



Swami Keshvanand Institute of Technology,
Management & Gramothan, Jaipur



A
Report
on
Five-day Student Workshop
“Effective Learning through Laboratory Investigation
in Geotechnical Engineering”

held

on

10th - 14th April 2023

Organized by:

Department of Civil Engineering, SKIT M&G, Jaipur

SKIT/ Office/2021/ 12/15

Date: 18.06.2021

GUIDELINES FOR PREPARING REPORT OF AN ACTIVITY

As we know that very soon we are going to apply for NAAC grading and hence all the event coordinators and concern HODs are requested to maintain a complete record of all the activities (academic/non-academic) conducted by them online/offline from session 2020-21.

It includes the following:

- ✓ 1. Approval Letter of the event
2. Documents related to sponsorship (both financial and technical)
3. Documents related to collaboration in case of joint organization with other institute/Company
- ✓ 4. Event brochure
- ✓ 5. Schedule of the event
6. List of invited guest/speakers (along with consent of invited guest/speakers)
- ✓ 7. List of registered participants with details of affiliating institute (for SKITians, list with enrollment / RTU Roll No. , Semester, branch etc) along with their contact details
- ✓ 8. Attendance record of participants for the duration of event
- ✓ 9. Photographs/Screen shots of event(online event)
- ✓ 10. Copy of Certificates / E-Certificates(online event) of participants
- ✓ 11. Feedback report from participants and invited guest/speakers
- ✓ 12. Media coverage
- ✓ 13. Day wise detailed report
- ✓ 14. Write up expressing objective and outcome of the event
15. Utilization report in case of receipt of any financial assistance
16. Copy of Proceeding/Souvenir (if published)
17. Any other information

S. L. Surana
(Dr. S. L. Surana)
Director (Academics)

Copy by E-mail to
(i) Director (ii) Registrar (iii) Principal (iv) All HODs
(v) Prof. R.K Jain (vi) File.


Department of Civil Engineering, SKIT, Jaipur

Ref: SKIT/CE/2021-22/1076

Date: 30.06.2022

Sub: Schedule of proposed activities for Session 2022-23

S.No	Types of Event*	Title of Event	Mode of Conduction	Proposed Date	Name of Coordinator	Any Collaboration	Budget Required
1	5 day Student Workshop (hands on training)	Analysis and Design of RC Buildings and Foundations using Software (for final year students)	Offline	6-10 September 2022	Dr. Sunita Tolani and Dr. Bharathi M.	NA	Nil
2	5 day Student Workshop (hands on training)	Development of Special Concrete (Self-Compacting Concrete/Geopolymer) for 3 rd year students	Offline	7-11 November, 2022	Dr. Rakesh Choudhary and Dr Abhishek Jain	NA	5000
3	FDP	Modern Construction Techniques & Digitilization in Civil Engineering	Online	12-16 Dec, 2022	Dr KL Jain, Nishant Sachdeva	NA	25000
4	Student Workshop by CoE-TE (for all RTU affiliated college students)	Workshop on Highway Material Testing	Offline	05-09 Dec, 2022	Anirudh Mathur & Nikhil Kumar Sharma	NA	10000
5	Expert Talks (06 Nos)	Expert Talks by Renowned Academicians/Industry Experts	Offline	Sep. 2022 to May 2023	Mr Nishant Sachdeva, Dr Abhishek Jain	NA	25000
6	Student Workshop (Hands on training)	Primavera P6 training	Offline	April 2023	Mr Ankur Mishra	NA	10000
7	Survey camp	Survey camp for 3 rd semester students	Field activity	07-18 November 2022	Mr Ankur Mishra & Mr Deepak Sharma	NA	Two buses for 10 days
8	Student Workshop (Hands on training)	Effective learning through Laboratory Investigations in Geotechnical Engineering	Offline	21-25 Feb, 2023	Dr Pooja Gupta & Dr Bharathi M.	NA	5000


 Prof. D.K. Sharma
 Head-Deptt. of CE



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

DEPARTMENT OF CIVIL ENGINEERING

16/03/2023

NOTICE

The student workshop for third year B. Tech. Civil Engineering students on “Effective Learning through Laboratory Investigations in Geotechnical Engineering” is scheduled from April 10, 2023 to April 14, 2023.

Dr. Bharathi M.
Event Co-ordinator

Dr. Pooja Gupta
Event Co-ordinator

Prof. D.K. Sharma
HoD

Copy to:

- i. Director (Academics)
- ii. Principal
- iii. Dean
- iv. All Faculty Members of CE
- v. All Notice Board
- vi. NBA/ NAAC File



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

DEPARTMENT OF CIVIL ENGINEERING

5 - Day Student Workshop on

*Effective Learning through Laboratory Investigations in Geotechnical
Engineering*

Tentative Schedule

April 10, 2023	
11.30 to 2.30 pm	Standard Compaction Test
April 11, 2023	
11.30 to 2.30 pm	Direct Shear Test
April 12, 2023	
11.30 to 2.30 pm	Tri-axial Test
April 13, 2023	
11.30 to 2.30 pm	Standard Penetration Test (Field Test)
April 14, 2023	
11.30 to 2.00 pm	Unconfined Compression Test
2.00 to 2.30 pm	Geotechnical Investigation Report Preparation
2.30 to 3.00 pm	Valedictory Program

Event Coordinators

List of Participants

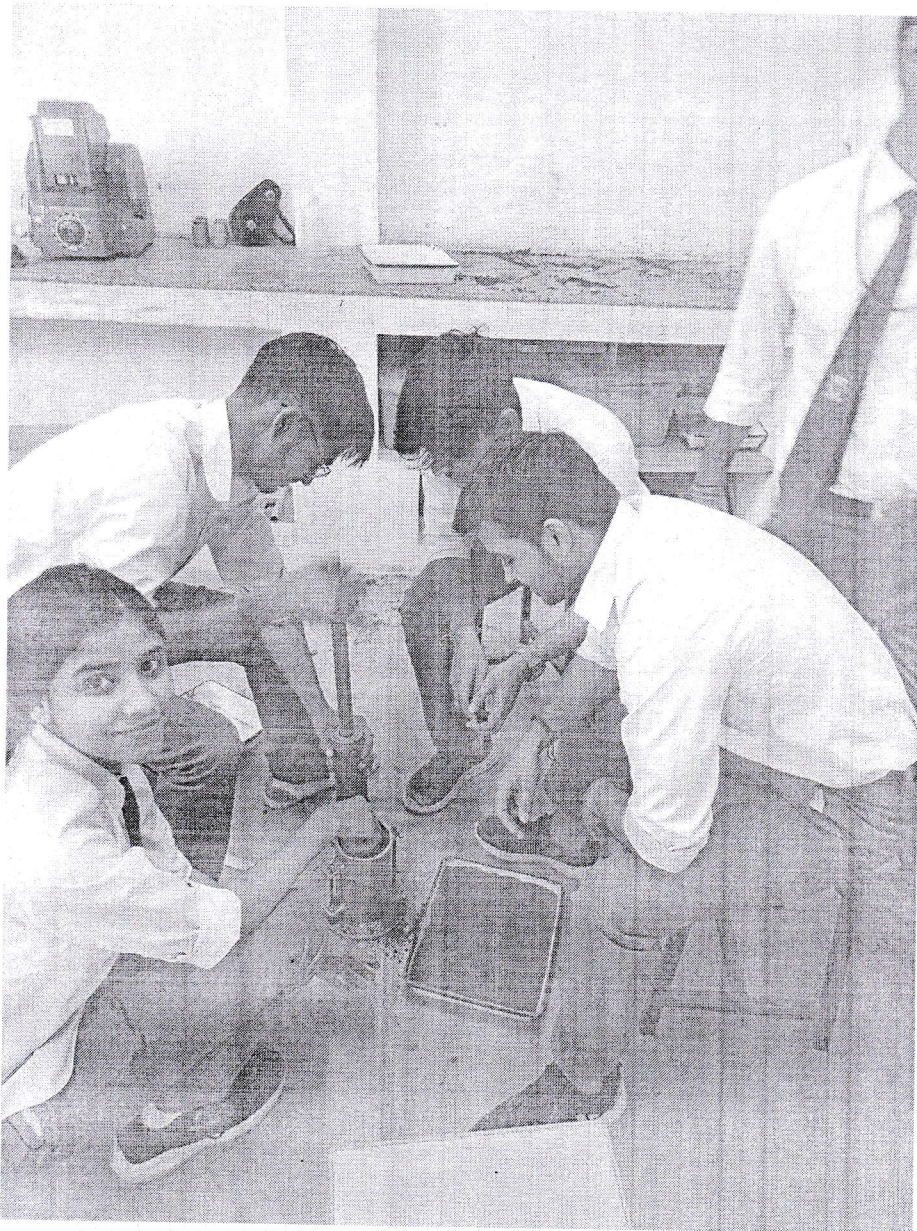
S. No.	Name of Student	RTU Roll no.	Contact No.
1	Varun Kumar Meena	20ESKCE123	7412842590
2	Komal Kanwar Korawat	20ESKCE055	7878031826
3	Ajay Kumar Meena	20ESKCE007	9724838544
4	Mohit Sharma	20ESKCE075	6367505119
5	Kartik Choudhary	20ESKCE052	7240520664
6	Hemant Kumar Mina	20ESKCE041	9413186922
7	Abhishek Bansal	20ESKCE003	7062512555
8	Dilkhush Meena	20ESKCE034	6263380899
9	Avdesh Meena	20ESKCE025	7726016576
10	Gaurav Meena	20ESKCE036	7737037495
11	Himanshu Meena	20ESKCE042	9602465894
12	Rohit Lamba	20ESKCE103	8107375376
13	Vansh Choudhary	20ESKCE122	7424925989
14	Kanak Sharma	20ESKCE049	9887642311
15	Nikita Choudhary	20ESKCE082	7627061439
16	Manisha Kukna	20ESKCE070	7878427935
17	Vijayshree Meena	20ESKCE125	6376848267
18	Gourav Pooniya	20ESKCE038	7597111502
19	Ankit Yadav	20ESKCE016	9649074404
20	Arvind Yadav	20ESKCE021	9660659508
21	Vishal Bansawal	20ESKCE130	9783140934

Swami Keshvanand Institute of Technology, Management & Gramothan
Department of Civil Engineering

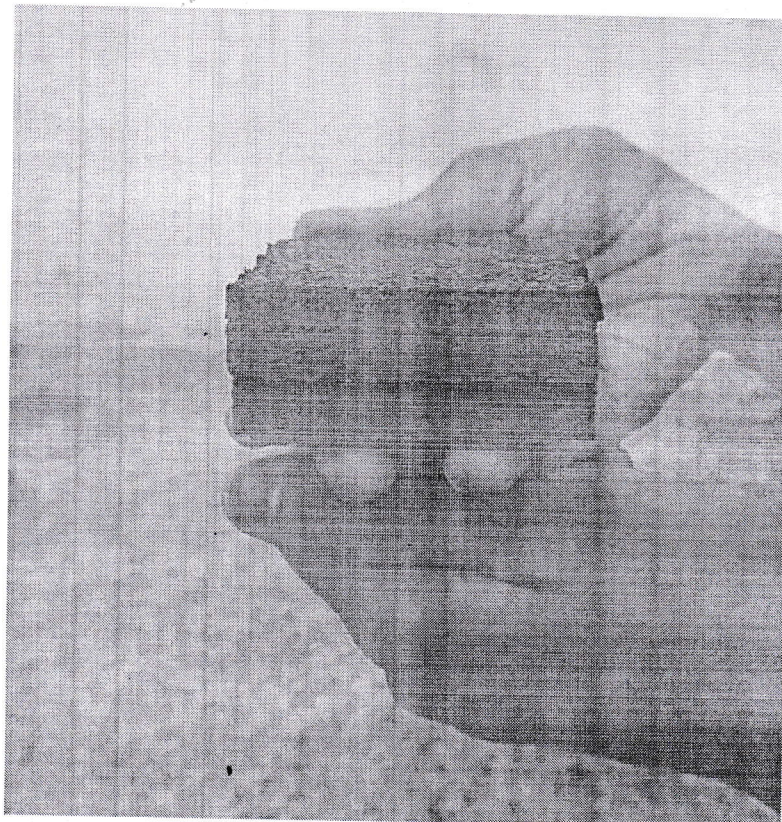
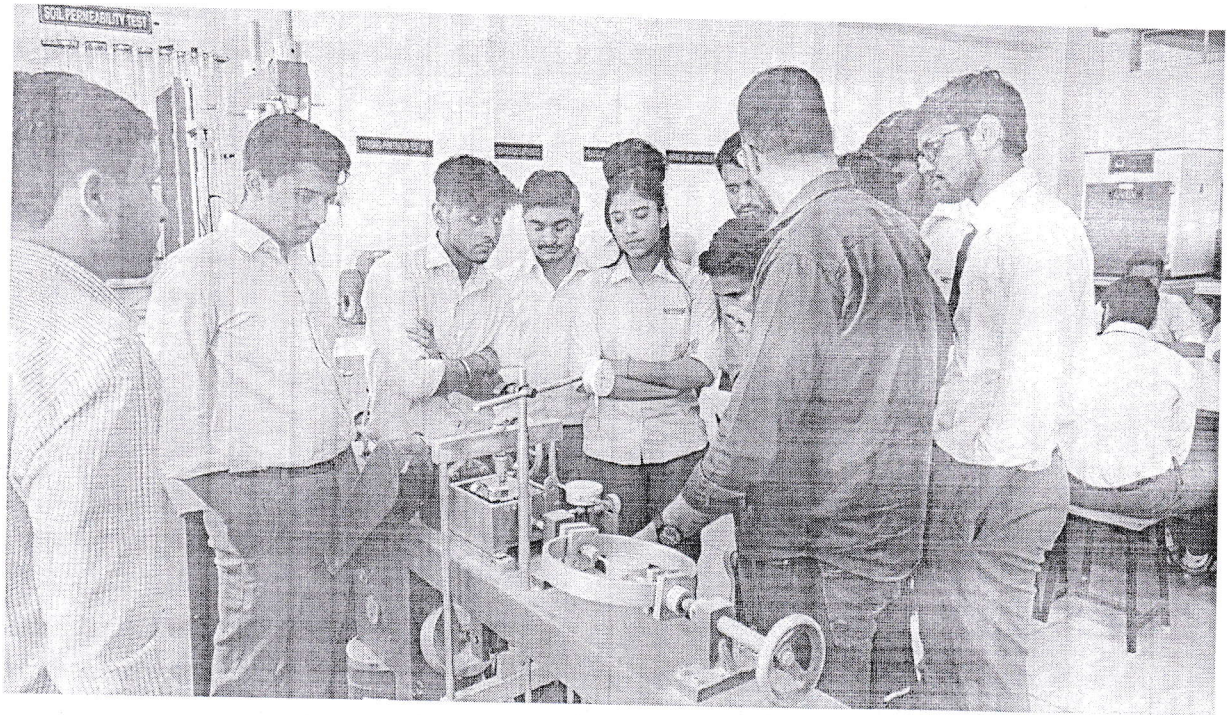
Workshop on Effective Learning Through Laboratory Investigation In Geotechnical Engineering

Sr. No.	Name of Student	RTU Roll no.	10-04-2023	11-04-2023	12-04-2023	13-04-2023	14-04-2023
1	Varun Kumar Meena	20ESKCE123	<u>Varun</u>	<u>Varun</u>	<u>Varun</u>	<u>Varun</u>	<u>Varun</u>
2	Komal Kanwar Korawat	20ESKCE055	<u>Komal</u>	<u>Komal</u>	← AB →	<u>Komal</u>	<u>Komal</u>
3	Ajay kumar meena	20ESKCE007	<u>Ajay</u>	<u>Ajay</u>	<u>Ajay</u>	<u>Ajay</u>	<u>Ajay</u>
4	Mohit Sharma	20ESKCE075	<u>Mohit</u>	<u>Mohit</u>	<u>Mohit</u>	<u>Mohit</u>	← AB →
5	Kartik Choudhary	20ESKCE052	<u>Kartik</u>	<u>Kartik</u>	<u>Kartik</u>	<u>Kartik</u>	<u>Kartik</u>
6	Hemant Kumar Mina	20ESKCE041	<u>Hemant</u>	<u>Hemant</u>	<u>Hemant</u>	<u>Hemant</u>	<u>Hemant</u>
7	Abhishek Bansal	20ESKCE003	<u>Abhishek</u>	<u>Abhishek</u>	<u>Abhishek</u>	<u>Abhishek</u>	<u>Abhishek</u>
8	Dilkhush Meena	20ESKCE034	<u>Dilkhush</u>	<u>Dilkhush</u>	<u>Dilkhush</u>	<u>Dilkhush</u>	<u>Dilkhush</u>
9	AVDESH MEENA	20ESKCE025	<u>Avdesh</u>	<u>Avdesh</u>	<u>Avdesh</u>	← AB →	← AB →
10	Gaurav Meena	20ESKCE036	<u>Gaurav</u>	<u>Gaurav</u>	<u>Gaurav</u>	<u>Gaurav</u>	<u>Gaurav</u>
11	Himanshu meena	20ESKCE042	<u>Himanshu</u>	<u>Himanshu</u>	<u>Himanshu</u>	<u>Himanshu</u>	<u>Himanshu</u>
12	Rohit Lamba	20ESKCE103	<u>Rohit</u>	<u>Rohit</u>	<u>Rohit</u>	<u>Rohit</u>	<u>Rohit</u>
13	Vansh Choudhary	20ESKCE122	<u>Vansh</u>	<u>Vansh</u>	<u>Vansh</u>	<u>Vansh</u>	<u>Vansh</u>
14	Kanak Sharma	20ESKCE049	<u>Kanak</u>	<u>Kanak</u>	<u>Kanak</u>	XXXX	<u>Kanak</u>
15	Nikita Choudhary	20ESKCE082		<u>Nikita</u>	<u>Nikita</u>	<u>Nikita</u>	<u>Nikita</u>
16	Manisha Kukna	20ESKCE070	<u>Manisha Kukna</u>	<u>Manisha Kukna</u>	<u>Manisha Kukna</u>	<u>Manisha Kukna</u>	<u>Manisha Kukna</u>
17	Vijayshree meena	20ESKCE125	<u>विजयश्री</u>	<u>विजयश्री</u>	<u>विजयश्री</u>	← AB →	← AB →
18	Gourav Pooniya	20ESKCE038	<u>Gourav Pooniya</u>	<u>Gourav Pooniya</u>	<u>Gourav Pooniya</u>	<u>Gourav Pooniya</u>	<u>Gourav Pooniya</u>
19	Ankit Yadav	20ESKCE016	<u>Ankit Yadav</u>	<u>Ankit Yadav</u>	← AB →	<u>Ankit Yadav</u>	<u>Ankit Yadav</u>
20	Arvind Yadav	20ESKCE021	<u>Arvind Yadav</u>	<u>Arvind Yadav</u>	<u>Arvind Yadav</u>	<u>Arvind Yadav</u>	<u>Arvind Yadav</u>
21	Vishal Bansawal	20ESKCE130	<u>Vishal</u>	<u>Vishal</u>	<u>Vishal</u>	<u>Vishal</u>	<u>Vishal</u>

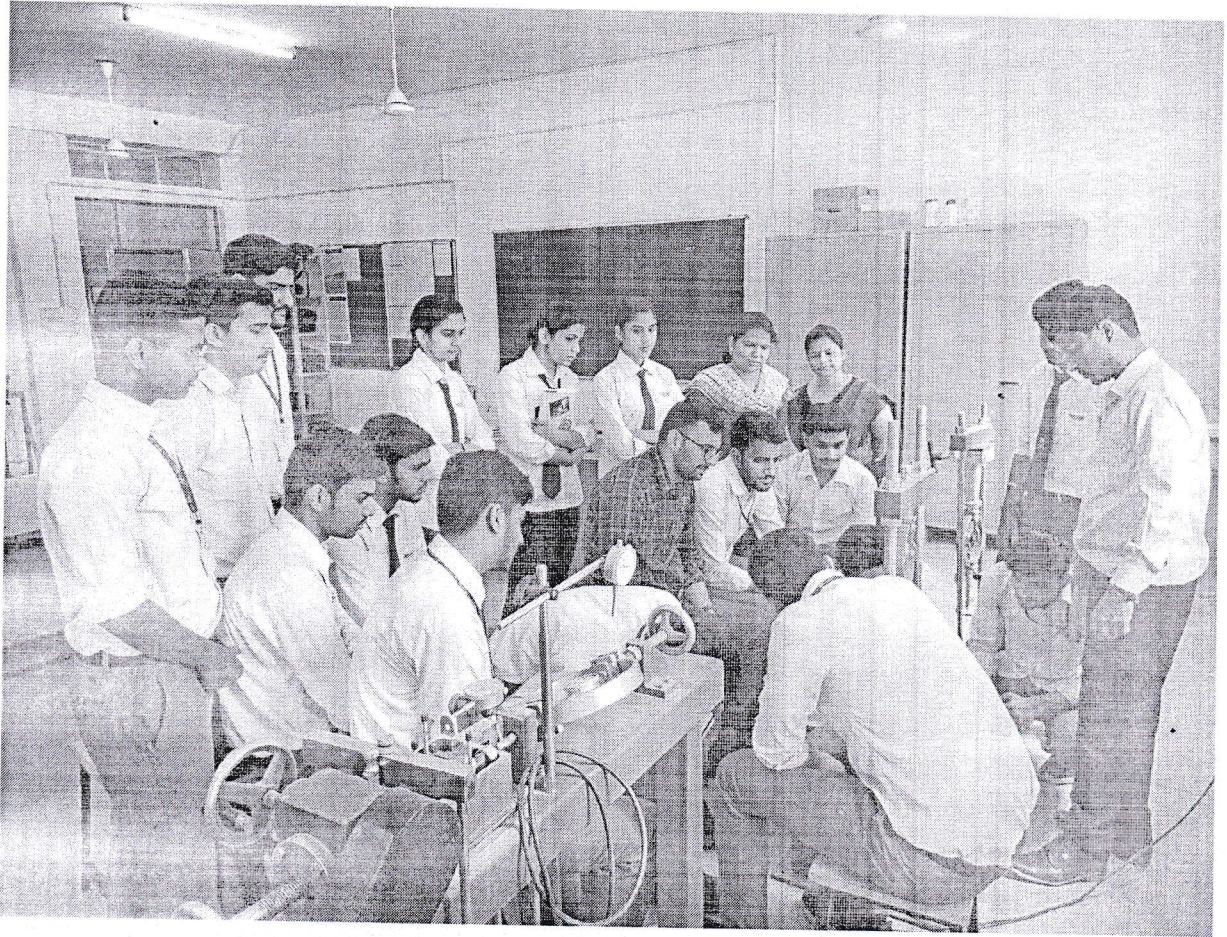
Photographs of the Event



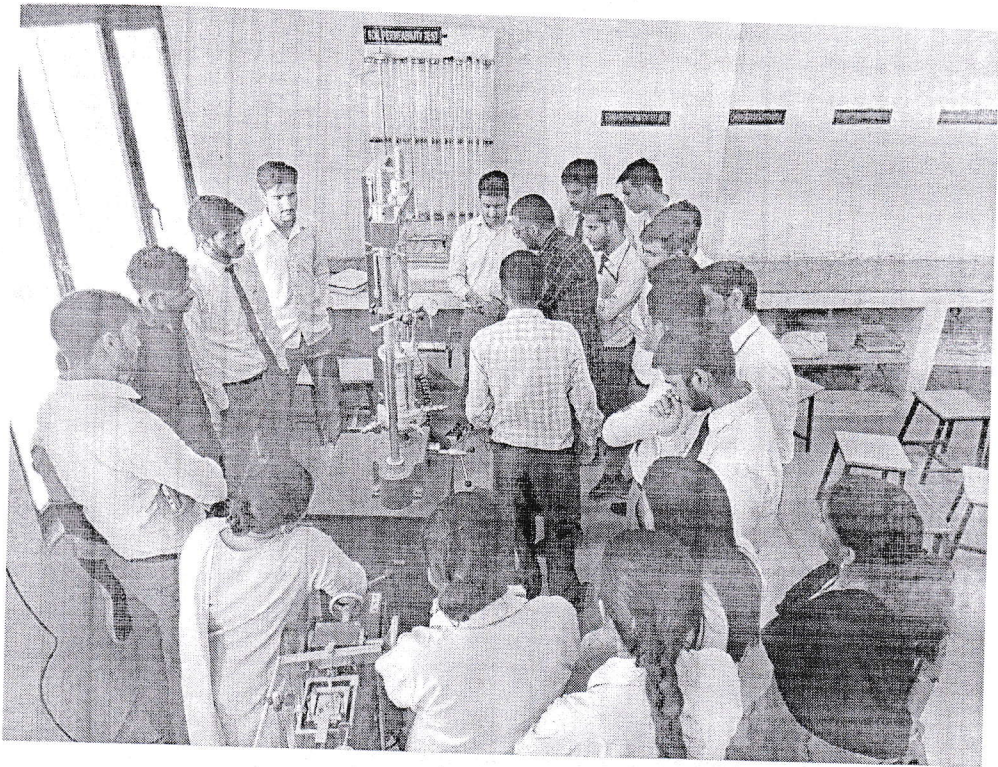
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Ramnagar, Jagatpura, Jaipur-302 017, Rajasthan, India



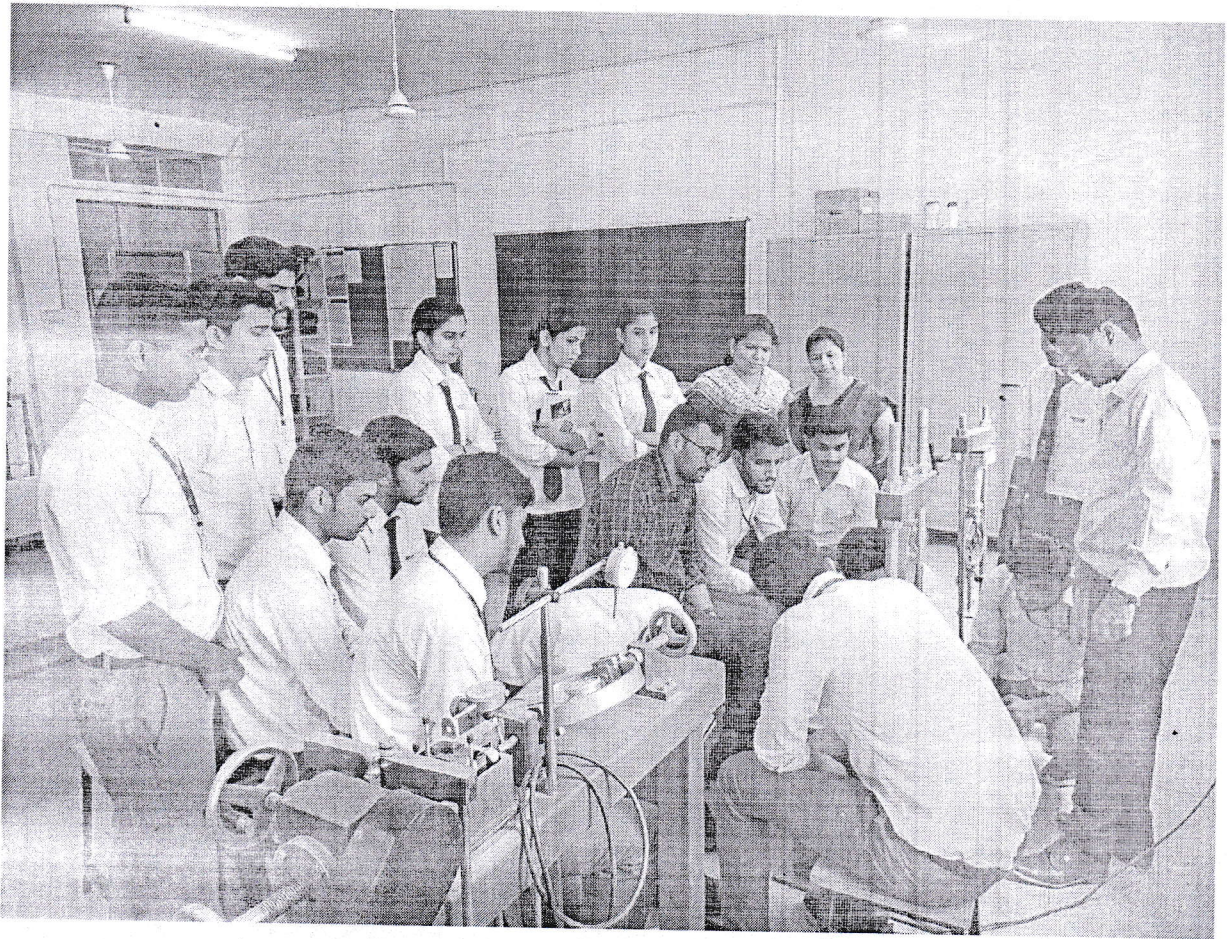
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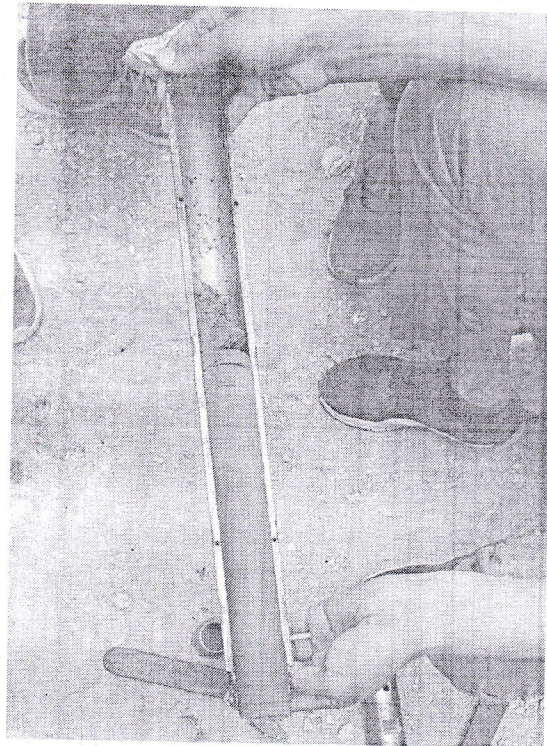
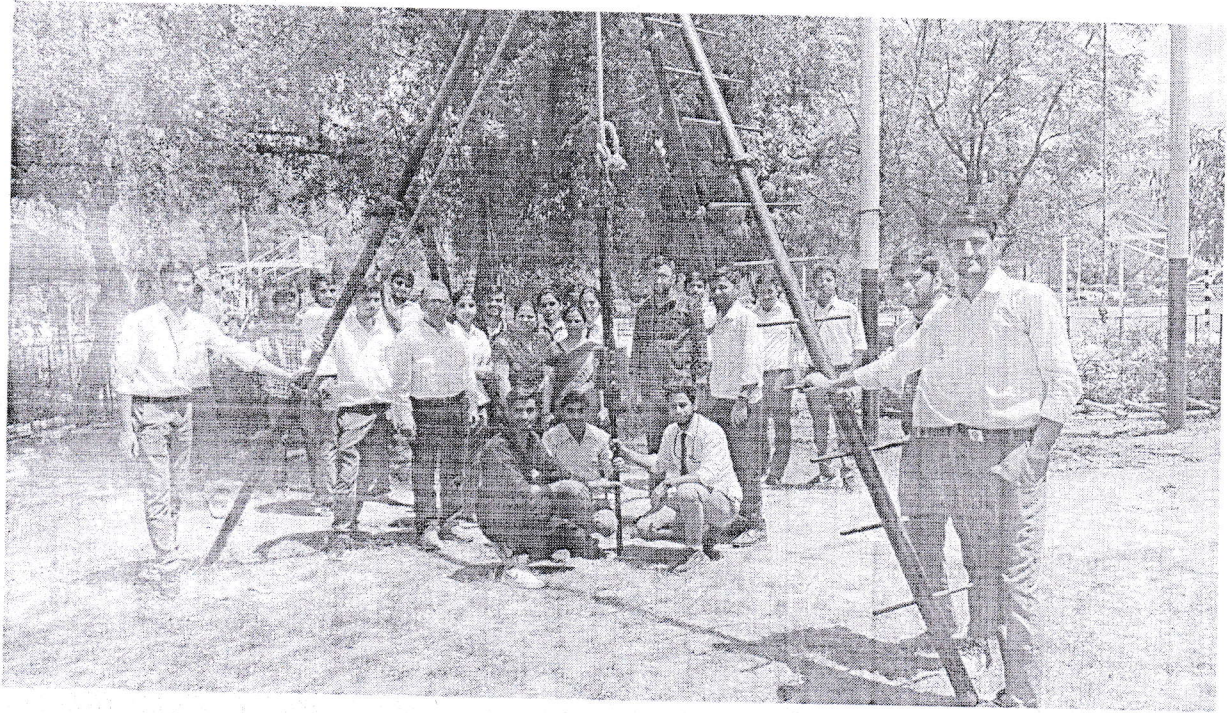
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Ramnagarã, Jagatpura, Jaipur-302 017, Rajasthan, India



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Ramnagar, Jagatpura, Jaipur-302 017, Rajasthan, India



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Ramnagar, Jagatpura, Jaipur-302 017, Rajasthan, India

Sample Certificate



5 - Day Student Workshop on
*Effective Learning through Laboratory Investigations in
Geotechnical Engineering*



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

Certificate

*This is to certify that Abhishek Bansal (20ESKCE003) has successfully participated in 5 - Day
Student Workshop on "Effective Learning through Laboratory Investigations in Geotechnical Engineering"
held from 10 / 04 / 2023 to 14 / 04 / 2023 at Swami Keshvanand Institute of Technology, Management and
Gramothan (SKIT), Jaipur.*

DK
Prof. D. K. Sharma
HoD

M. Bharathi
Dr. Bharathi M.
Coordinator

Pooja
Dr. Pooja Gupta
Coordinator

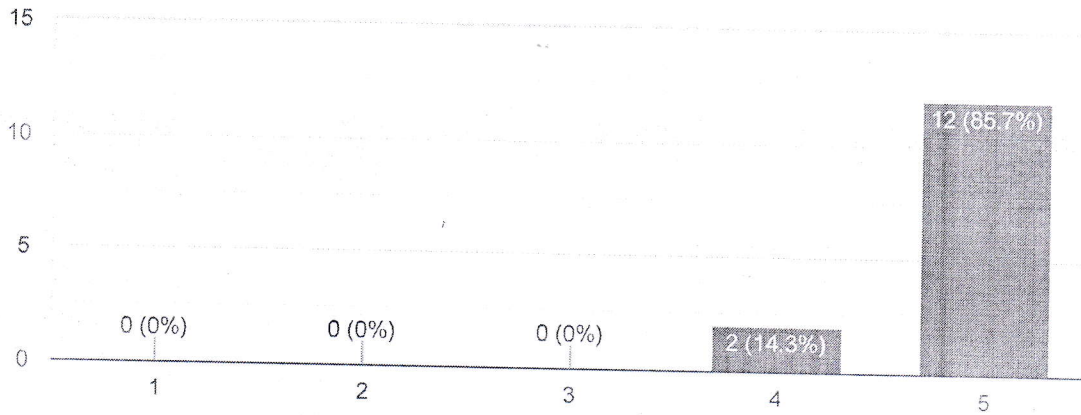
Student Workshop Feedback Form

14 responses

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

Copy

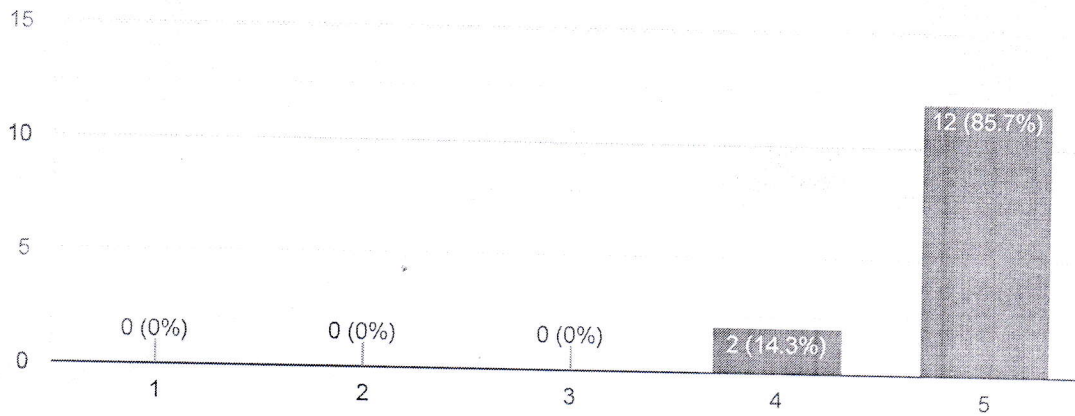
14 responses



The workshop was interesting/ engaging.

Copy

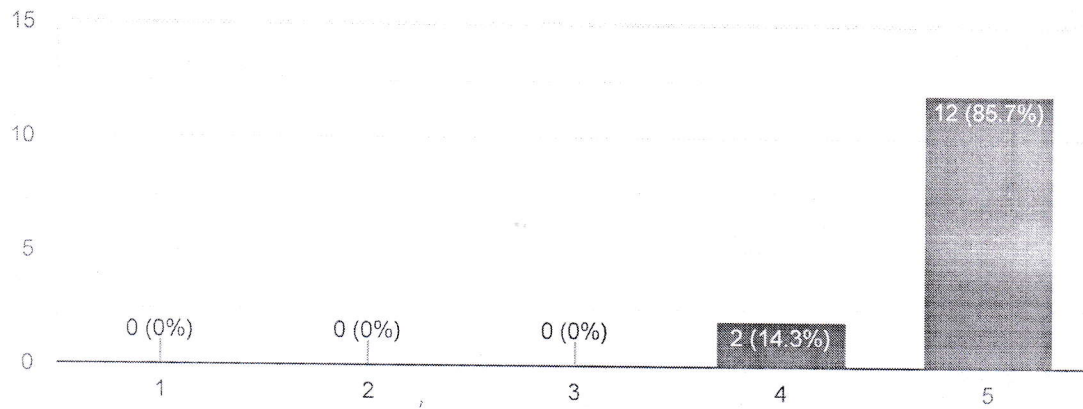
14 responses



Instructors were knowledgeable about the topic.

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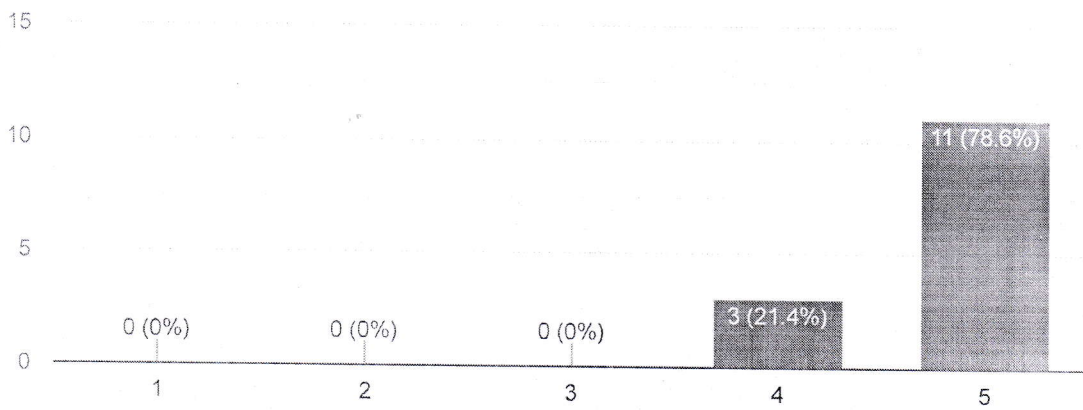
14 responses



Instructors' style of teaching was good.

 Copy

14 responses



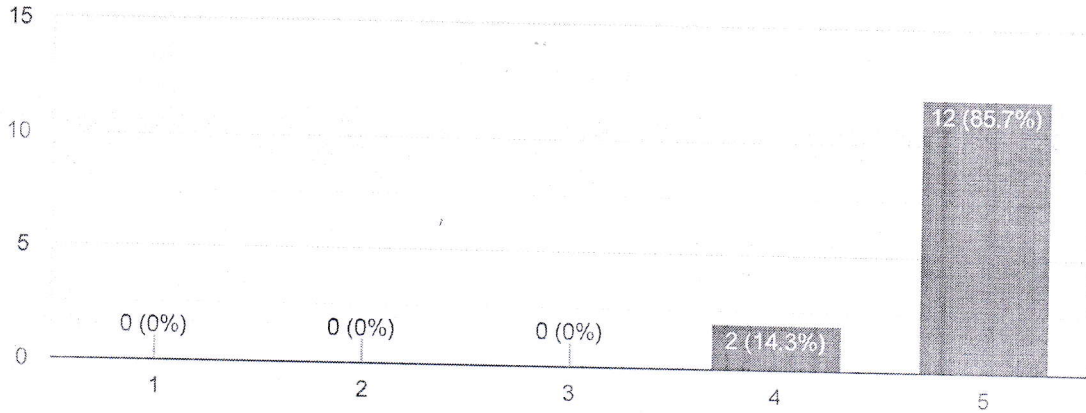
Student Workshop Feedback Form

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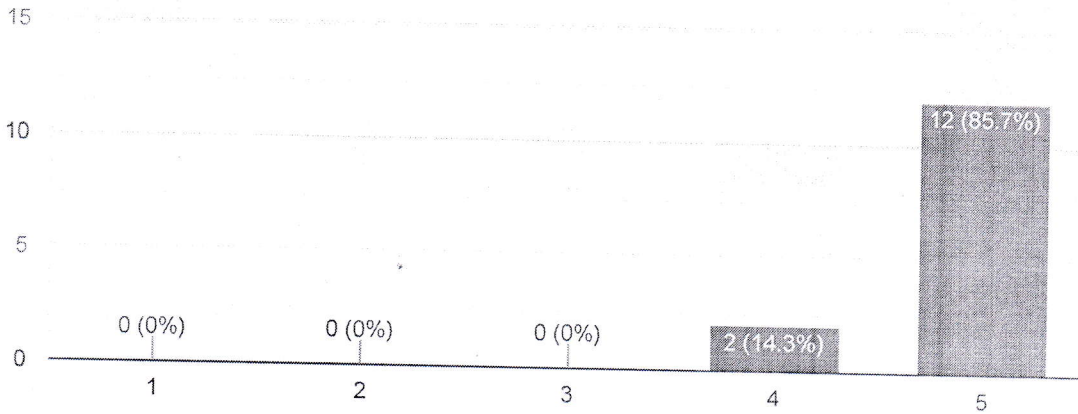
14 responses



The workshop was interesting/ engaging.

Copy

14 responses



What did you like BEST about the workshop?

14 responses

Knowledge of teachers about machine and their learning was good. Nice to work together.

The way to teach

Excellent behaviour and teaching style of teachers and guides

We learnt about different test in this workshop and the behaviour of teachers are very good

Practical knowledge

Everything is best. This workshop is very informative. To learn of different soil tests like - standard proctor test, direct shear test, triaxial test, Standard penetration test, unconfined compression test.

Everything

Information

Coordination

interaction of teachers with students

Everything was great and very beneficial for me

Minimum number of students

The teachers and lab assistant teachers us very peacefully and deeply. They provide us a platform to conduct and doing the experiment on their own.

Guidance from the teachers



What did you like LEAST about the workshop?

14 responses

Nothing

Nothing

Everything was best

Every thing is good

No

No

Timeing of the refreshments

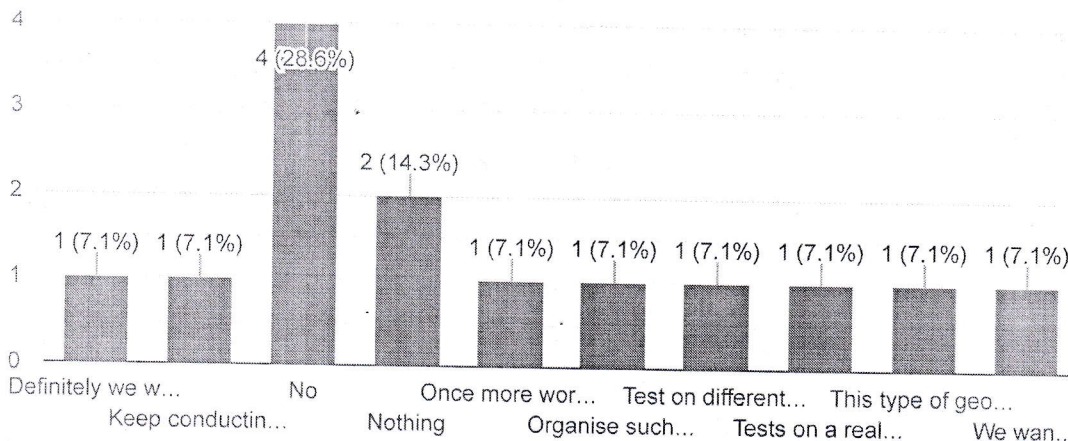
There is nothing to say the least all work and things are best

Overall workshop was interesting

Any other suggestions for similar future workshop?

 Copy

14 responses



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Google Forms



Media Coverage

सिविल इंजीनियरिंग विभाग ने 5 दिवसीय छात्र कार्यशाला का समापन

P3 Police Public Politics

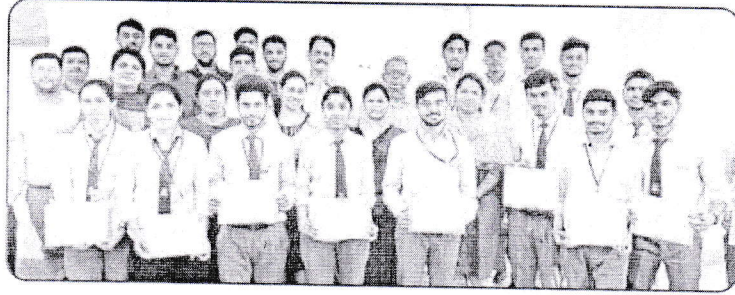
जयपुर । सिविल इंजीनियरिंग विभाग, स्वामी केशवानंद इंस्टीट्यूट ऑफ टेक्नोलॉजी, मैनेजमेंट एंड ग्रामोथान (SKIT) द्वारा आयोजित भू-तकनीकी इंजीनियरिंग में प्रयोगशाला जांच के माध्यम से प्रभावी शिक्षण पर पांच दिवसीय छात्र कार्यशाला का समापन समारोह 14 अप्रैल, 2023 को आयोजित किया गया। कार्यशाला शुरू हुई 10 अप्रैल, 2023 को और 14 अप्रैल, 2023 को संपन्न हुई। कार्यशाला विशेष रूप से सिविल इंजीनियरिंग के तीसरे वर्ष के छात्रों के लिए आयोजित की गई थी। कार्यशाला के दौरान, छात्रों को प्रयोगशाला और भू-क्षेत्र जांच करने और भू-तकनीकी जांच रिपोर्ट तैयार करने के



लिए प्रशिक्षित किया गया। समापन समारोह में, छात्र प्रतिभागियों ने पांच दिवसीय कार्यशाला से अपने अनुभव और सीख साझा की। प्रो.डी.के. शर्मा, एचओडी, सिविल इंजीनियरिंग विभाग, एसकेआईटी ने कार्यशाला में छात्रों की रुचि और समन्वयकों के प्रयासों की सराहना की।

उन्होंने सैद्धांतिक पृष्ठभूमि के साथ-साथ ऐसे व्यावहारिक अनुभव के महत्व पर भी प्रकाश डाला। प्रो. वी.एल. शर्मा ने कार्यशाला को सफलतापूर्वक पूरा करने के लिए सभी प्रतिभागियों को बधाई दी। समन्वयक डॉ. भारती एम. और डॉ. पूजा गुप्ता ने सभी प्रतिभागियों से कार्यशाला की प्रतिक्रिया एकत्र की।

Yuva स्टोरीज

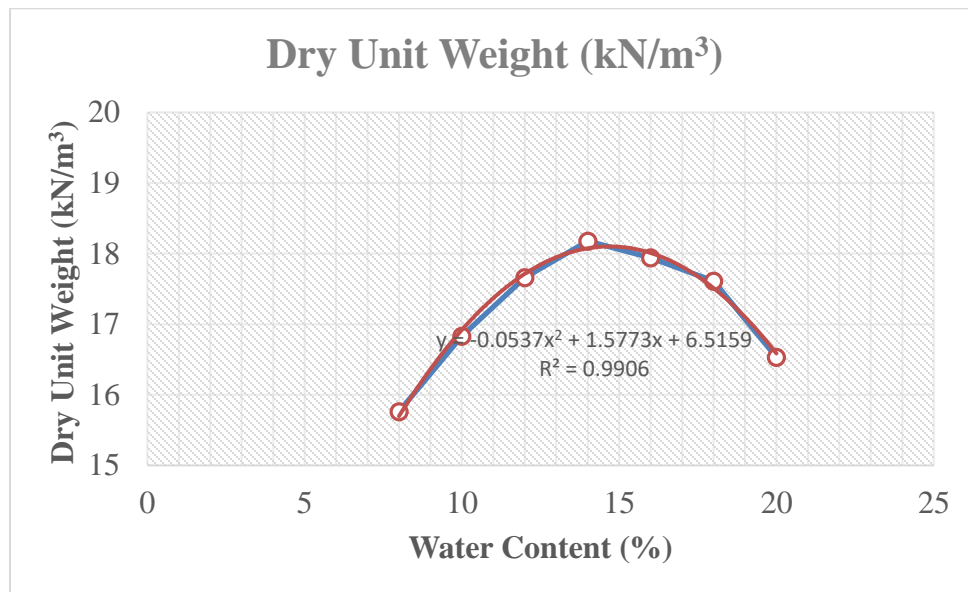


एसकेआईटी में 5 दिवसीय कार्यशाला का समापन | जयपुर।
स्वामी केशवानंद इंस्टीट्यूट ऑफ टेक्नोलॉजी, मैनेजमेंट एंड ग्रामोथान के सिविल इंजीनियरिंग विभाग द्वारा आयोजित पांच दिवसीय कार्यशाला का समापन शुक्रवार को हुआ। भू-तकनीकी इंजीनियरिंग में प्रयोगशाला जांच के माध्यम से प्रभावी शिक्षण पर यह कार्यशाला विशेष रूप से सिविल इंजीनियरिंग के तीसरे वर्ष के छात्रों के लिए आयोजित की गई थी। कार्यशाला के दौरान छात्रों को प्रयोगशाला और भू-क्षेत्र जांच करने और भू-तकनीकी जांच रिपोर्ट तैयार करने के लिए प्रशिक्षित किया गया। समापन समारोह में छात्र प्रतिभागियों ने कार्यशाला से अपने अनुभव और सीख साझा की। प्रो. डी.के. शर्मा, एचओडी, सिविल इंजीनियरिंग विभाग, एसकेआईटी ने कार्यशाला में छात्रों की रुचि और समन्वयकों के प्रयासों की सराहना की। प्रो. बी.एल. शर्मा ने कार्यशाला को सफलतापूर्वक पूरा करने के लिए सभी प्रतिभागियों को बधाई दी। समन्वयक डॉ. भारती एम. और डॉ. पूजा गुप्ता ने सभी प्रतिभागियों से कार्यशाला की प्रतिक्रिया जानी।

Technical Report

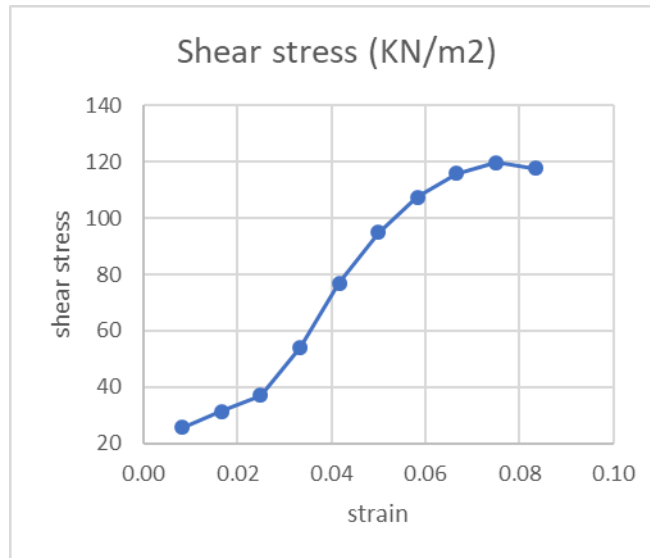
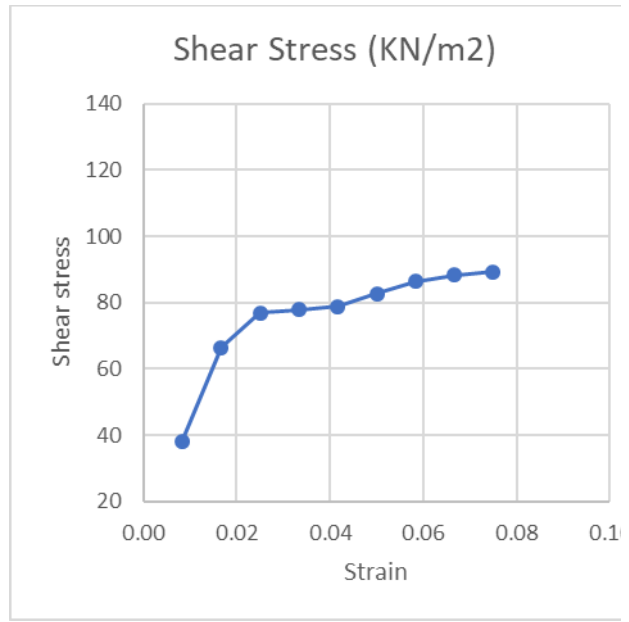
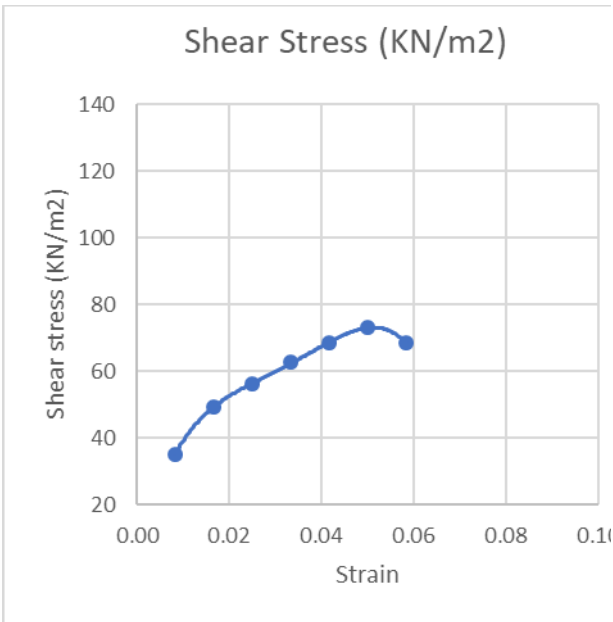
Civil Engineering Department Conducted a 5-Day Student Workshop on "Effective Learning through Laboratory Investigation in Geotechnical Engineering" on April 14, 2023. The workshop started on April 10, 2023, and concluded on April 14, 2023. The workshop was exclusively organized for third-year Civil Engineering students. During the workshop, the students were trained to perform laboratory and field investigations and to prepare a geotechnical investigation report.

On Day 1, Dr. Bharathi M. gave an introduction of the 5- days workshop. She discussed about the practical importance of different experiments conducted on the soil samples. Students were also instructed for maintaining safety during performing experiments in laboratory. **Standard Proctor test** was performed to calculate the maximum dry density (MDD) and optimum water content (OMC) of soil sample.



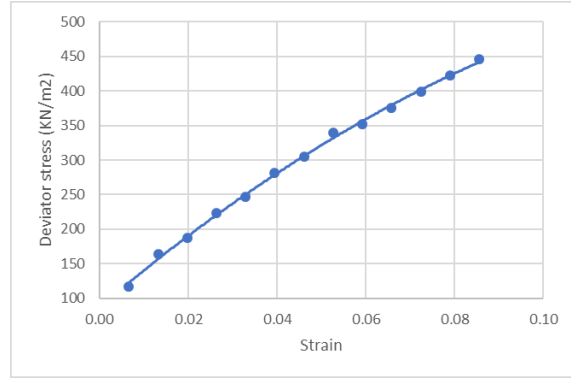
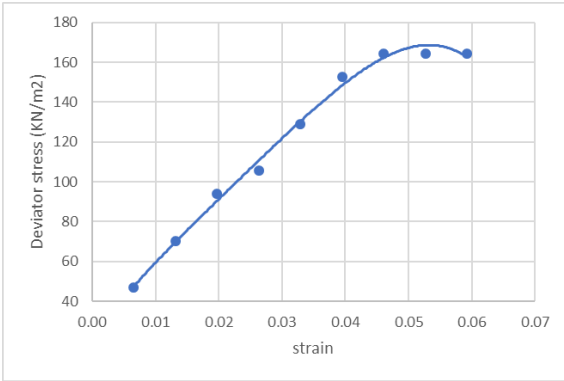
OMC = 15 % and MDD = 18.1 kN/m³

The 2nd Day began with the description of **Direct Shear Test** conducted to determine the c and ϕ values of the soil sample. Calculation was shared to students for convenience of students. Students learned about the interpretation of results.



Using the above three plot the shear strength parameters c and ϕ of the selected specimen were evaluated to be 48 kN/m^2 and 25° respectively.

On Day 3, Tri-axial test was performed to determine the strength parameters c and ϕ in **Unconsolidated – undrained (UU)** conditions.



For a confining pressure = 100 kN/m² a deviator stress of 164 kN/m² was obtained. Similarly, for a confining pressure = 200 kN/m² a deviator stress of 446 kN/m² was obtained.

On Day 4, 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 cohesion less soils.

Depth	Penetration Depth	No. of Blows	SPT N Value
0.00	Seating Drive		
	15 cm	5	
	15 cm	4	9
2.00	Seating Drive		
	15 cm	4	
	15 cm	4	8

The obtained SPT N value corresponds to loose soil with relative density 15 to 35%.

The 5th Day started with the introduction of **Unconfined Compressive Strength Test**. Dr.Pooja Gupta explained the experiment. In addition, Dr. Bharathi M explained about geotechnical investigation report.

Deflection (mm)	PR Reading		
	Sample 1	Sample 2	Sample 3
0.5	12	6	13
1	35	14	24
1.5	51	23	20
2	55	30	
2.5		32	

From the above observations the unconfined compressive strength of was obtained corresponding to soft clay.

In the valedictory function, student participants shared their experiences and learnings from the five-day workshop. Prof. D.K. 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. Prof. B.L. Sharma congratulated all the participants for successfully completing the workshop. Coordinators Dr. Bharathi M. and Dr. Pooja Gupta collected feedback on the workshop from all the participants.

Objective and Outcome of the Expert Talk

Objectives

- To provide hands on experience on few experiments which 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.
- To create awareness among preparation of geotechnical investigation report of construction site.
- To make student aware of interpretation of findings reported in geotechnical investigation report.

Outcomes

- The participants of the workshop will be able to conduct tests including standard proctor test, direct shear test, tri-axial test, unconfined compression test and standard penetration test (SPT).
- The participants will be able to perform the tests, analyze and report the findings based on the tests conducted.
- They will be aware about the preparation of geotechnical investigation report.

Relevance to PO's and PSO's

S. No.	Name of Activity	Resource Person	Related POs and PSOs
1.	" Effective Learning through Laboratory Investigation in Geotechnical Engineering"	Dr. Bharathi M and Dr. Pooja Gupta	PO (3.1.1, 3.1.4, 3.1.6, 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.3.1, 5.1.1, 5.1.2, 5.2.2, 5.3.2, 6.1.1, 6.2.1, 12.1.1, 12.2.1, 12.2.2), PSO (1.1.1, 1.1.2, 1.1.3, 2.1.1, 2.1.2)