



**Swami Keshvanand Institute of Technology,
Management & Gramothan, Jaipur**

(An Autonomous Institute Affiliated to Rajasthan Technical University, Kota)



**A
Report
on
Five-day Student Workshop
“Advanced Training in Geotechnical Engineering”
held
on
16th - 20th March 2026**

Organized by:

Department of Civil Engineering, SKIT M&G, Jaipur

Contents

1. Workshop Approval in Department Budget	2
2. Internal Notice for Students	3
3. Schedule	4
4. List of Participants	5
5. Attendance	6
6. Photographs of the Event	7
7. Sample Certificate.....	12
8. Feedback from Participants.....	13
9. Media Coverage	19
10. Technical Report.....	22
11. Objective and Outcome.....	27
12. Relevance to PO's and PSO's.....	28



SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering

1. Workshop Approval in Department Budget

Ref: SKIT/CE/2025-26/ 195

Department of Civil Engineering, SKIT, Jaipur

Date: 18.04.2025

Sub: Proposed activities such as FDP/Seminar/Conference/Workshop/others for the FY 2025-26

S.No	Types of Event*	Title of Event	Mode of Conduction (Online/offline)	Proposed Date	Name of Coordinator (s)	Any Collaboration	Budget Required
1	Student Workshop (5 days) IV Sem	Hydraulic Workshop for students	Offline	April, 2025	Dr. Pooja Jain & Dr. J K Vyas	NA	7000
2	Expert Talks (08 Nos)	Expert talks by renowned academicians and industry experts	Offline	Round the year	Dr Nishant Sachdeva	NA	30000
3	Student Workshop (5 days)	Etabs: Building Analysis and Design	Offline	September 2025	Dr. Sunita Tolani & Ankur Mishra	NA	7000
4	Student Workshop (5 days)	Ms-Excel Workshop	Offline	September, 2025	Dr. Pooja Jain & Dr. J K Vyas	NA	7000
5	Student Workshop (5 days)	Advanced testing of construction products	Offline	October 2025	Dr. Abhishek Jain & Dr. Rakesh Choudhary	NA	10000
6	Survey camp	Survey camp at Chandwaji for 3rd semester students	Field activity (offline)	Oct/Nov 2025	Course faculties of Surveying	NA	5,000
7	Student Workshop (5 days)	Staad Pro: Design of Industrial Trusses	Offline	Jan 2026	Ankur Mishra & Dr. Sunita Tolani	NA	7000
8	FDP	Faculty Development Programme	Online	January 2026	Dr. Pooja Gupta & Dr. Bharthi M.	NA	30000
9	Student Workshop (5 days)	Advanced training in Geotechnical Engineering	Offline	March 2026	Dr. Pooja Gupta & Dr. Bharthi M.	NA	10000
10	Student Workshop (5 days)	Workshop on River Discharge for students	Offline	March, 2026	Dr. Pooja Jain & Dr. J K Vyas	NA	7000
11	International Conference	Research advancements in Sustainable Construction Materials	Hybrid	Mar-26	Dr Nishant Sachdeva/Dr KL Jain	NA	150000
Total							270000

Recommended for kind approval
Principal yes permitted
Mh

Form
18.04.2025
HoD-CE



**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering**

2. Internal Notice for Students



**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN JAIPUR-302017**

DEPARTMENT OF CIVIL ENGINEERING

Ref. No. SKIT/CE/2025-26/129


12/03/2026


NOTICE


The Department of Civil Engineering is organizing a five-day student workshop on "Advanced Training in Geotechnical Engineering" from March 16 – 20, 2026.

A maximum of 25 students can register for this workshop. Students with at least 80% attendance in the workshop will receive the certificates.

Interested students should register using the following link by 14/03/2026:
<https://forms.gle/MzqYQGBnFqR64a4MA>


Dr. Bharathi M.
Co-ordinator


Dr. Pooja Gupta
Organising Secretary


Prof. B.L. Sharma
HoD



**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering**

3. Schedule



**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017**

DEPARTMENT OF CIVIL ENGINEERING

5 - Day Student Workshop on

Advanced Training in Geotechnical Engineering

Tentative Schedule

March 16, 2026	
12:00 to 15:00	California Bearing Ratio Test
March 17, 2026	
12:00 to 15:00	Direct Shear Test
March 18, 2026	
08:00 to 11:00	Standard Penetration Test (Field Test)
March 19, 2026	
12:00 to 15:00	Tri-axial Test
March 20, 2026	
10:00 to 12:00	Preparation of Geotechnical Investigation Report
15:00 to 15:30	Valedictory Program

W. Bhambhani *Pooja*
Event Coordinators



**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering**

4. List of Participants

S. No.	Student Name	RTU Roll No.	E-mail ID	Mobile No.
1	Abhishek Chandel	23ESKCE002	b230656@skit.ac.in	8385082828
2	Aditya Garg	23ESKCE005	b230329@skit.ac.in	7533965951
3	Aditya Sharma	23ESKCE008	b231076@skit.ac.in	9950863273
4	Ajay	23ESKCE010	b231419@skit.ac.in	7297925104
5	Anushka Sharma	23ESKCE019	b231275@skit.ac.in	8875770467
6	Deepak Kumar Bairwa	23ESKCE023	b231423@skit.ac.in	9256549255
7	Divyansh Saini	23ESKCE030	b231277@skit.ac.in	7877420360
8	Divyansh Sharma	23ESKCE031	b231126@skit.ac.in	8824238120
9	Govind Choudhary	23ESKCE034	b230734@skit.ac.in	8955712834
10	Harsh Badgurjar	23ESKCE037	b231278@skit.ac.in	8302071637
11	Himanshu Saini	23ESKCE042	b230740@skit.ac.in	7976579065
12	Karan Singh	23ESKCE050	b230370@skit.ac.in	6377736720
13	Mahima Choudhary	23ESKCE058	B231116@skit.ac.in	8302459575
14	Manisha Sharma	23ESKCE062	b231196@skit.ac.in	8798033147
15	Rameshwar Choudhary	23ESKCE090	ramsinghchoudhary7676@gmail.com	7568060275
16	Samyak Jain	23ESKCE099	b231288@skit.ac.in	7597922394
17	Shubham Aloria	23ESKCE104	b231443@skit.ac.in	8875948310
18	Sumit Meena	23ESKCE111	B230769@skit.ac.in	8905663112
19	Tanishq Gupta	23ESKCE113	b231445@skit.ac.in	8233336583
20	Yash Singh	23ESKCE121	b231447@skit.ac.in	8279501018
21	Yuvraj Singh Jadaun	23ESKCE122	b230569@skit.ac.in	7742014101
22	Tanul Badiwal	24ESKCE201	l240013@skit.ac.in	8875122999



**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering**

5. Attendance

S. No.	Name of Student	RTU Roll No.	Day 1	Day 2	Day 3	Day 4	Day 5
			16/3	17/3	18/3	19/3	20/3
1	Abhishek Chandel	23ESKCE002	Abhishek	Abhishek	Abhishek	Abhishek	Abhishek
2	Aditya Garg	23ESKCE005	Aditya	Aditya	Aditya	Aditya	Aditya
3	Aditya Sharma	23ESKCE008	Aditya	Aditya	Aditya	AB	Aditya
4	Ajay	23ESKCE010	Ajay	AB	AB	AB	AB
5	Anushka Sharma	23ESKCE019	Anushka	Anushka	Anushka	Anushka	Anushka
6	Deepak Kumar Bairwa	23ESKCE023	Deepak	Deepak	Deepak	Deepak	Deepak
7	Divyansh Saini	23ESKCE030	Divyansh	Divyansh	Divyansh	Divyansh	Divyansh
8	Divyansh Sharma	23ESKCE031	Divyansh	Divyansh	AB	Divyansh	Divyansh
9	Govind Choudhary	23ESKCE034	Govind	Govind	Govind	AB	Govind
10	Harsh Badgurjar	23ESKCE037	AB	Harsh	Harsh	Harsh	Harsh
11	Himanshu Saini	23ESKCE042	Himanshu	Himanshu	Himanshu	Himanshu	AB
12	Karan Singh	23ESKCE050	Karan	Karan	Karan	Karan	Karan
13	Mahima Choudhary	23ESKCE058	Mahima	AB	AB	AB	AB
14	Manisha Sharma	23ESKCE062	Manisha	AB	AB	AB	AB
15	Rameshwar Choudhary	23ESKCE090	Rameshwar	Rameshwar	Rameshwar	Rameshwar	Rameshwar
16	Samyak Jain	23ESKCE099	Samyak	Samyak	Samyak	Samyak	Samyak
17	Shubham Aloria	23ESKCE104	Shubham	Shubham	AB	Shubham	Shubham
18	Sumit Meena	23ESKCE111	Sumit	Sumit	Sumit	Sumit	Sumit
19	Tanishq Gupta	23ESKCE113	Tanishq	Tanishq	Tanishq	Tanishq	Tanishq
20	Yash Singh	23ESKCE121	Yash	Yash	Yash	Yash	Yash
21	Yuvraj Singh Jadaun	23ESKCE122	Yuvraj	Yuvraj	Yuvraj	Yuvraj	AB
22	Tanul Badiwal	24ESKCE201	Tanul	Tanul	Tanul	AB	Tanul



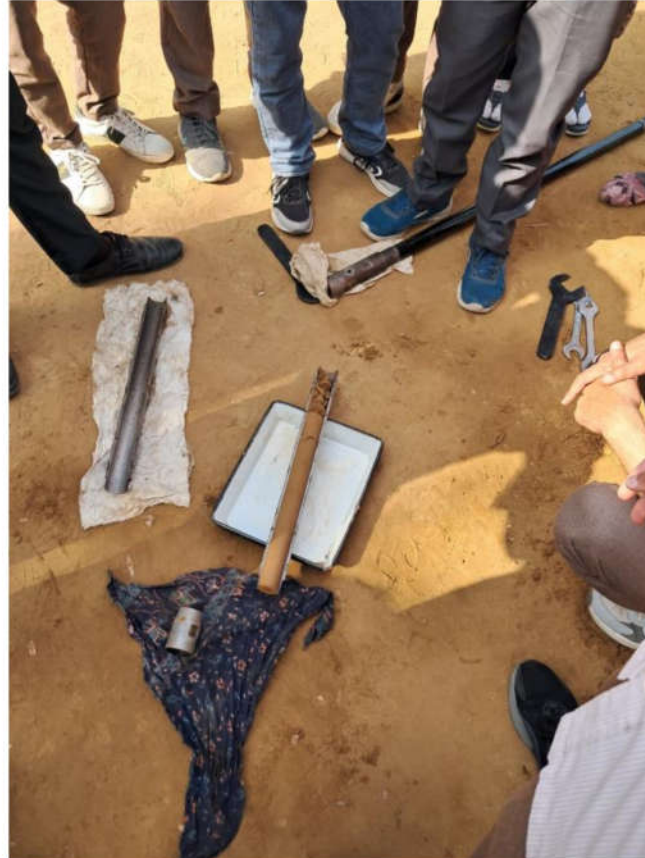
**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017**
Department of Civil Engineering

6. Photographs of the Event





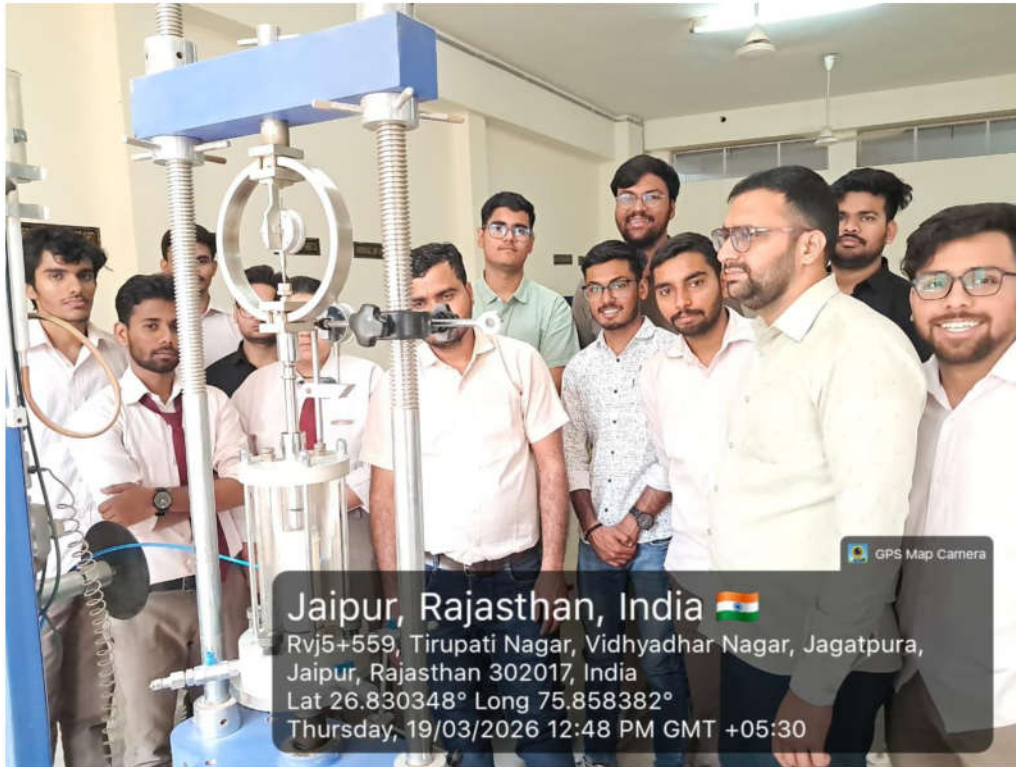
**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017**
Department of Civil Engineering







**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017**
Department of Civil Engineering





**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017**
Department of Civil Engineering





SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering

7. Sample Certificate

5 - Day Student Workshop on

 *Advanced Training in Geotechnical Engineering* 

Organized by
Department of Civil Engineering
Swami Keshvanand Institute of Technology, Management & Gramothan (SKIT), Jaipur

Certificate of Participation

This is to certify that Mr. Himanshu Saini (23ESKCE042) has successfully participated in the Student Workshop on "*Advanced Training in Geotechnical Engineering*" conducted from *March 16 - 20, 2026* at Swami Keshvanand Institute of Technology, Management and Gramothan (SKIT), Jaipur.


Prof. B. L. Sharma
HoD


Dr. Bharathi M.
Coordinator


Dr. Pooja Gupta
Organizing Secretary

5 - Day Student Workshop on

 *Advanced Training in Geotechnical Engineering* 

Organized by
Department of Civil Engineering
Swami Keshvanand Institute of Technology, Management & Gramothan (SKIT), Jaipur

Certificate of Participation

This is to certify that Mr. Yuvraj Singh Jadaun (23ESKCE122) has successfully participated in the Student Workshop on "*Advanced Training in Geotechnical Engineering*" conducted from *March 16 - 20, 2026* at Swami Keshvanand Institute of Technology, Management and Gramothan (SKIT), Jaipur.


Prof. B. L. Sharma
HoD


Dr. Bharathi M.
Coordinator


Dr. Pooja Gupta
Organizing Secretary



SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering

8. Feedback from Participants

Feedback Form

Geotech Workshop Feedback Form

Workshop on "Advanced Training in Geotechnical Engineering"

March 16 to 20, 2026

* Indicates required question

Email *

Record bharathi.m@skit.ac.in as the email to be included with my response

The experiments performed in the workshop were useful. It provided additional *
valuable information and practical exposure.

1 2 3 4 5
☆ ☆ ☆ ☆ ☆

The workshop was interesting/ engaging. *

1 2 3 4 5
☆ ☆ ☆ ☆ ☆

Instructors were knowledgeable about the topic. *

1 2 3 4 5
☆ ☆ ☆ ☆ ☆



**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering**

Instructors' style of teaching was good. *

1	2	3	4	5
☆	☆	☆	☆	☆

What did you like BEST about the workshop? *

Your answer _____

What did you like LEAST about the workshop? *

Your answer _____

Any other suggestions for similar future workshop? *

Your answer _____

Submit



Page 1 of 1

[Clear form](#)

Never submit passwords through Google Forms.

This form was created inside of Swami Keshvanand Institute of Technology. - [Contact form owner](#)

Does this form look suspicious? [Report](#)

Google Forms

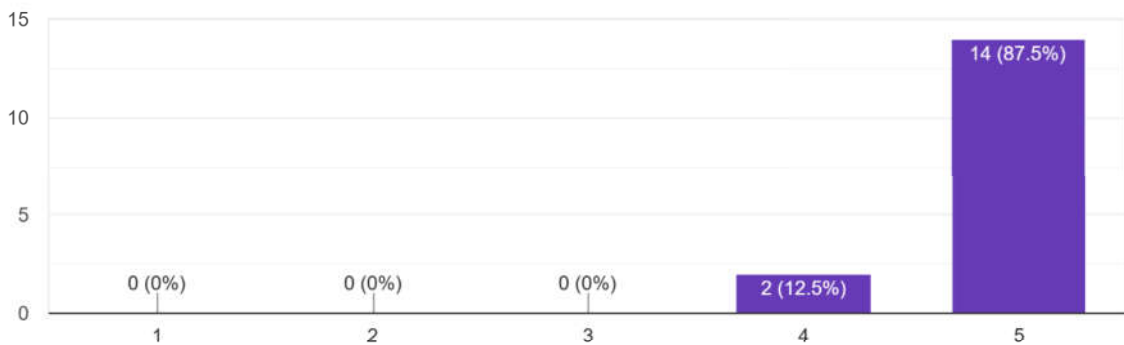


**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017**
Department of Civil Engineering

Feedback Summary

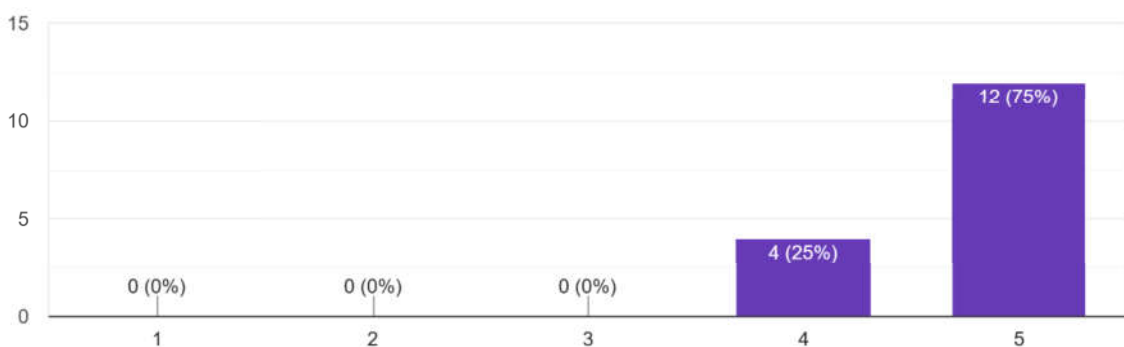
The experiments performed in the workshop were useful. It provided additional valuable information and practical exposure.

16 responses



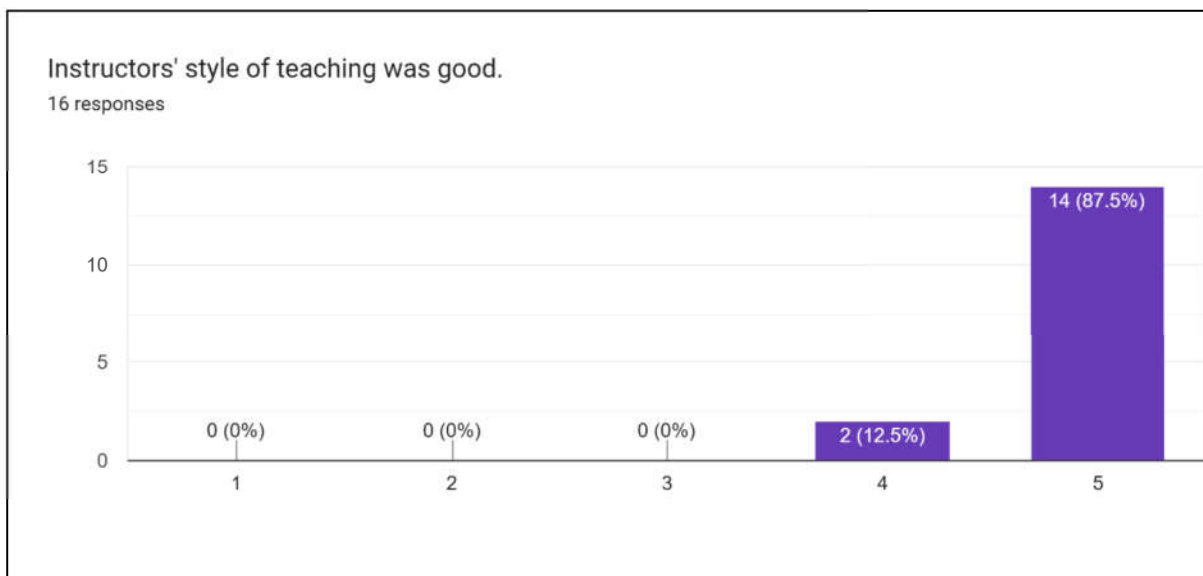
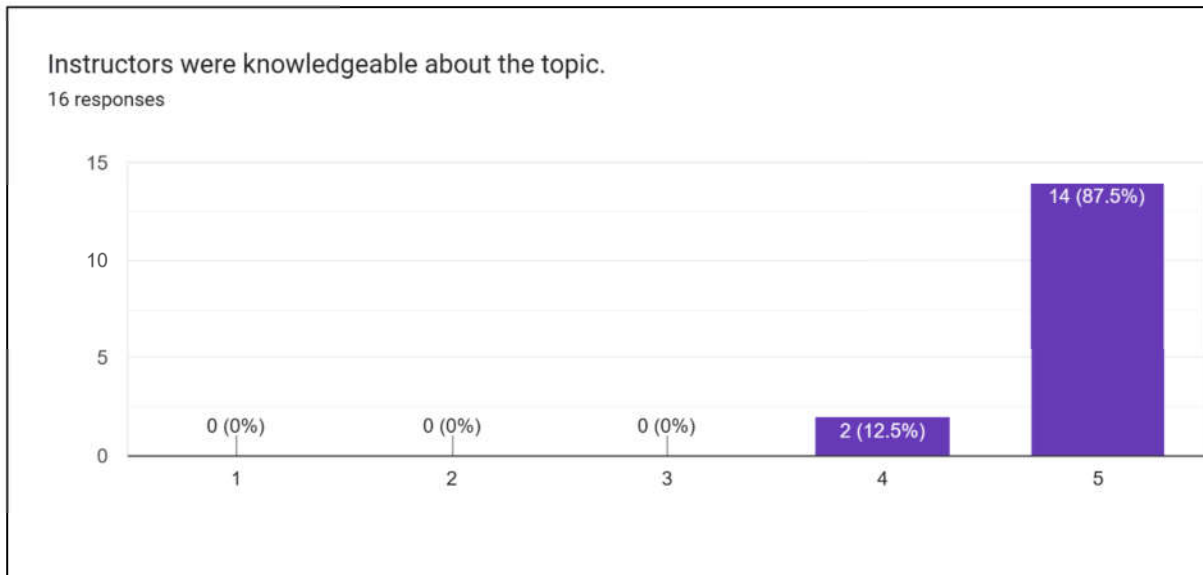
The workshop was interesting/ engaging.

16 responses





**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering**



What did you like BEST about the workshop?

Way of explaining

All good

The most valued aspects of a workshop typically include hands-on, practical activities that allow for immediate application of new skills

Performing experiments

All important concepts are taught simply



**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering**

I liked most about the workshop was the teachers and lab assistant dedication to explain and teach each and every this about the experiments.

Teacher behaviour

All Good

Very interactive and practical workshop

Conduction of every experiment

Best faculty best guidance

Explanation , guidance of the instructors

Doing the practical with our own hands really left the impression and is engaging enough to rebuild the experience that one will cherish.

Knowledge

What did you like LEAST about the workshop?

Nothing

The least liked aspect of the workshop was the limited time for practical activities and discussions

I liked least about the workshop was that there was very few number of hours and days and we had to conclude this wonderful workshop so soon.

Refreshments

Duration

....

Nothing

Duration

From basic to top knowledge and working environment

All was well, we needed more time and more experiments to perform.

The complimentary food seemed short handed, could have improved.

Breakfast timing



**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering**

Any other suggestions for similar future workshop?

No

...

Future workshops could include more hands-on sessions and real-life case studies for better practical understanding.

The workshop will be more interesting if more students will participate in it

Geotechnical consistency methods

My suggestion would be that the workshop should have more numbers of days, hours and experiments.

If there may be more site visit possible then it will be wonderful.

Give OD of the class lectures

I would like to attend more workshops like this.

Include more hands-on work .

All was good.

Soil tests workshops

We need more of this workshop to improve our Knowledge about geotechnical investigation and field work

Workshop I think could stretch for longer duration, maybe 4-5 hours for 5 days, or just increasing number of days if the duration is 2-3 hours a day.

9. Media Coverage



उन्नत प्रशिक्षण पर छात्र कार्यशाला आयोजित

न्यूज ज्योति संवाददाता

जयपुर। स्वामी केशवानंद इंस्टीट्यूट ऑफ टेक्नोलॉजी के सिविल अभियांत्रिकी विभाग ने 16 से 20 मार्च, 2026 तक प्रयोगशाला और क्षेत्र में उन्नत भू-तकनीकी परीक्षण शीर्षक से पांच दिवसीय छात्र कार्यशाला का सफलतापूर्वक आयोजन किया। बी.टेक. सिविल अभियांत्रिकी के तृतीय वर्ष के छात्रों के लिए आयोजित इस कार्यशाला का समन्वय डॉ. भारती एम और डॉ. पूजा गुप्ता ने किया। इसका मुख्य उद्देश्य भू-तकनीकी अभियांत्रिकी से संबंधित विभिन्न प्रयोगशाला और क्षेत्रीय जांचों में व्यावहारिक प्रशिक्षण प्रदान करना था, जिससे छात्रों को कक्षा में सीखने के अलावा व्यावहारिक अनुभव भी प्राप्त हो सके। प्रतिभागियों को भू-तकनीकी जांच रिपोर्ट तैयार करने और प्रस्तुत करने में भी मार्गदर्शन दिया गया, जिससे उनके तकनीकी दस्तावेजीकरण कौशल में वृद्धि हुई।

भू-तकनीकी अभियांत्रिकी में उन्नत प्रशिक्षण पर छात्र कार्यशाला

(आयुष-अन्तिमा नेटवर्क)

जयपुर (श्रीराम इंदौरिया): स्वामी केशवानंद इंस्टीट्यूट ऑफ टेक्नोलॉजी, मैनेजमेंट एंड ग्रामोत्थान (SKIT), जयपुर के सिविल अभियांत्रिकी विभाग ने 16 से 20 मार्च, 2026 तक 'प्रयोगशाला और क्षेत्र में उन्नत भू-तकनीकी परीक्षण' शीर्षक से पांच दिवसीय छात्र कार्यशाला का सफलतापूर्वक आयोजन किया। बी.टेक. सिविल अभियांत्रिकी के तृतीय वर्ष के छात्रों के लिए आयोजित इस कार्यशाला का समन्वय डॉ.भारती एम और डॉ.पूजा गुप्ता ने किया। इसका मुख्य उद्देश्य भू-तकनीकी अभियांत्रिकी से संबंधित विभिन्न प्रयोगशाला और क्षेत्रीय जांचों में व्यावहारिक प्रशिक्षण प्रदान करना था, जिससे छात्रों को कक्षा में सीखने के अलावा व्यावहारिक अनुभव भी प्राप्त हो सके। प्रतिभागियों को भू-



तकनीकी जांच रिपोर्ट तैयार करने और प्रस्तुत करने में भी मार्गदर्शन दिया गया, जिससे उनके तकनीकी दस्तावेजीकरण कौशल में वृद्धि हुई। समापन सत्र के दौरान, छात्रों ने कार्यशाला से अपने अनुभव और प्राप्त मुख्य बातें साझा कीं। सिविल अभियांत्रिकी विभाग के विभागाध्यक्ष प्रोफेसर बीएल शर्मा

ने छात्रों की सक्रिय भागीदारी और उत्साह की सराहना की। उन्होंने सिद्धांत और व्यवहार के बीच के अंतर को पाटने और वास्तविक दुनिया में अभियांत्रिकी अनुप्रयोगों के बारे में छात्रों की समझ को मजबूत करने में ऐसी व्यावहारिक कार्यशालाओं के महत्व पर जोर दिया।

भू-तकनीकी अभियांत्रिकी में उन्नत प्रशिक्षण पर छात्र कार्यशाला



(शुभ लहर तरंग नेटवर्क)

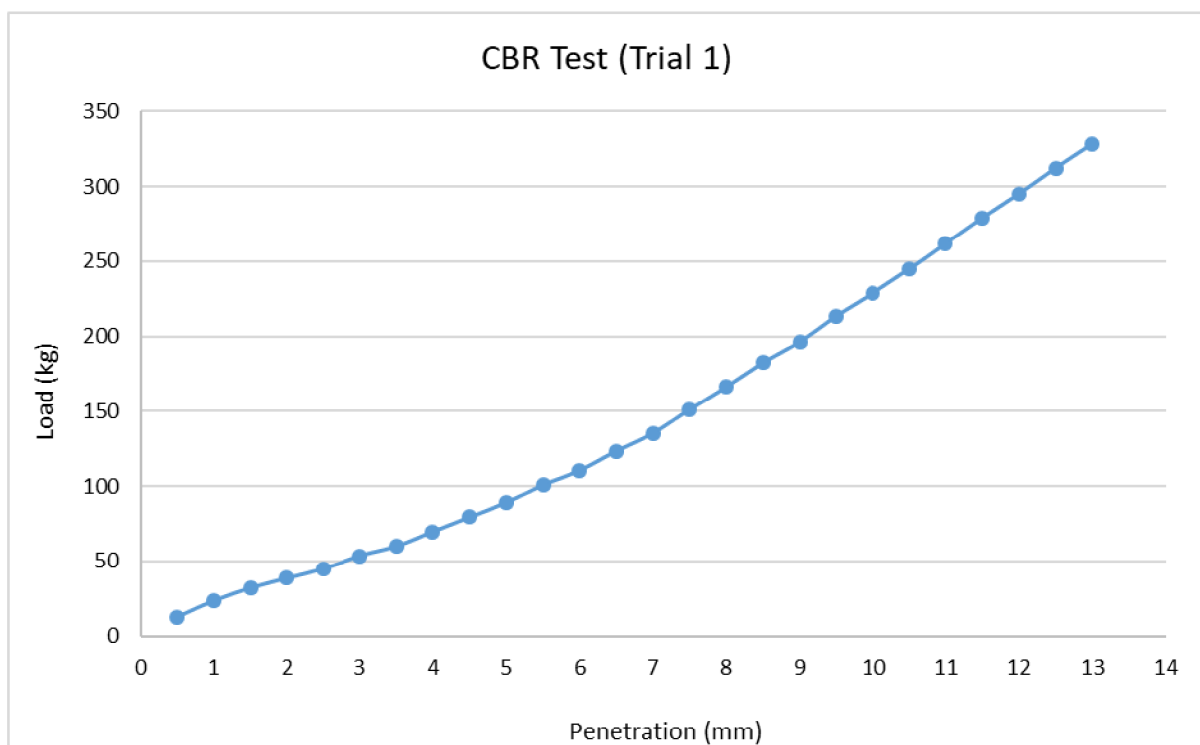
जयपुर (श्रीराम इंदौरिया): स्वामी केशवानंद इंस्टीट्यूट ऑफ टेक्नोलॉजी, मैनेजमेंट एंड ग्रामोत्थान (SKIT), जयपुर के सिविल अभियांत्रिकी विभाग ने 16 से 20 मार्च, 2026 तक 'प्रयोगशाला और क्षेत्र में उन्नत भू-तकनीकी परीक्षण' शीर्षक से पांच दिवसीय छात्र कार्यशाला का सफलतापूर्वक आयोजन किया। बी.टेक. सिविल अभियांत्रिकी के तृतीय वर्ष के छात्रों के लिए आयोजित इस कार्यशाला का समन्वय डॉ.भारती एम और डॉ.पूजा गुप्ता ने किया। इसका मुख्य उद्देश्य भू-तकनीकी अभियांत्रिकी से संबंधित विभिन्न प्रयोगशाला और क्षेत्रीय जांचों में व्यावहारिक प्रशिक्षण प्रदान करना था, जिससे छात्रों को कक्षा में सीखने के अलावा व्यावहारिक अनुभव भी प्राप्त हो सके। प्रतिभागियों को भू-तकनीकी जांच रिपोर्ट तैयार करने और प्रस्तुत करने में भी मार्गदर्शन दिया गया, जिससे उनके तकनीकी दस्तावेजीकरण कौशल में वृद्धि हुई। समापन सत्र के दौरान, छात्रों ने कार्यशाला से अपने अनुभव और प्राप्त मुख्य बातें साझा कीं। सिविल अभियांत्रिकी विभाग के विभागाध्यक्ष प्रोफेसर बीएल शर्मा ने छात्रों की सक्रिय भागीदारी और उत्साह की सराहना की। उन्होंने सिद्धांत और व्यवहार के बीच के अंतर को पाटने और वास्तविक दुनिया में अभियांत्रिकी अनुप्रयोगों के बारे में छात्रों की समझ को मजबूत करने में ऐसी व्यावहारिक कार्यशालाओं के महत्व पर जोर दिया।



10. Technical Report

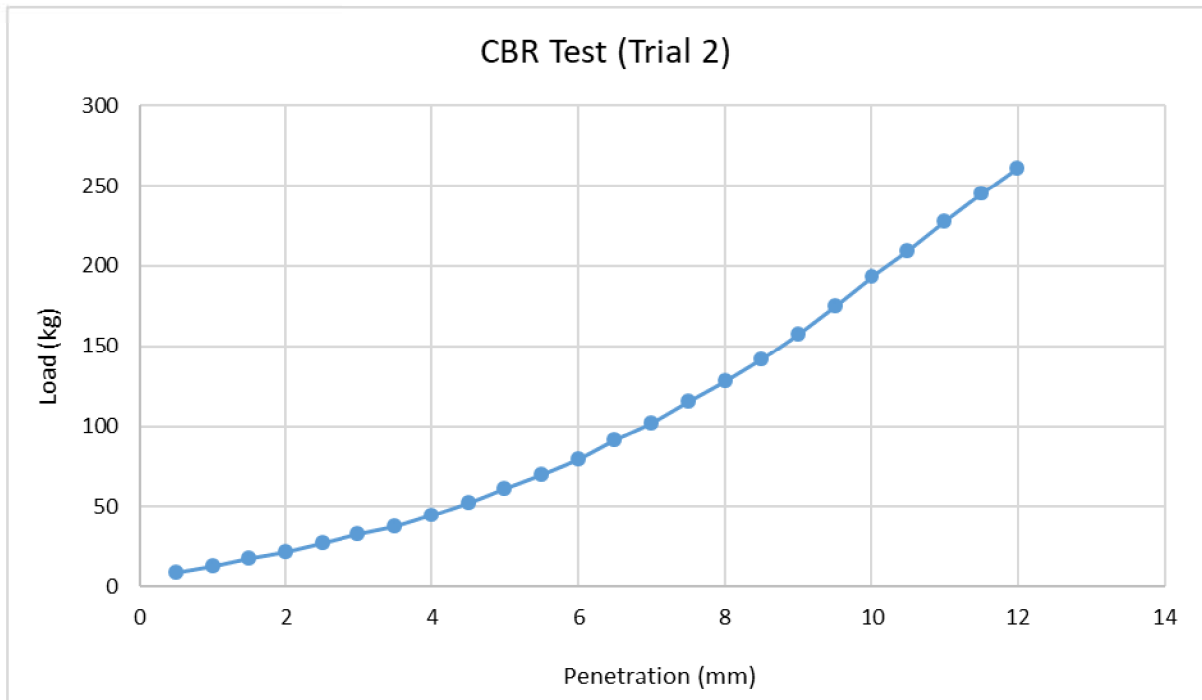
Civil Engineering Department conducted a 5-Day Student Workshop on "Advanced Training in Geotechnical Engineering" from 16 to 20 March, 2026. The workshop was exclusively organized for III year B.Tech. Civil Engineering students. During the workshop, the students were trained to perform laboratory and field investigations. They were also given insights about preparing a geotechnical investigation report based on the tests conducted.

On Day 1, Dr. Bharathi M. and Dr. Pooja Gupta gave an introduction of the 5- days workshop. After the introduction the workshop began with the **California Bearing Ratio Test**. The California Bearing Ratio (CBR) test is a penetration test used to evaluate the mechanical strength of natural ground, subgrades, and base courses beneath pavements. The CBR value provides an indication of the relative strength of the soil compared to the standard material. Higher CBR values indicate stronger, more resilient soil that can support loads better without excessive deformation. Two trials of CBR test was conducted for heavy compaction.





**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering**



The California Bearing Ratio (CBR) value is calculated by dividing the test load required for a specific penetration in the soil by the standard load for the same penetration, multiplied by 100.

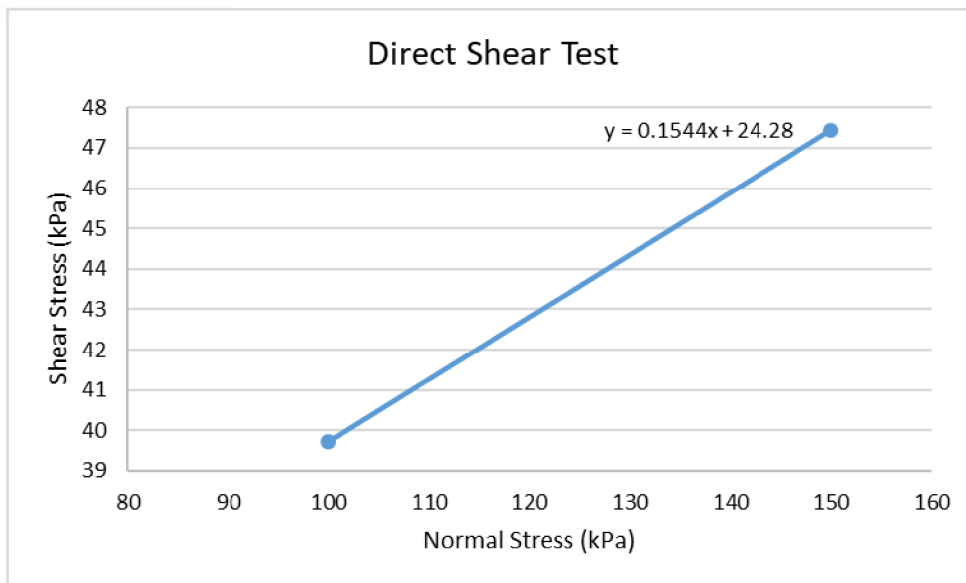
For trial 1, the CBR (2.5 mm) = 3.28% and CBR (5.0 mm) = 4.33% was obtained and for trial 2, CBR (2.5 mm) = 1.95% and CBR (5.0 mm) = 2.97% was obtained.

Day 2 began with the description of Direct Shear Test. The direct shear test is a laboratory method used to determine the shear strength parameters (cohesion and internal friction angle) of soil or rock by shearing a sample along a predefined horizontal plane under a constant vertical load. It is fast and simple, primarily used for granular soils.

Direct Shear Test		
S.No.	Normal Stress (kPa)	Shear Stress (kPa)
1	100	39.72
2	150	47.44



**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering**



From the test results, the cohesion value and the angle of internal friction of the soil was found out to be 24.28 kPa and 8.78° respectively.

On Day 3, Standard Penetration test (SPT), an in-situ test was conducted. SPT was carried out in borehole. The resistance of the soil strata to the penetration undergone was measured. The test is extremely useful for determining the relative density and the angle of shearing resistance of cohesionless soils.

Depth (m)	Drive	No. of Blows	SPT N Value
2.0	150 mm Seating Drive	2	
	150 mm	2	
	150 mm	2	4
2.5	150 mm Seating Drive	2	
	150 mm	3	
	150 mm	2	5

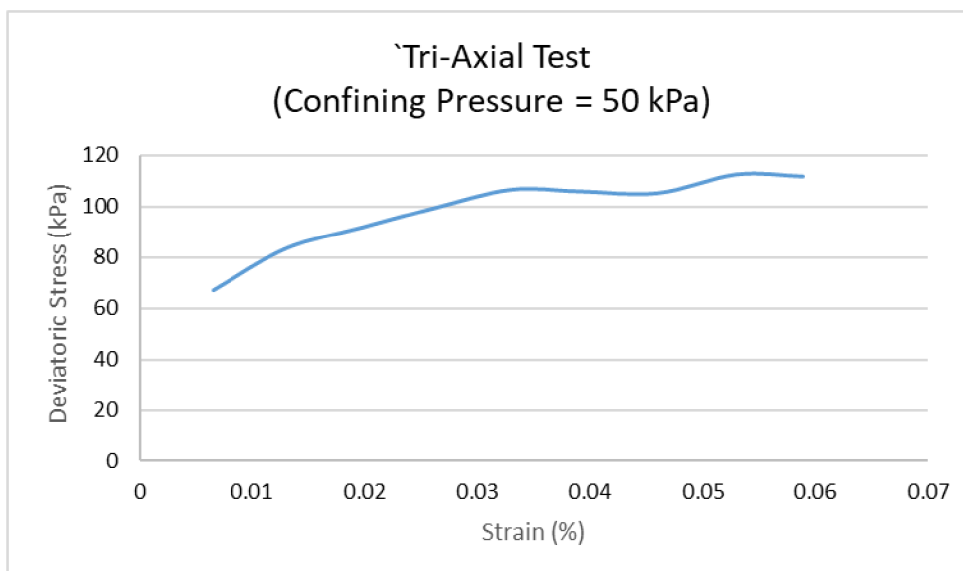
SPT N value represents Very Loose or Loose sand (As per IS 2911 – Annexure C). The disturbed sample collected from the SPT test was used further to conduct triaxial tests.



**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering**

On Day 4, Tri-axial test was performed to determine the strength parameters c and ϕ in **Unconsolidated – undrained (UU)** conditions using the disturbed samples collected from SPT test on Day 3.

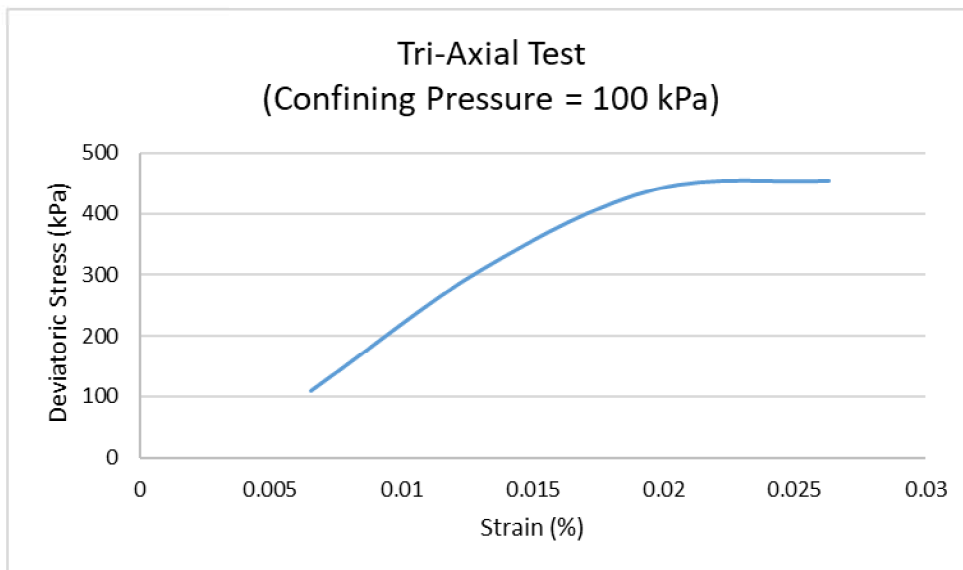
`Tri-Axial Test (Confining Pressure = 50 kPa)					
S.No.	Penetration (mm)	Proving Ring Reading	Strain (%)	Corrected Area	Deviatoric Stress (kPa)
1	0.5	8	0.00658	0.001142	67.338
2	1	10	0.0131	0.001149	83.638
3	1.5	11	0.0197	0.001157	91.616
4	2	12	0.026	0.001164	99.141
5	3.5	13	0.046	0.001188	105.219
6	4.5	14	0.059	0.001205	111.7012



Tri-Axial Test (Confining Pressure = 100 kPa)					
S.No.	Penetration (mm)	Proving Ring Reading	Strain (%)	Corrected Area	Deviatoric Stress (kPa)
1	0.5	13	0.00658	0.001142	109.457
2	1	37	0.0131	0.001149	308.964
3	1.5	53	0.0197	0.001157	439.931
4	2	55	0.0263	0.001164	454.295



**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering**



Knowing the confining stress and its corresponding deviatoric stress the shear strength parameters of the soil can be calculated using the following relations.

$$\sigma_1 = \sigma_3 \tan^2(45 + \phi/2) + 2c \tan(45 + \phi/2)$$

From the test results we have

$$161.70 = 50 \tan^2(45 + \phi/2) + 2c \tan(45 + \phi/2)$$

$$554.29 = 100 \tan^2(45 + \phi/2) + 2c \tan(45 + \phi/2)$$

Solving the above equations, we could work out the value of c and ϕ as 41.19 kPa and 50.18° respectively.

On 5th Day, participants were trained to synthesize in-situ field observations - specifically SPT N-values and laboratory analytical data, such as shear strength parameters. In addition, they were briefed about preparation of geotechnical investigation report for any infrastructure projects based on the laboratory and field tests conducted during the workshop and coursework. In the valedictory function, Prof. B.L. Sharma, HoD, Civil Engineering Department, SKIT appreciated the interest taken by the students in the workshop and the coordinators' efforts. He also highlighted the importance of such practical experience along with the theoretical background. The certificates were distributed to all the participants, coordinators (Dr. Bharathi M. and Dr. Pooja Gupta) and the technical assistants (Mr. Suresh Kumar Yadav, Mr. Prahlad Kumar and Mr. Pawan Kumar Sharma). The coordinators collected the feedback on the workshop from all the participants.



11. Objective and Outcome

Objectives

- To provide hands on experience on few experiments to obtain important engineering properties of soil.
- To provide hands on experience on performing field test like standard penetration test (SPT) which is widely used in industry.

Outcomes

- The participants of the workshop will be able to conduct tests including tri-axial test, California bearing ratio (CBR) test and standard penetration test (SPT) which are field relevant.
- The participants will be able to perform the tests, analyze and report the findings based on the tests conducted.
- The participants will be able to prepare geotechnical investigation report based on laboratory and field tests.



**SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY,
MANAGEMENT & GRAMOTHAN, JAIPUR-302017
Department of Civil Engineering**

12. Relevance to PO's and PSO's

S. No.	Name of Activity	Resource Person	Related POs and PSOs
1.	Advanced Training in Geotechnical Engineering	Dr. Bharathi M and Dr. Pooja Gupta	PO (1.3.1, 1.4.1, 3.1.1, 3.1.4, 3.1.6, 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.2.1, 4.3.1, 5.1.1, 5.1.2, 5.2.2, 5.3.2, 6.1.1, 6.2.1, 11.1.1, 11.2.1, 11.2.2), PSO (1.1.1, 1.1.2, 1.1.3, 2.1.1, 2.1.2)