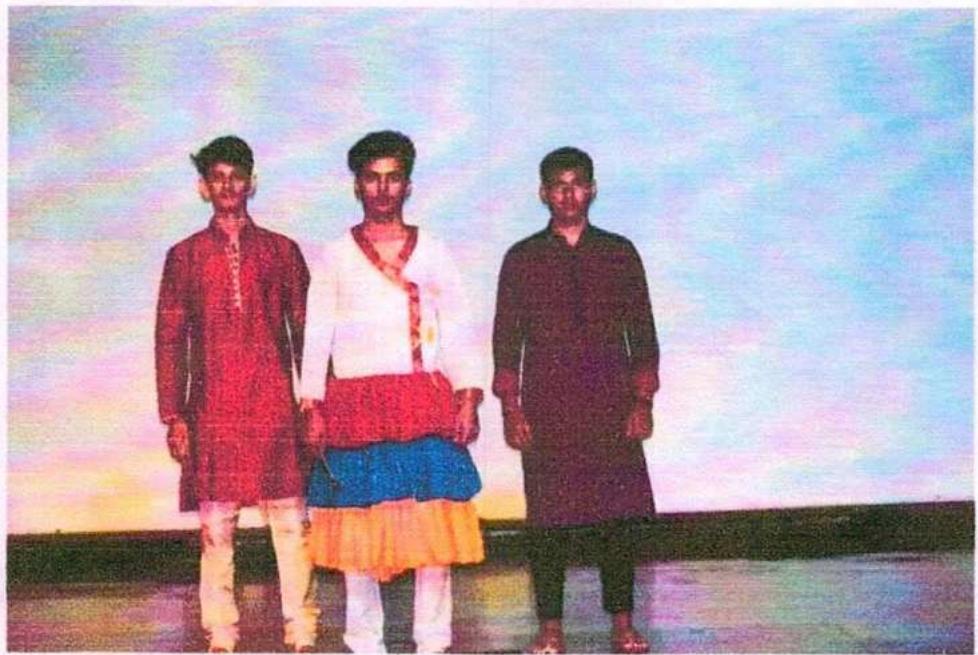
The excitement from yesterday's painting competition likely carried over as the next day marked a special occasion - Himalayan Day, celebrated on September 9th, 2022. This national event served as a timely reminder of the immense importance of the Himalayas. The Institute most likely organized activities focused on environmental awareness and appreciation for this majestic mountain range. These activities could have included a documentary screening, a guest lecture by an environmental expert, or even a tree-planting initiative. Participating in these activities allowed students to not only celebrate the Himalayas but also become responsible stewards of this vital ecosystem.

### Objectives

- Celebrate Himalayan Day & raise awareness of its significance.
- Engage students in environmental activities & foster appreciation for the Himalayas.
- Promote responsible stewardship towards this vital ecosystem.



Dr Anil Prakash Joshi, the founder of Hasco

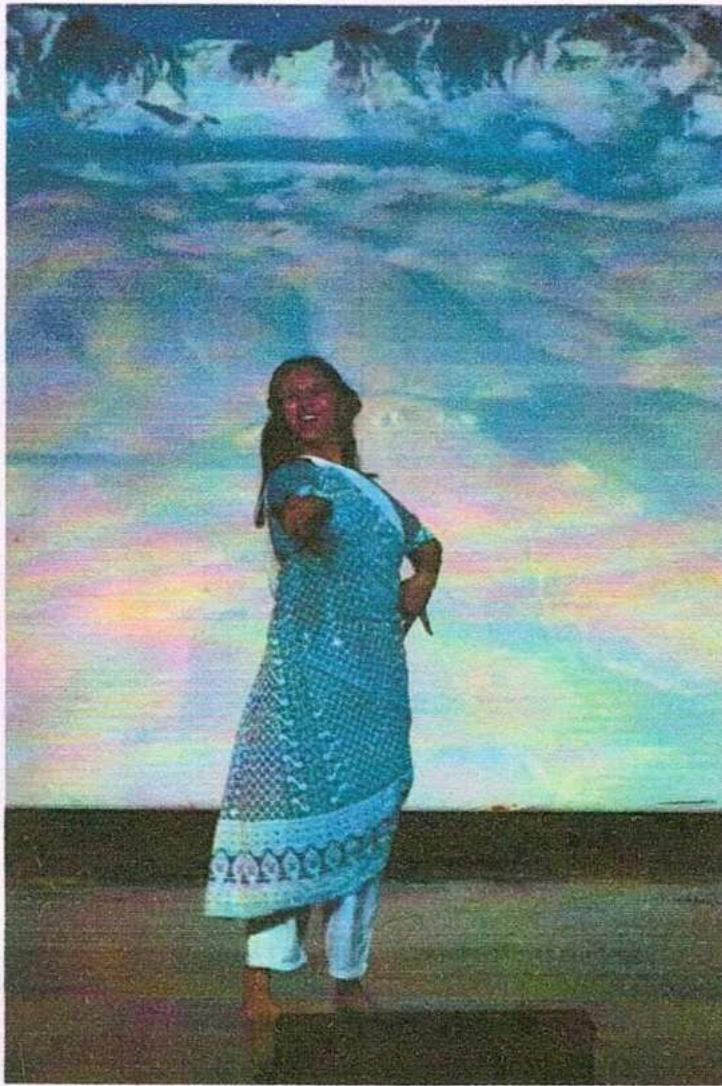


Students showing the culture of Uttarakhand and other states



Students showing Pahadi dance

*Dwijay*  
Director  
Tula's Institute, Dehradun



Dance performance by first year student

*Divyanshu*  
Director  
Tula's Institute, Dehradun

## Day 10

### Building Synergy: The Power of Team-Building Activities

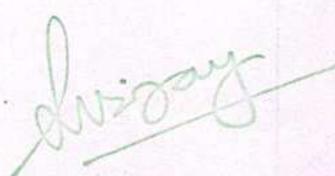
The Tulas Institute's induction program culminated in a series of engaging team-building activities, recognizing the importance of teamwork throughout a student's academic and professional life. These activities, designed to be both fun and challenging, fostered communication, problem-solving, and a sense of shared purpose amongst the new students.

One example was the "Blindfolded Maze" challenge. Students worked together, with one teammate blindfolded and guided by the verbal instructions of their sighted partner. This activity promoted clear communication and trust-building as they navigated the maze together. Another option employed during the program was a "Scavenger Hunt with a Twist." Teams raced against each other to find hidden clues, but the twist was that they had to collaborate with other teams to decipher the clues and complete certain tasks. This fostered cooperation, strategic thinking, and a sense of friendly competition.

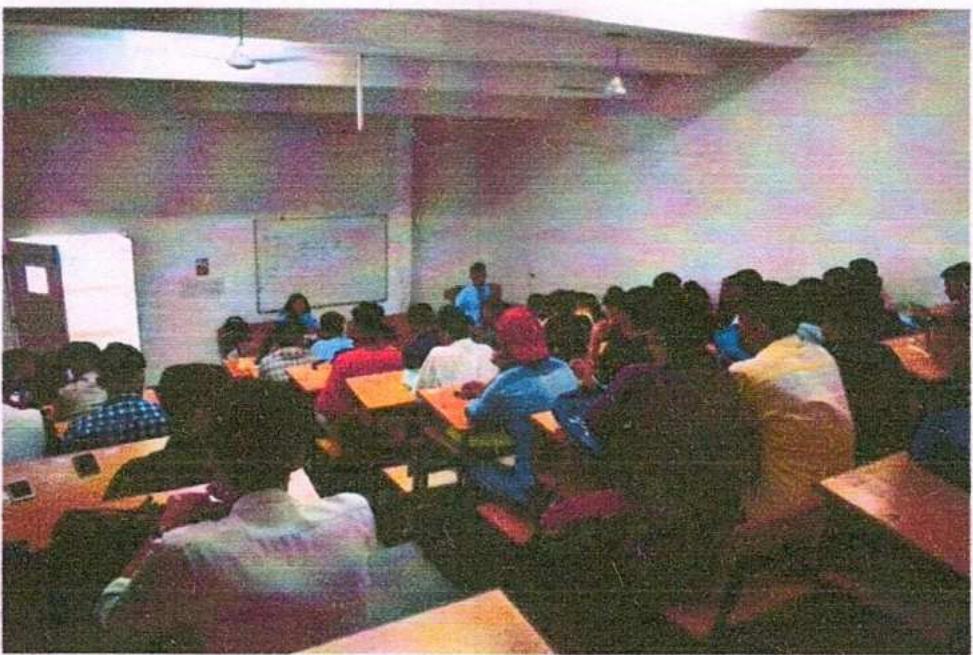
Through these thoughtfully designed activities, students learned the power of teamwork and developed essential skills like active listening, effective communication, and collaborative problem-solving. These skills will not only benefit them in the classroom but also prepare them for future success in group projects, internships, and ultimately their chosen careers.

### Objectives

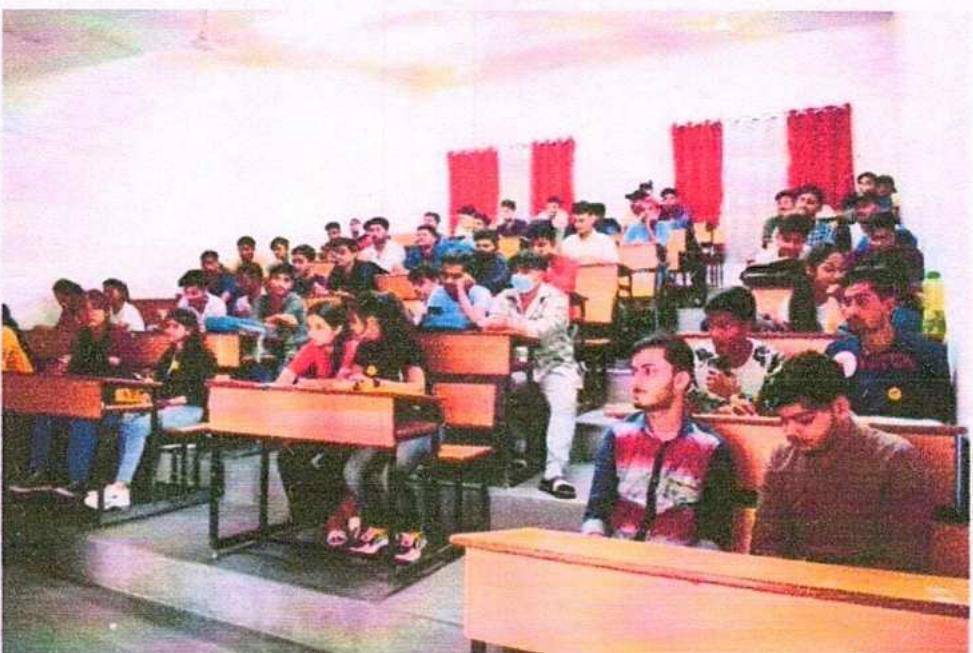
- Strengthen new friendships and build a foundation for collaboration.
- Develop essential teamwork skills like communication and problem-solving.
- Prepare students for future success in group projects and professional settings.



Dr. Jayant Patel  
Director  
Tula's Institute, Dehradun

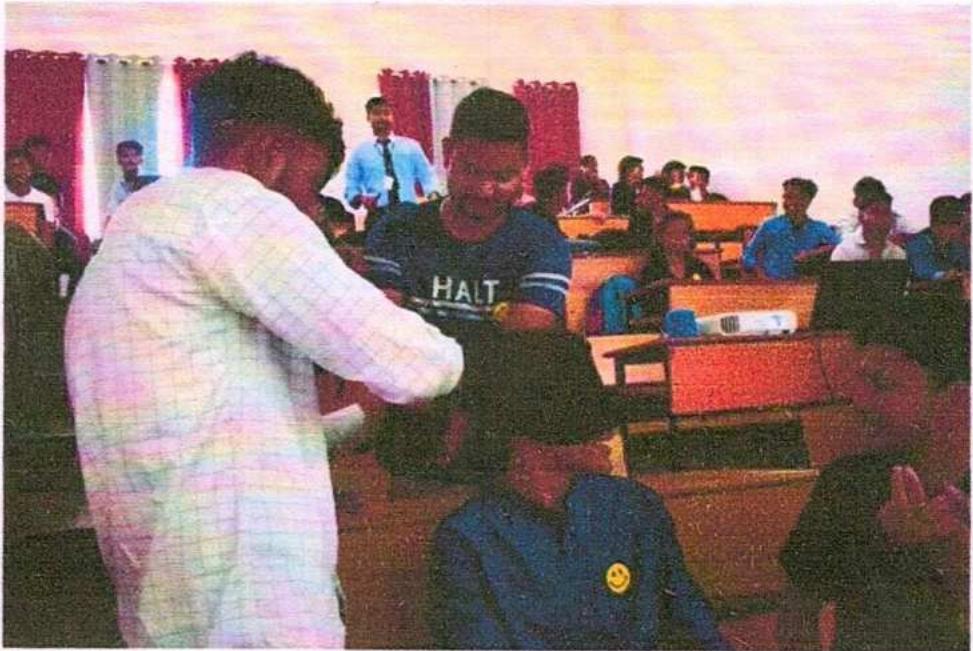


Students listening to the sessions

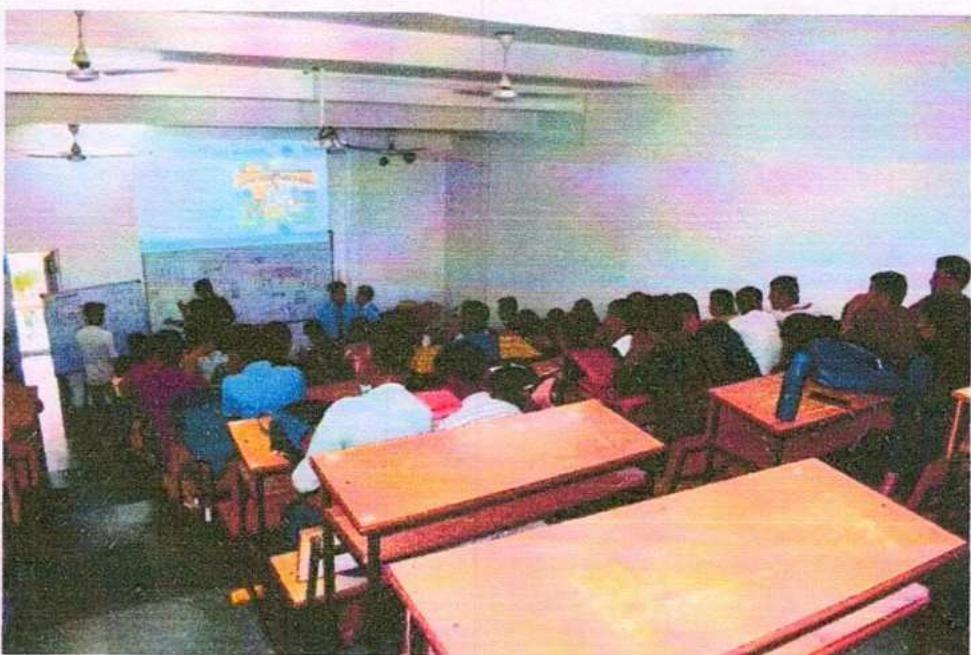


Students listening to the sessions

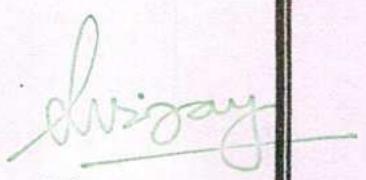
*Divyajay*  
Director  
Tula's Institute, Dehradun



Activities during the session to make the students learn practically



Presentation on team work

  
Dr. Shri Jayant Patel  
Director  
Tula's Institute, Dehradun

## Day 11

### Winding Down with Mindfulness: The Yoga Session

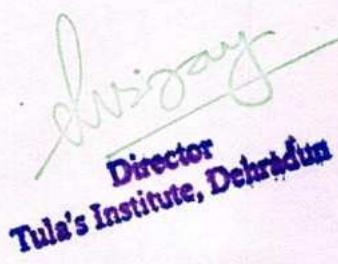
The Tulas Institute's induction program concluded with a calming and centering yoga session. This provided a welcome contrast to the energetic team-building activities and served several purposes. Yoga, incorporating physical postures (asanas), breathwork (pranayama), and meditation, offered a holistic approach to well-being for the new students.

The physical postures likely improved flexibility, strength, and balance, potentially reducing stress and promoting relaxation. The breathwork exercises likely helped students connect their mind and body, fostering a sense of inner peace and mindfulness. Finally, the meditation component allowed students to quiet their minds and focus on the present moment, a valuable skill for managing stress throughout their academic journey.

This yoga session served as a bridge between the excitement of the induction program and the demands of academic life. By incorporating mindfulness practices, the Tulas Institute equipped students with tools to manage stress, improve focus, and cultivate a sense of inner well-being. This set them up for a successful and enriching academic experience.

### Objectives

- Promote relaxation and stress reduction after a stimulating program.
- Enhance physical well-being through postures and improve focus through breathwork.
- Cultivate mindfulness and equip students with stress-management tools for academic life.



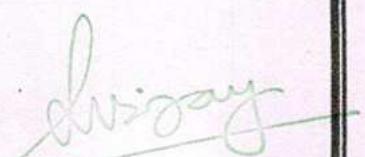
Dr. Divyanshu  
Director  
Tula's Institute, Dehradun



Yoga and meditation



Yoga and meditation



Dr. Avinash Tuli  
Director  
Tula's Institute, Dehradun



Yoga and meditation

## S PAVILION



Mr. B L Semwal, a well-known instructor teaching yoga to the students

Dr. Divya Jat  
Director  
Tula's Institute, Dehradun

## Day 12

### Extending a Helping Hand: The Clothes Donation Drive

The Tulas Institute concluded its induction program with a thoughtful initiative - a clothes donation drive. This charitable act allowed students to not only declutter their belongings but also contribute to the well-being of those in need within the Garhwal community.

Donation bins were placed at convenient locations throughout the institute, and students were encouraged to contribute gently used clothing items. The institute likely partnered with a local NGO or shelter to ensure the donated clothes reached those who would benefit most. This act of generosity fostered social responsibility and allowed students to connect with the wider community.

Participating in the clothes donation drive provided a valuable learning experience for the students. They gained firsthand knowledge about the importance of giving back and the power of community service. It instilled a sense of compassion and encouraged them to consider the needs of others throughout their academic journey and beyond.

### Objectives

- Promote social responsibility and connect with the Garhwal community.
- Provide an opportunity for decluttering and contributing to those in need.
- Instill a sense of compassion and the value of giving back to others.



Students participating the clothes donation drive



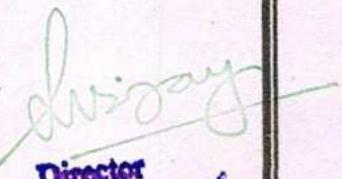
Students distributed clothes to the needy people of the nearby locality



Clothes donation drive



Clothes donation drives was very successful as students participated enthusiastically

  
Dr. Jayant Singh  
Director  
Tula's Institute, Dehradun

## Day 13

### Charting the Course: Goal Setting Activity

The Tulas Institute extended its focus on student empowerment into the next day with a dedicated goal-setting activity. This session equipped students with the tools and strategies to navigate their academic journey with purpose and direction.

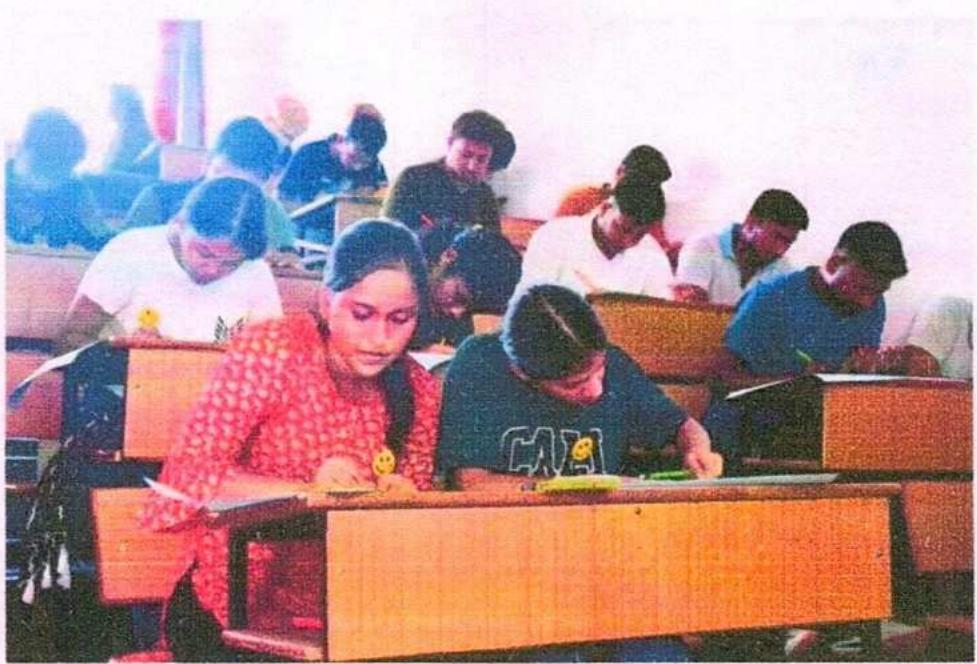
The activity likely involved a guided workshop or individual reflection exercises. Students were encouraged to consider their short-term and long-term goals, both academic and personal. This could have involved setting achievable milestones for the upcoming semester, identifying areas for academic improvement, or outlining career aspirations.

Through this activity, students learned the importance of setting SMART goals (Specific, Measurable, Achievable, Relevant, and Time-bound). This framework helped them translate their ambitions into tangible action plans, fostering a sense of ownership and accountability for their academic success. Additionally, the program might have offered resources or mentorship opportunities to help students achieve their goals throughout their time at the institute.

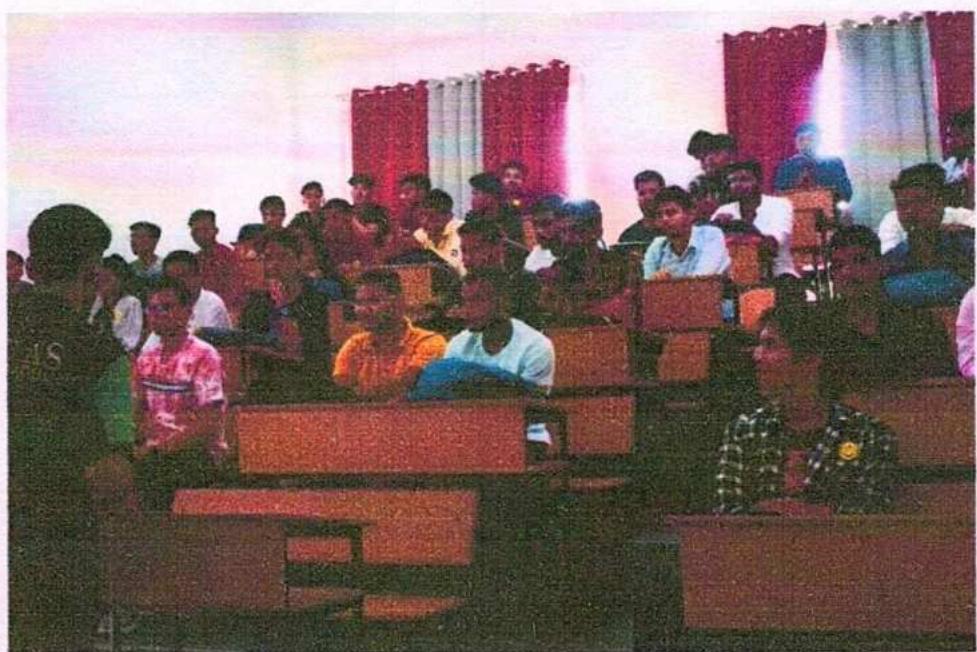
By prioritizing goal setting early on, the Tulas Institute empowered students to take an active role in shaping their academic experience. They developed a roadmap for success, fostering a sense of agency and motivation as they embarked on their studies.

### Objectives

- Equip students with tools and strategies for setting effective academic and personal goals.
- Foster a sense of ownership and accountability for academic achievement through SMART goal setting.
- Empower students to take an active role in shaping their academic journey through goal planning



Students writing their life goals



Students attending the goal setting session



Classroom session



Classroom session

## **Day 14 and 15**

### **Fostering Connection: Interaction with Department Heads**

The Tulas Institute concluded its induction program with a valuable session – interaction with the heads of various academic departments. This provided a unique opportunity for students to gain firsthand insights from the leadership of their chosen fields.

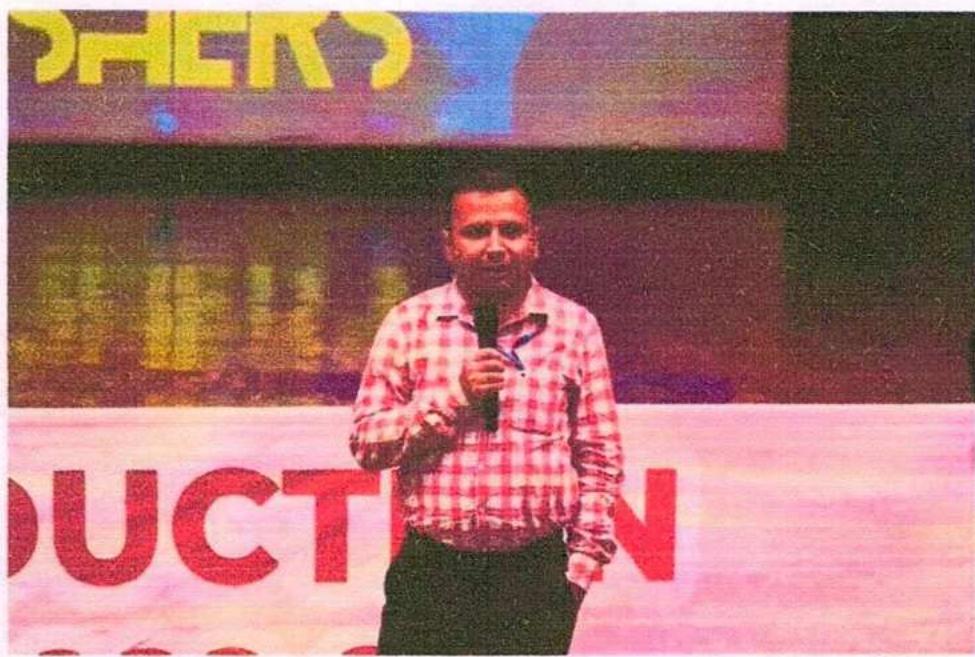
Department heads delivered informative presentations, outlining the curriculum, faculty expertise, and potential career paths for graduates within their respective departments. This comprehensive overview allowed students to solidify their academic choices or explore exciting new options that might align with their interests.

Following the presentations, a lively Q&A session ensued. Students actively engaged, asking insightful questions about specific programs, course content, and future career possibilities. This direct interaction with department heads proved invaluable in clarifying any lingering doubts and fostering a sense of connection with the academic leadership.

By providing this platform for open dialogue, the Tulas Institute successfully bridged the gap between students and faculty. This sets the stage for a collaborative learning environment where students feel comfortable approaching their department heads for guidance and support throughout their academic journey.

### **Objectives**

- Deepen understanding: Students gained insights into department curriculum, faculty expertise, and career paths.
- Solidify choices or explore new options: The session helped students confirm their academic direction or discover exciting possibilities.
- Bridge the gap with faculty: Direct interaction fostered connection with department heads and encouraged future communication.



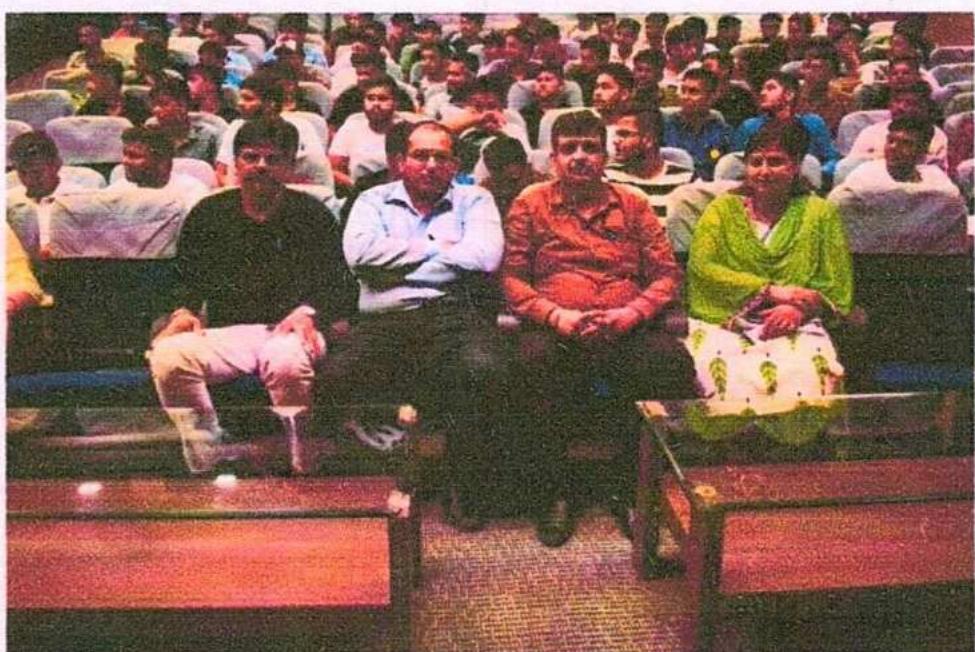
HOD of Mechanical department representing his department



Students asking about the queries



The HOD of management department presented his department



Heads of various departments of Tula's Institute

## **Day 16 and 17**

### **Unleashing Creativity: Tulas' Got Talent**

The Tulas Institute induction program culminated in a vibrant celebration of student talent – "Tulas' Got Talent." This exciting event provided a platform for first-year students to showcase their unique abilities and express themselves creatively. Whether it be singing, dancing, beatboxing, magic tricks, or even stand-up comedy, the stage was open to a diverse range of talents.

The atmosphere crackled with energy as students cheered each other on. Some participants opted for solo performances, while others formed groups to create captivating routines. The talent show not only provided entertainment but also fostered a sense of community and camaraderie among the new student body.

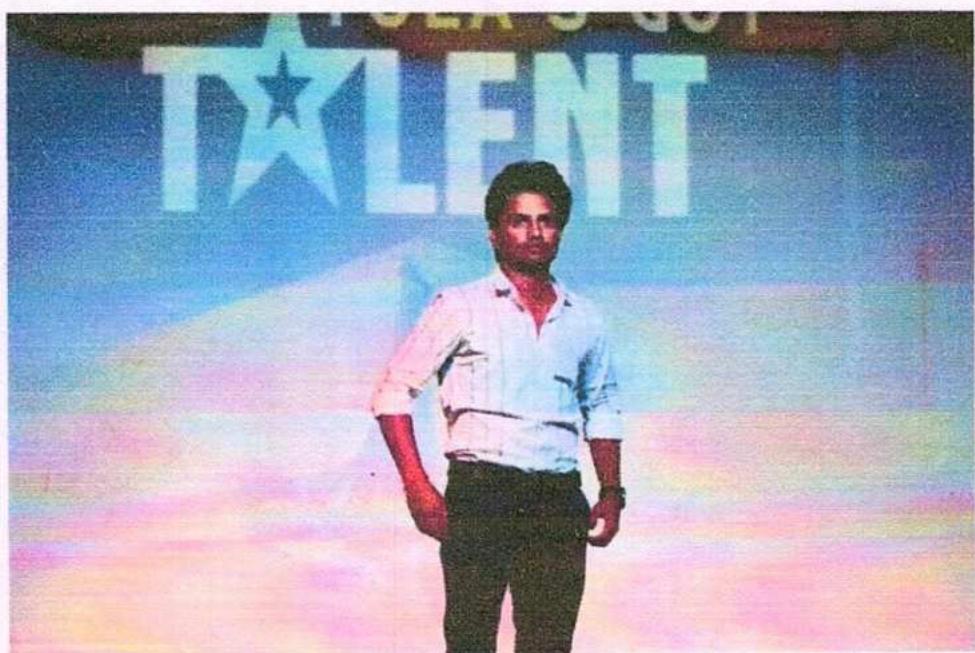
The program might have included a judging panel of faculty members or even fellow students, awarding prizes for the most outstanding performances. But beyond the competition aspect, "Tulas' Got Talent" served a more significant purpose. It allowed students to step outside their comfort zones, embrace their individuality, and gain valuable experience performing in front of a large audience. This confidence boost sets the stage for their academic journey, encouraging them to actively participate and contribute to the vibrant Tulas Institute community.

### **Objectives**

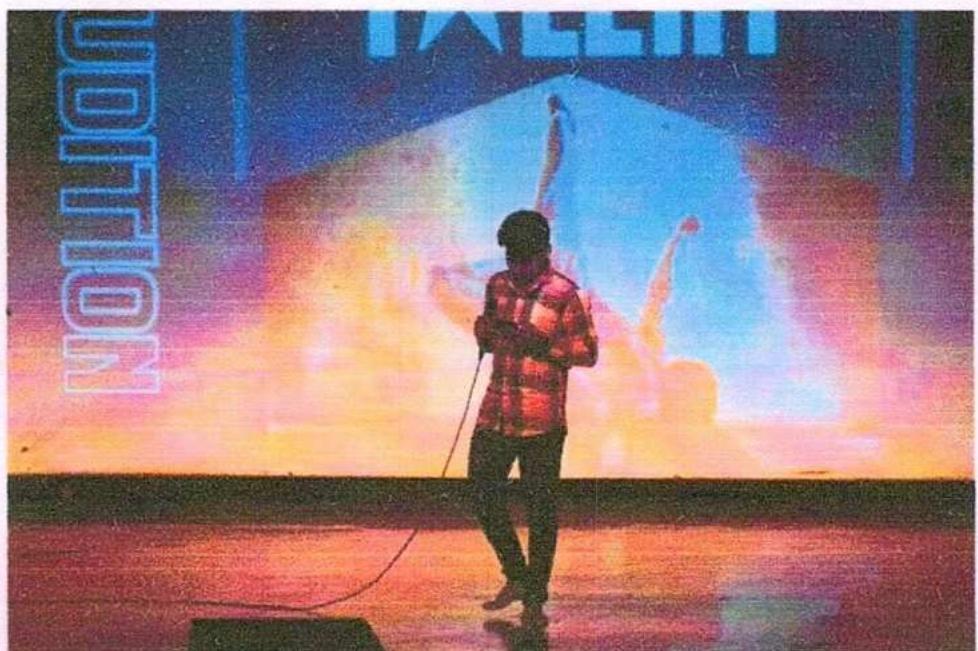
- Showcase diverse talents: Provided a platform for students to express themselves through singing, dancing, etc.
- Foster community and camaraderie: Promoted a sense of belonging and connection among the new student body.
- Build confidence and stage presence: Encouraged students to step outside their comfort zones and perform in front of an audience.



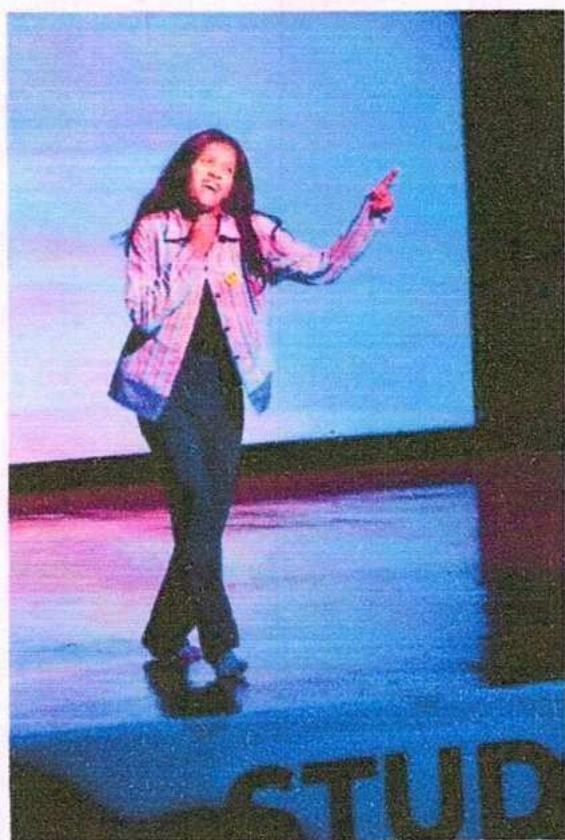
Singing performance



Medeling performance



Singing performance



Dance performance

Day 18

Rendezvous with Dr. Anujj Elviss



Guest interacting with the audience during the session



Group photograph



Session



Welcoming of the guest

**Day 19**  
**Motivational Session with Dr. Chinu Kwatra**



Student interacting with the guest

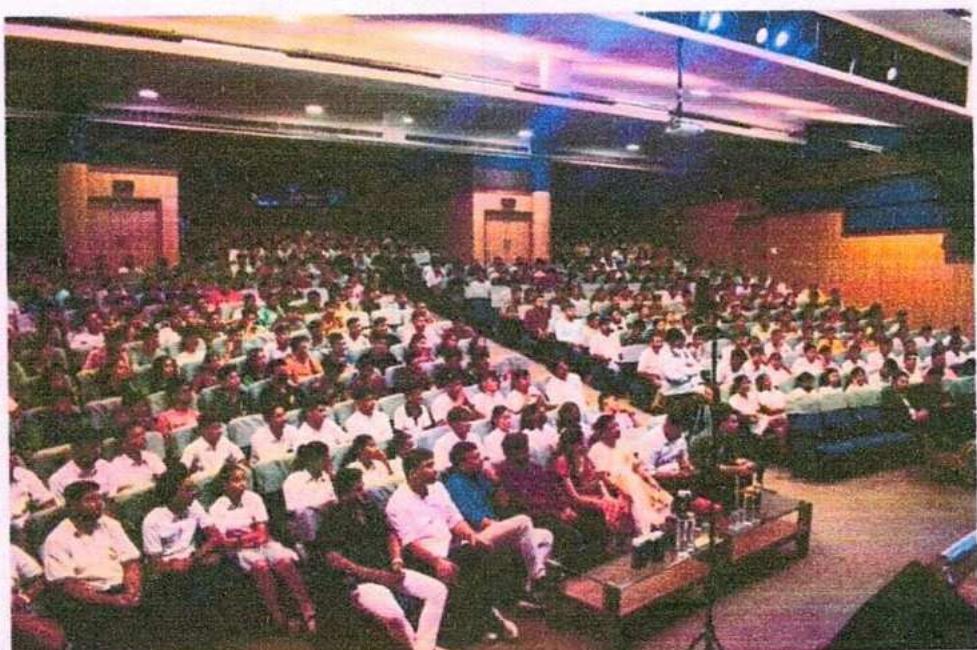


Motivational speaker Dr. Chinu Kwatra

*Chinu*  
Director  
Tula's Institute, Dehradoon



Lamp Lighting ceremony



Students and faculty members

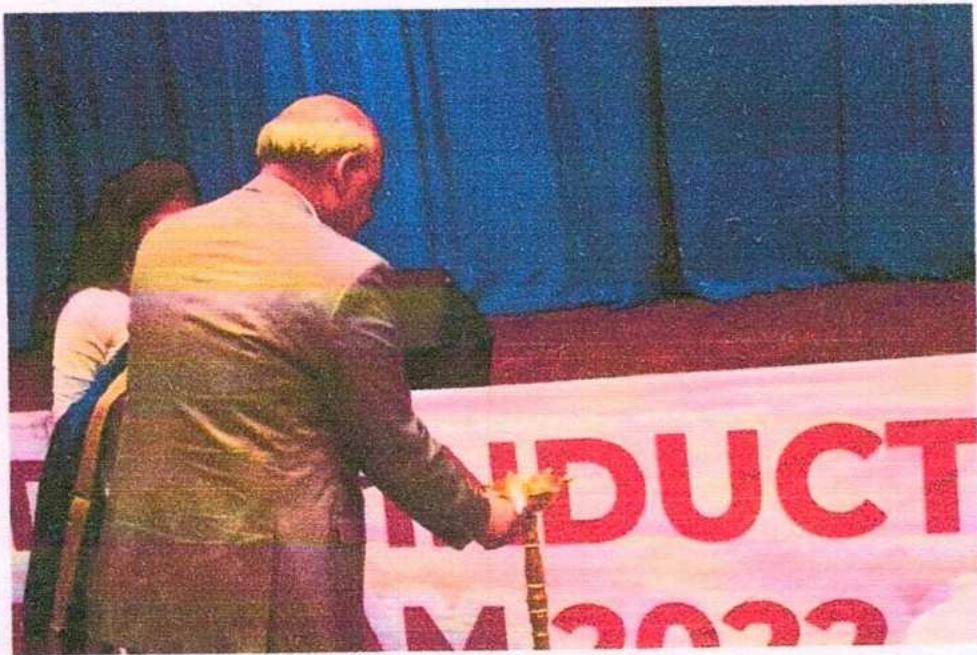
*Divyay*  
Director  
Tula's Institute, Dehradun

Day 20

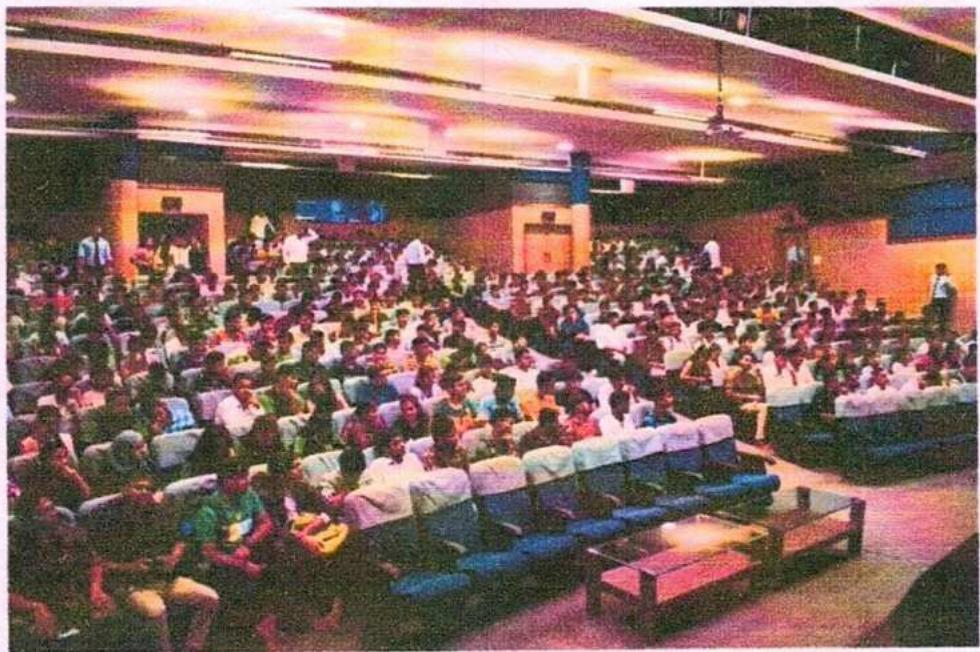
Session with Dr. Onkar Singh (Vice Chancellor of UTU)



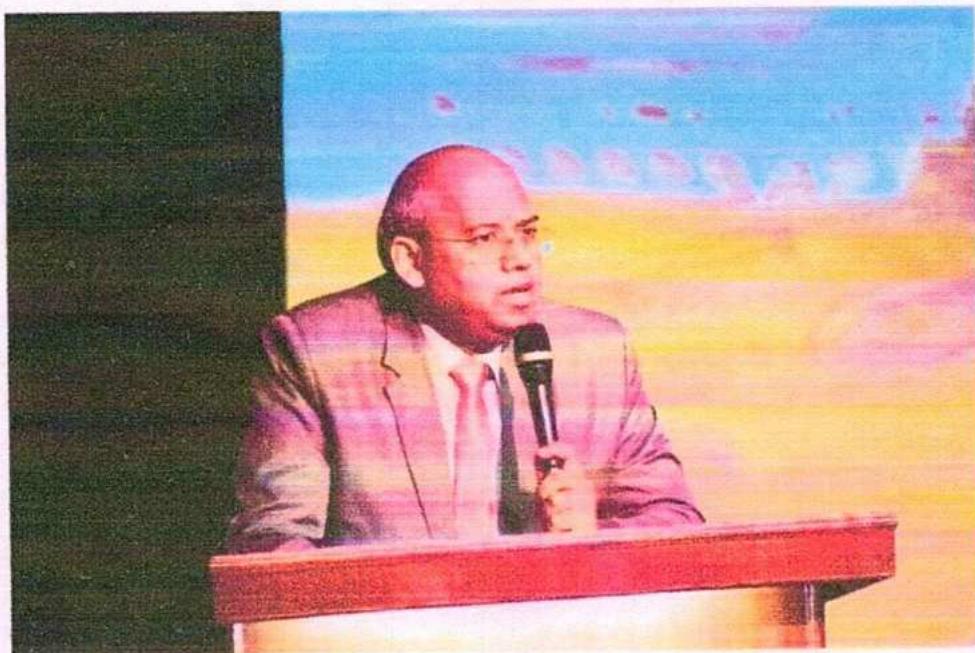
Musical performance by the students



Lamp lighting ceremony



Students were listening the session



Dr. Onkar Addressing the audience

## Day 21

### Fresher's Day

The much-awaited Freshers' Day program was held in the auditorium of Tula's Institute, Dehradun on 22nd September 2022 after the successful completion of 21 days induction program. With the theme 'Prom Night', the day created an opportunity for students to showcase their talents and entertain the audience. The benevolent welcome of seniors to the freshers boosted their confidence and generated a friendly atmosphere between them.

The program was anchored by Shristi Soumya of BSc Agriculture 2nd year. The program began with an introduction of various student clubs of the Tula's Institute followed by a welcome song by Adnan of B. Tech CSE 2nd Year. The seniors also entertained them with excitement, enthusiasm, and laughter.

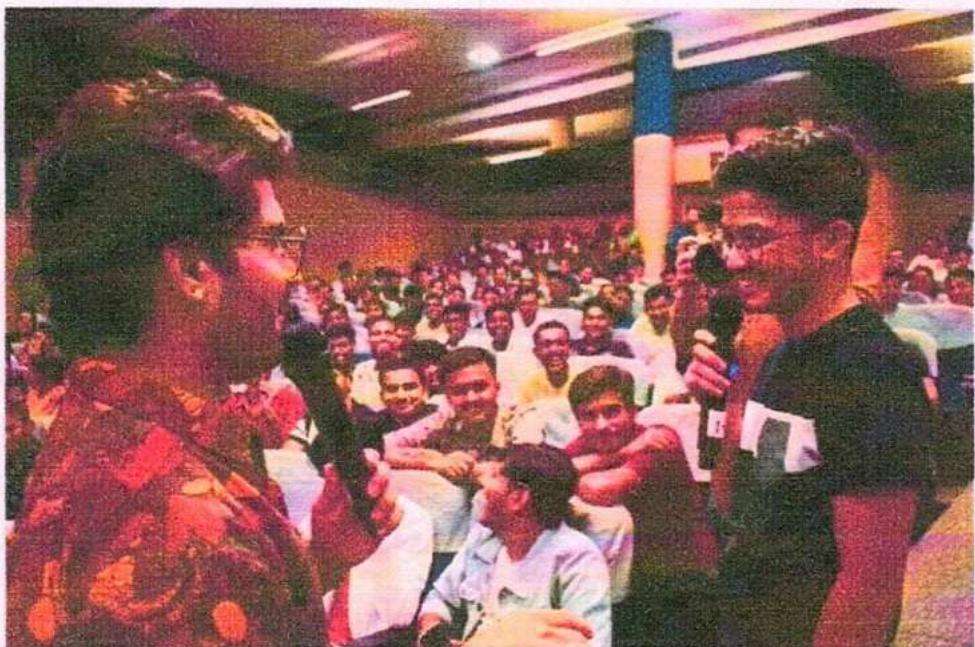
The newcomers introduced themselves and displayed their potential during the Mr. and Miss. Freshers competition where Shivam Negi of BBA 1st year and Shambhavi Raj Chouhan of BBA 1st year were felicitated by the grand title. On the occasion Vice President, Mr. Raunak Jain, and Vice President of Technology Dr. Raghav Garg of Tula's Institute felicitated Mr. Induction Piyush Gupta MBA 1st Year and Miss induction Divya Shankar BBA 1st Year, Mr. Emmanuel Gabriel and Miss Nidhi Goyal faculty coordinators of student council also marked their presence. The evening was concluded with DJ Night.



Students felicitation



Fresher 2022



Student interaction and fun games

*Shivay*

Director  
Tula's Institute, Deemed  
to be University



Auditorium



Mr. and Miss fresher 2022

# **ISO Certification**



# CERTIFICATE

This is to Certify that

## Quality Management System

of

**TULAS INSTITUTE**

&

**TULAS INTERNATIONAL SCHOOL (UPTO XIITH STANDARD)  
(RUN BY RISHABH EDUCATION TRUST)**

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Date of Certification:

20th February 2021

1<sup>st</sup> Surveillance Audit Due:

19th February 2022

2<sup>nd</sup> Surveillance Audit Due:

19th February 2023

Certificate Expiry:

19th February 2024

This Certificate is property of DBS Certifications and remains valid  
subject to satisfactory surveillance audits

*dhivay*  
\_\_\_\_\_  
Director  
Tula's Institute, Dehradun

*Var H.*  
\_\_\_\_\_  
Head of Certification



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