Department of Civil Engineering

Innovative Teaching Method: Experimental results analysis using software.

Name of Faculty: Dr. S.J. Kadbhane   **Class: SE**

Academic Year: 2020-21   **Semesters: II**

Name of Subject: Geotechnical Engineering

Objectives of Methodology:

1. To train student for experimental analysis using software
2. To develop interest towards use of modern tool

Details of Activity/Method:

In this teaching method, the results from the geotechnical engineering lab experiment are evaluated using Excel software. In the first stage, hands-on training about software is given to students. In the demo different toolbars, formulas, and functions were studied by students. Lastly, all the results of the experiment are analysed and evaluated. In the end, some questions are asked to students to check the outcome. Questions are as follows.

1. In Excel Software, graphs are plotted form _____ toolbar

2. In Excel Software equations are inserted form _____ toolbar

3. In Excel Software fond sizes and colour set form _____ toolbar

4. In Excel Software text to column process carried out form _____ toolbar

5. In Excel Software if we have to require addition all number in one column the following is the formula

6. In Excel Software if we have to calculation 8 and 10 addition and multiply them by 15 the following is the formula

7. In Excel Software if we have to calculation 8 and 10 addition and divide them by 15 the following is the formula

8. In Excel Software if we have to calculation 8 and 10 addition and divide them by difference of 20 and 5 the following is the formula

9. In Excel Software 2D Line graph can be plot using _____

10. In Excel Software Pie graph can be plot using _____

Assessment is summaries in table as below

Assessment Tools & Rubrics:

Group No	Roll No	Name of Students	Knowledge of toolbar (4)	Equation formulation (4)	Graphical Representation (2)	Final Marks (10)
1.	56	Sonar Khushali Kishor	3	4	2	9
2.	83	Bhagwat Vaishali Rajendra	3	4	1	8
3.	79	Savkar Rakesh Hiraman	3	4	2	9
4.	48	Pawar shivraj harshavardhan	1	3	2	6
5.	54	Shermale roshan kautik	1	0	1	2
6.	82	Salve Sakshi Milind	4	4	2	10
7.	76	Paithankar Himanshu Santosh	4	4	1	9
8.	85	Kuwar Pravin Ravji	3	4	1	8
9.	87	Sanap Vaibhav Ramkrushna	3	4	1	8
10.	13	Bhadane pranjal Sanjay	2	4	0	6
11.	49	Randhir Nishant Anil	2	4	1	7
12.	76	Paithankar Himanshu Santosh	4	4	2	10
13.	77	Pitlewar Parithoshika Anil	3	4	2	9
14.	89	Watane Anjali yuvraj	1	1	0	2
15.	60	Suryawanshi Purva Rajesh	3	4	2	9
16.	46	Patil Ritu Prakash	4	4	2	10
17.	77	Parithoshika Anil Pitlewar	4	4	2	10
18.	86	Chavan Ruchi Rahul	2	2	1	5
19.	29	Jawale Saurav Pramod	2	4	0	6
20.	26	Ingale Shweta Vasant	4	4	2	10
21.	31	Khode Sai Chandrakant	4	4	2	10
22.	30	Katkade Atharva Padmakar	4	4	2	10
23.	36	Mali rahul Rambhau	4	4	2	10

24.	27	Jadhav kaushal Bharat	4	4	2	10
25.	50	Salunke Yogesh Manoj	4	4	2	10
26.	33	Kudke pratik santosh	2	4	2	8
27.	37	Malve Priyanka Mangesh	3	4	1	8
28.	40	More Rohini Vikas	3	4	1	8
29.	81	Gujarathi Aaditya Rajendra	3	4	2	9

Course Outcomes:

	After the completion of course students will be able to:	BTL
CO1	Evaluate the geotechnical engineering experimental results using software	5
CO2	Apply different tools available in software	3

POs (Related to Methodology)

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PO2	**Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO4	**Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PSOs (Related to Methodology)

PSO1	Graduates will able to apply fundamental knowledge, problem solving skills, engineering experimental abilities and design capabilities necessary for entering civil engineering career.
PSO2	Graduates will be able to demonstrate knowledge and techniques in engineering fields for effective management and professional development..
PSO3	Graduates will be able to apply technical and professional skills to be nationally competitive for employment/self-employment thereby benefit the society

Evidences: Activity Photographs/Videos/Sample PPT's :
Recorded Video Link : https://drive.google.com/file/d/1vAtAzRWLh5mHDNSTCqY47QbTjnT_zvKC/view?usp=sharing
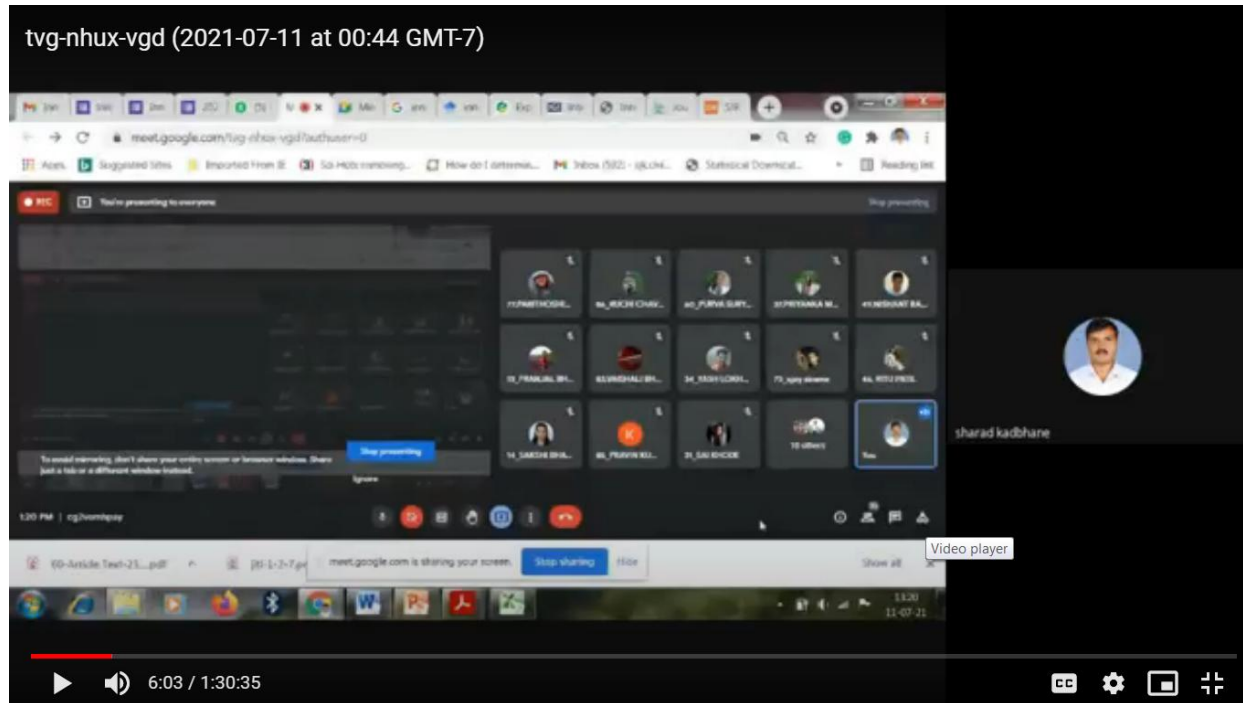
Feedback/Impact Analysis (Based on Students Feedback):
Course Outcome

	Course Outcome	CO1	CO2
A	Students Achieving CO	29	29
B	Total Rating	83	82
C	Average Rating (B/A)	2.96	2.93

Program Outcome and Program Specific Outcome

	Program Outcome	PO2	PO4	PO5	PSO1	PSO2	PSO3
A	No. of Groups/Students Achieving PO	29	29	29	29	29	29
B	Total Rating	82	81	81	82	82	81
C	Average Rating (B/A)	2.93	2.89	2.89	2.93	2.93	2.89

Recorded Video Link : https://drive.google.com/file/d/1vAtAzRWLh5mHDNSTCqY47QbTjnT_zvKC/view?usp=sharing

Link for Review and Critics: https://docs.google.com/forms/d/e/1FAIpQLSe0YhbEKNoagwIAO-reHemU2591QT-ONW_1GH9-G0W9VsfoTQ/viewform?usp=sf_link