



**MARATHA VIDYA PRASARAK SAMAJ'S**  
**KARMAVEER ADV. BABURAO GANPATRAO THAKARE**  
**COLLEGE OF ENGINEERING**



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## 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 font 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 Hiranman	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)

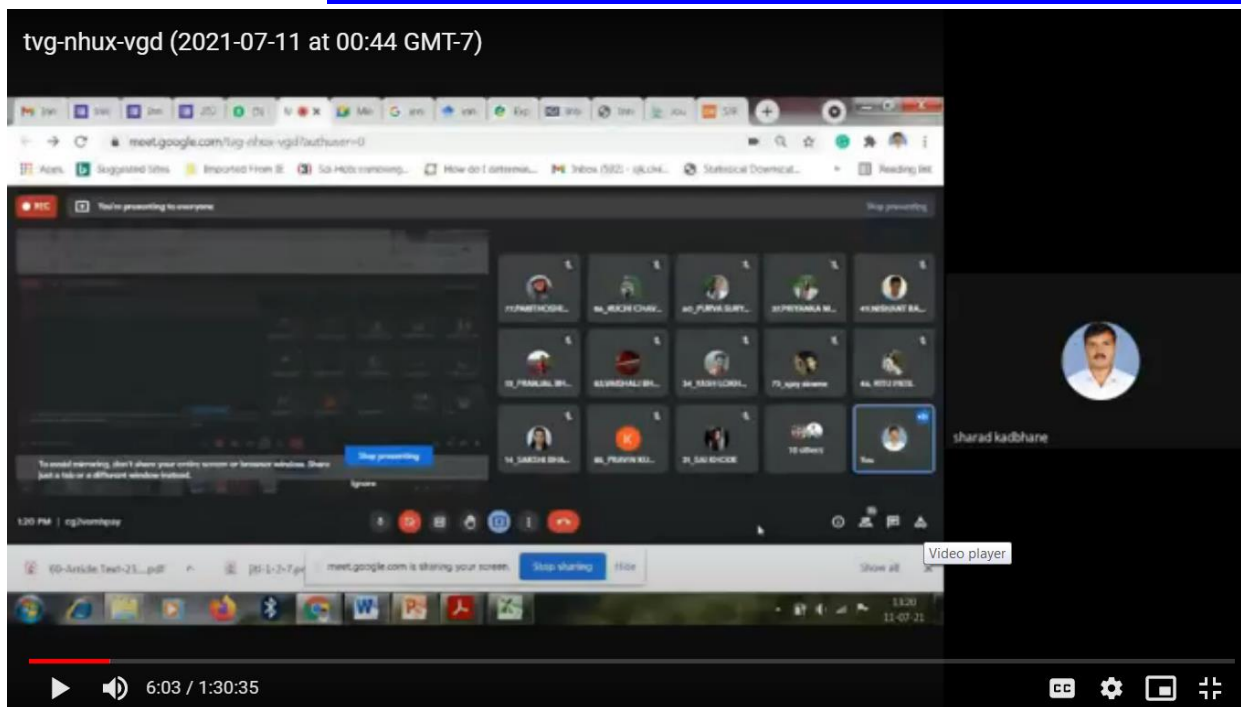
<b>PO2</b>	<b>Problem analysis:</b> Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
<b>PO4</b>	<b>Conduct investigations of complex problems:</b> 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.
<b>PO5</b>	<b>Modern tool usage:</b> 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)

<b>PSO1</b>	Graduates will apply technical knowledge, engineering skills, and competencies necessary for entering civil engineering career.
<b>PSO2</b>	Graduates will demonstrate knowledge and techniques in engineering fields for effective management and professional development.
<b>PSO3</b>	Graduates will 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](https://drive.google.com/file/d/1vAtAzRWLh5mHDNSTCqY47QbTjnT_zvKC/view?usp=sharing)



**Feedback/Impact Analysis (Based on Students Feedback):**

**Course Outcome**

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

**Program Outcome and Program Specific Outcome**

	<b>Program Outcome</b>	PO2	PO4	PO5	PSO1	PSO2	PSO3
<b>A</b>	<b>No. of Groups/Students Achieving PO</b>	29	29	29	29	29	29
<b>B</b>	<b>Total Rating</b>	82	81	81	82	82	81
<b>C</b>	<b>Average Rating (B/A)</b>	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](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](https://docs.google.com/forms/d/e/1FAIpQLSe0YhbEKNoagwIAO-reHemU2591QT-ONW_1GH9-G0W9VsfoTQ/viewform?usp=sf_link)