



**Shri Shivaji Education Society's
Board for Higher Education Vidyanagar Karad**



YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

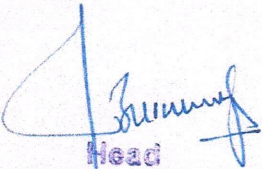
Department of Chemistry

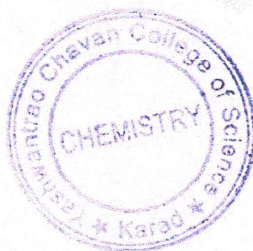
Year 2019-20

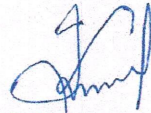
Name of activity- "To determine percentage of nitrogen in the Soil and pH of Soil."

Index

Sr. No.	Name
1.	Priyanka Vinayak Rokade
2.	Arjun Jagannath Lohar
3.	Satish Hanmant Yadav
4.	Dasharat Antu Yadav
5.	Jalindar Sadhu Mankar
6.	Dipak Shivajirao Mali
7.	Mahesh Pralhad Kale
8.	Sanjay Sakharam Jadhav


Head
Department of Chemistry
Yashwantrao Chavan College of
Science, Karad




Principal
Yashwantrao Chavan College
of Science, Karad

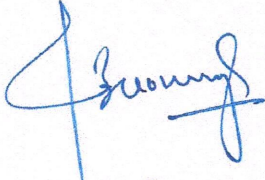
Yashwantrao Chavan College of Science, Karad

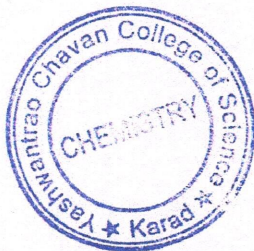
Department of Chemistry

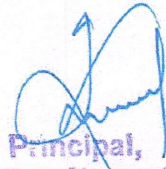
Extension Activity 2019-20

Name of activity- "To determine percentage of Nitrogen in the Soil and pH of Soil."

Purpose:	Understanding Soil Dynamics: Gain a comprehensive understanding of the role of nitrogen in soil, its various forms, and the significance of soil pH in influencing plant growth and ecosystem health. Crop Management Strategies: Explore and formulate effective crop management strategies based on nitrogen levels and soil pH, considering the specific needs of different crops. Analytical Proficiency: Develop proficiency in using analytical techniques to accurately determine the percentage of nitrogen in soil samples and to measure soil pH.
No. of beneficiaries:	08
Outcome/ success achieved:	Interpretation of Results: Develop the ability to interpret and analyze results obtained from nitrogen determination and pH measurement, considering the implications for soil fertility and plant health. Soil Fertility Assessment: Apply the knowledge gained to assess soil fertility based on nitrogen content and pH levels, contributing to informed agricultural practices. Understanding Nitrogen in Soil: Gain a comprehensive understanding of the role of nitrogen in soil, including its forms, cycling, and impact on plant growth.
Teachers involved in the activity	Prof. Dr. S. H. Burungale Prof. Dr. A. V. Mali Mr. A. N. Bhingare Dr. R.S. Patil Mr. B. E. Mahadik Mr. G. B. Dhake Dr. U. P. Lad Mr. S. D. Karande Dr. S. D. Jadhav Mrs. P. P. Patil Mrs. S. R. Veer Mrs. M. B. Jagadale


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Science, Karad



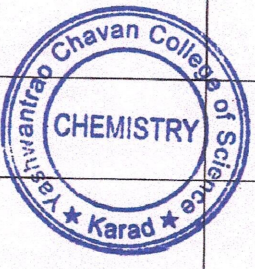

Principal,
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of Science, Karad

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Extension Activity 2019-20

Department of Chemistry

Name of Activity – To determine percentage of Nitrogen in the Soil & pH of the soil.

Sr. No	Name of Farmer	Address	Soil Received Date	Mobile No.	Sign
1]	शेकडे प्रियांका विनायक	ई. पूर, वाळवा. सांगली	7-8-2019	7219 516180	<i>[Signature]</i>
2]	अर्जुन जगन्नाथ मोहर	येडेमाचिंद्र ता. वाळवा. सांगली	9-8-2019	749876 7061	<i>[Signature]</i>
3]	Satish Hanmant Yadav	कवठे - Kavathe T-Karad	10-8-2019	95617550 22	<i>[Signature]</i>
4]	जाधव दशरथ अंतु	कडेपूर ता. कडेगाव जि. सांगली	10-8-2019	9766083338	<i>[Signature]</i>
5]	Mankar Jalindar Sadhu	A.P. Yedemachindra.	5-12-2019	7058231506	<i>[Signature]</i>
6]	Dipak Shivajirao Mali	A.P. Pethnaka.	6-2-2020	7058989132	<i>[Signature]</i>
7]	Mahesh Pralhad kale	A.P. Maldhan	92-2-2020	9960932360	<i>[Signature]</i>
8]	जाधव संजय सबाशम	मु. पो. तासवडे	92-02-2020	9205953670	<i>[Signature]</i>
	<i>[Signature]</i> Head				
	Department of Chemistry Yashwantrao Chavan College of Science, Karad				

Yashwantrao Chavan College of Science, Karad

Extension Activity 2019-20

Department of Chemistry

Date: 30.8.2019

Name of Activity-To determine percentage of Nitrogen in the Soil and pH of Soil.

Name of Students- शेकडे प्रियांका विनायक

Address - A/P - ई. पुर, वाळवा, सांगली

pH values - 5

Blank Titration

1. 25.00 ml
2. 26.00 ml
3. 25.00 ml

CBR = 25.00 ml

Back Titration

1. 18.00 ml
2. 19.00 ml
3. 18.00 ml

CBR = 18.00 ml

$$\% \text{ of Nitrogen in the given sample} = \frac{(X-Y) \times N \times 0.14}{\text{Amount of soil sample in gm}}$$

X= Volume of 0.1 N HCL required (Blank reading)

Y = Volume of 0.1 N HCL required (sample reading)

N= Normality of HCl

$$\% \text{ of Nitrogen in the given sample} = \frac{(Y-X) \times N \times 14}{\text{Amount of soil sample in gm}}$$

$$X = 25.00 \text{ ml}$$

$$Y = 18.00 \text{ ml}$$

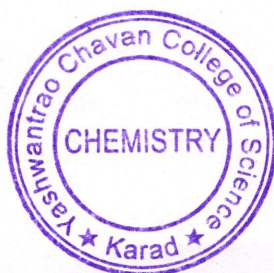
$$N = 0.1 \text{ N HCl}$$

$$= \frac{(18.00 - 25.00) \times 0.1 \times 14}{5}$$

$$= \frac{[-7] \times 0.1 \times 14}{5}$$

$$= 1.96 \%$$

Conclusion - This soil contain 1.96% Nitrogen & nature of soil is acidic.



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Extension Activity 2019-20

Department of Chemistry

Date: 30.8.2019

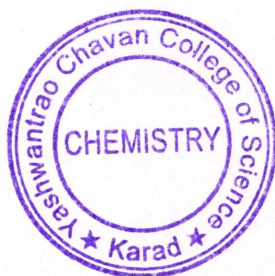
Name of Activity - To determine percentage of Nitrogen in the Soil and pH of Soil.

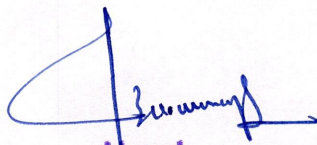
Name of Students- Rokade Priyanka Vinayak

Address - Islampur, Tal. Valva, Dist. - Sangli

% of Nitrogen in Soil is : 1.98 %

Nature of Soil is : 5 Ph - acidic




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Extension Activity 2019-20

Department of Chemistry

Date: 30.8.2019

Name of Activity-To determine percentage of Nitrogen in the Soil and pH of Soil.

Name of Students- Ajum Jagamnath Lohar

Address - Yedemachindra Tal. Valva, Dist. Sangli

pH values - 8

Blank Titration

1. 20 ml
2. 22 ml
3. 20 ml

CBR = 20 ml

Back Titration

1. 16 ml
2. 17 ml
3. 16 ml

CBR = 16 ml

$$\% \text{ of Nitrogen in the given sample} = \frac{(X-Y) \times N \times 0.14}{\text{Amount of soil sample in gm}}$$

X= Volume of 0.1 N HCL required (Blank reading)

Y = Volume of 0.1 N HCL required (sample reading)

N= Normality of HCl

$$X = 20 \text{ ml}$$

$$Y = 16 \text{ ml}$$

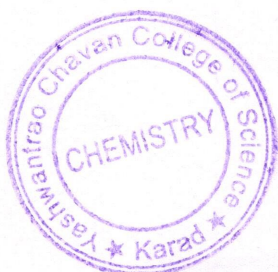
$$N = 0.1 \text{ N}$$

$$\% \text{ of Nitrogen in the given sample} = \frac{[Y-X] \times N \times 14}{\text{Amount of soil sample}}$$

$$= \frac{[16-20] \times 0.1 \times 14}{5}$$

$$= 2.8\%$$

Conclusion - This soil contains 2.8% Nitrogen & nature of soil is basic.



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Extension Activity 2019-20

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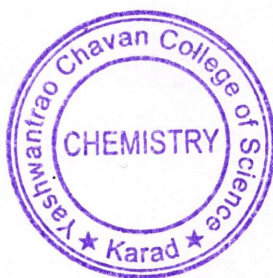
Name of Activity - To determine percentage of Nitrogen in the Soil and pH of Soil.

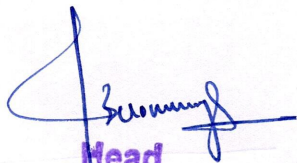
Name of Students- Arjun Jagannath Lahar

Address - A/P - Yedemachindra, Tal- Valva, Dist-Sangli*

% of Nitrogen in Soil is : 2.8 %.

Nature of Soil is : 8^{pH} basic




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Extension Activity 2019-20

Department of Chemistry

Date: 30.8.2019

Name of Activity - To determine percentage of Nitrogen in the Soil and pH of Soil.

Name of Students - Satish Hanmant Yadav

Address - A/P - Kavathe, Tal - Karad, Dist - Satara

pH values - 6

Blank Titration

1. 25.00 ml
2. 26.00 ml
3. 25.00 ml

CBR = 25.00 ml

Back Titration

1. 18.00 ml
2. 19.00 ml
3. 18.00 ml

CBR = 18.00 ml

$$\% \text{ of Nitrogen in the given sample} = \frac{(X-Y) \times N \times 0.14}{\text{Amount of soil sample in gm}}$$

X = Volume of 0.1 N HCL required (Blank reading)

Y = Volume of 0.1 N HCL required (sample reading)

N = Normality of HCl

$$X = 25 \text{ ml}$$

$$Y = 18 \text{ ml}$$

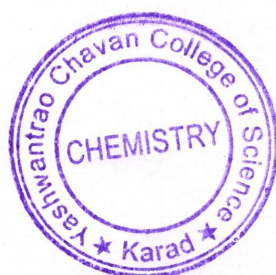
$$N = 0.1 \text{ N}$$

$$\% \text{ of Nitrogen in the given sample} = \frac{[Y-X] \times N \times 14}{\text{amount of soil sample in gm}}$$

$$= \frac{[18-25] \times 0.1 \times 14}{5}$$

$$= 1.96\%$$

Conclusion - This soil contain 1.96% Nitrogen & nature of soil is acidic.



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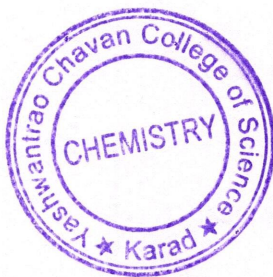
Name of Activity - To determine percentage of Nitrogen in the Soil and pH of Soil.

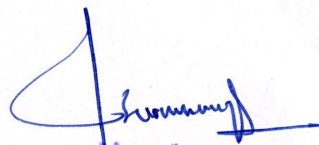
Name of Students- Yadav Satish Hanmant

Address - A/P - Kavathe, Tal - Karad, Dist. - Satara

% of Nitrogen in Soil is : 1.96 %.

Nature of Soil is : 6




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Extension Activity 2019-20

Department of Chemistry

Date: 30.8.2019

Name of Activity—To determine percentage of Nitrogen in the Soil and pH of Soil.

Name of Students- Dashrath Antu Tadav

Address - A/P - kadepur, Tal - kadeगाon, Dist - Sangali

pH values - 8

Blank Titration

1. 20 ml

2. 22 ml

3. 20 ml

CBR = 20 ml

Back Titration

1. 16 ml

2. 17 ml

3. 16 ml

CBR = 16 ml

$$\% \text{ of Nitrogen in the given sample} = \frac{(X-Y) \times N \times 0.14}{\text{Amount of soil sample in gm}}$$

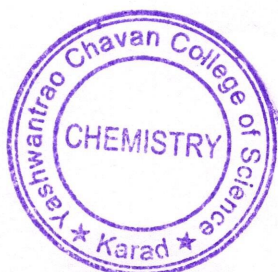
X = Volume of 0.1 N HCL required (Blank reading)

Y = Volume of 0.1 N HCL required (sample reading)

N = Normality of HCl

$$\left. \begin{array}{l} X = 20 \text{ ml} \\ Y = 16 \text{ ml} \\ N = 0.1 \text{ N} \end{array} \right\} \begin{array}{l} \text{o.f.a.g nitrogen in the} \\ \text{given sample} \end{array} = \frac{[Y-X] \times N \times 14}{\text{Amount of soil sample in gm.}}$$
$$= \frac{[16-20] \times 0.1 \times 14}{5}$$
$$= 2.8 \%$$

Conclusion - This soil contain 2.8%. Nitrogen & nature of soil is basic.



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Extension Activity 2019-20

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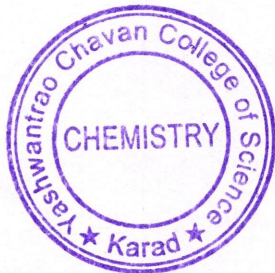
Name of Activity -To determine percentage of Nitrogen in the Soil and pH of Soil.

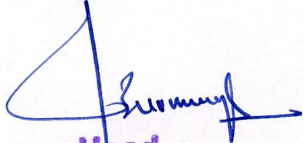
Name of Students- Dashrath Antu Yadav

Address - A/p- kadepur, Tal- kadegaon, Dist- Sangali

% of Nitrogen in Soil is : 2.8 %.

Nature of Soil is : 8 [basic]




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Extension Activity 2019-20

Department of Chemistry

Date: 3/02/2020

Name of Activity-To determine percentage of Nitrogen in the Soil and pH of Soil.

Name of Students- Mankar Jalindar Sadhu

Address - A.P. Vedemachandra

pH values - 6

Blank Titration

1. 25 ml
2. 24.5 ml
3. 25 ml

CBR = 25 ml

Back Titration

1. 20 ml
2. 18 ml
3. 20 ml

CBR = 20 ml

$$\% \text{ of Nitrogen in the given sample} = \frac{(X-Y) \times N \times 0.14}{\text{Amount of soil sample in gm}}$$

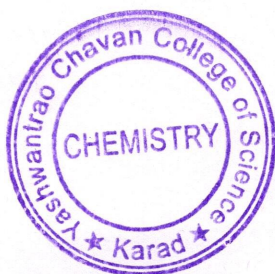
X= Volume of 0.1 N HCL required (Blank reading)

Y = Volume of 0.1 N HCL required (sample reading)

N= Normality of HCl

$$\begin{aligned} \% \text{ of Nitrogen in the given sample} &= \frac{(Y-x) \times N \times 14}{\text{amount of soil sample in gm}} \\ &= \frac{(25-20) \times 0.1 \times 14}{5} \\ &= 1.4\% \end{aligned}$$

Conclusion - This soil contain 1.4% Nitrogen & Nature of soil is acidic.



Yashwantrao Chavan College of Science, Karad

Extension Activity 2019-20

Department of Chemistry

Date: 3/02/2020

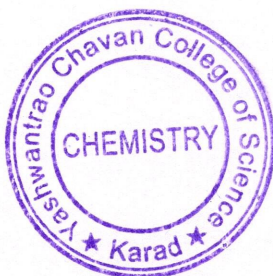
Name of Activity -To determine percentage of Nitrogen in the Soil and pH of Soil.

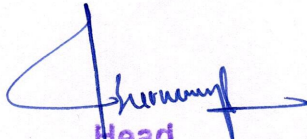
Name of Students- Maunkar Jalindar Sadhu

Address - A.P. Medemachindra

% of Nitrogen in Soil is : 1.4 %.

Nature of Soil is : acidic




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Yashwantrao Chavan College of Science, Karad

Extension Activity 2019-20

Department of Chemistry

Date: 3/02/2020

Name of Activity—To determine percentage of Nitrogen in the Soil and pH of Soil.

Name of Students- Dipak Shivajirao Mali

Address - A.P. Pethnaka

pH values - 8

Blank Titration

1. 20 ml
2. 22 ml
3. 20 ml

CBR = 20 ml

Back Titration 1

1. 18 ml
2. 20 ml
3. 19 ml

CBR = 19.5 ml

$$\% \text{ of Nitrogen in the given sample} = \frac{(X-Y) \times N \times 0.14}{\text{Amount of soil sample in gm}}$$

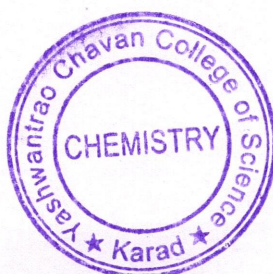
X = Volume of 0.1 N HCL required (Blank reading)

Y = Volume of 0.1 N HCL required (sample reading)

N = Normality of HCl

$$\begin{aligned} \% \text{ of Nitrogen in the given sample} &= \frac{(Y-X) \times N \times 14}{\text{amount of soil sample in gm}} \\ &= \frac{(20-19.5) \times 0.1 \times 14}{5} \\ &= 0.14 \% \end{aligned}$$

Conclusion - This soil contains 0.14% Nitrogen & nature of soil is Basic.



Yashwantrao Chavan College of Science, Karad

Extension Activity 2019-20

Department of Chemistry

Date: 30/02/2020

Name of Activity - To determine percentage of Nitrogen in the Soil and pH of Soil.

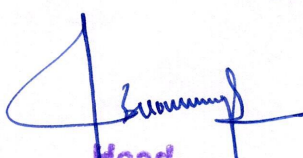
Name of Students- Dipak Shivajirao Mahi

Address - A.P. Pethnaka

% of Nitrogen in Soil is : 0.14 %

Nature of Soil is : Basic




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Department of Chemistry
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Yashwantrao Chavan College of Science, Karad

Extension Activity 2019-20

Department of Chemistry

Date: 30/02/2020

Name of Activity—To determine percentage of Nitrogen in the Soil and pH of Soil.

Name of Students- Mahesh Pralhad Kale

Address - A.P. Maldhan

pH values - 9

Blank Titration

1. 22 ml

2. 23 ml

3. 22 ml

CBR = 22 ml

Back Titration

1. 20 ml

2. 19 ml

3. 20 ml

CBR = 20 ml

$$\% \text{ of Nitrogen in the given sample} = \frac{(X-Y) \times N \times 0.14}{\text{Amount of soil sample in gm}}$$

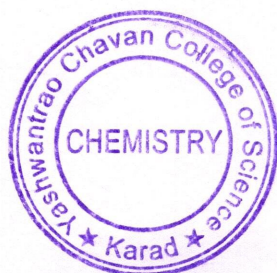
X = Volume of 0.1 N HCL required (Blank reading)

Y = Volume of 0.1 N HCL required (sample reading)

N = Normality of HCl

$$\begin{aligned} \% \text{ of Nitrogen in the given sample} &= \frac{(Y-X) \times N \times 14}{5} \\ &= \frac{(22-20) \times 0.1 \times 14}{5} \\ &= 0.56\% \end{aligned}$$

Conclusion - This soil contains 0.56% Nitrogen & Nature of soil is basic.



Yashwantrao Chavan College of Science, Karad

Extension Activity 2019-20

Department of Chemistry

Date: 3/02/2020

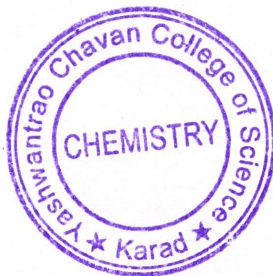
Name of Activity -To determine percentage of Nitrogen in the Soil and pH of Soil.

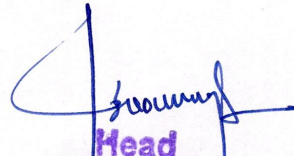
Name of Students- Mahesh Pralhad Kale

Address - A.P. Maldhan

% of Nitrogen in Soil is : 0.56%.

Nature of Soil is : Basic




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Department of Chemistry
Yashwantrao Chavan College of
Science, Karad

Yashwantrao Chavan College of Science, Karad

Extension Activity 2019-20

Department of Chemistry

Date: 15/04/2020

Name of Activity-To determine percentage of Nitrogen in the Soil and pH of Soil.

Name of Students- Jadhav Sanjay Sakharam

Address - A.P. Tasardi

pH values - 5

Blank Titration

1. 75 ml

2. 24.5 ml

3. 25 ml

CBR = 25 ml

Back Titration

1. 18 ml

2. 20 ml

3. 20 ml

CBR = 20 ml

$$\% \text{ of Nitrogen in the given sample} = \frac{(X-Y) \times N \times 0.14}{\text{Amount of soil sample in gm}}$$

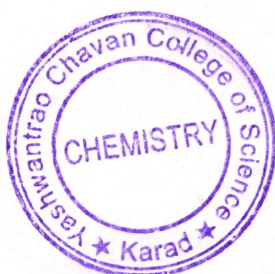
X= Volume of 0.1 N HCL required (Blank reading)

Y = Volume of 0.1 N HCL required (sample reading)

N= Normality of HCl

$$\begin{aligned} \% \text{ of the Nitrogen in the given sample} &= \frac{(Y-x) \times N \times 14}{\text{amount of soil sample in gm}} \\ &= \frac{(25-20) \times 0.1 \times 14}{5} \\ &= 1.4 \%. \end{aligned}$$

Conclusion - This soil contains 1.4% Nitrogen & nature of soil is acidic.



Yashwantrao Chavan College of Science, Karad

Extension Activity 2019-20

Department of Chemistry

Date: 15/04/2020

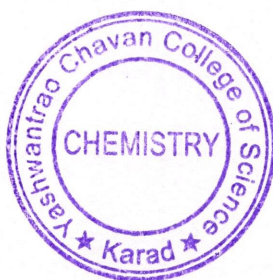
Name of Activity - To determine percentage of Nitrogen in the Soil and pH of Soil.

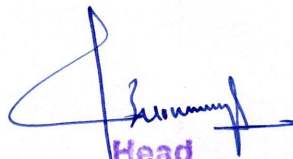
Name of Students- Jadhav Sanjay Sakharan

Address - A.P. Tasavdi

% of Nitrogen in Soil is : 1.4 %

Nature of Soil is : acidic




Head
Department of Chemistry
Yashwantrao Chavan College of
Science, Karad