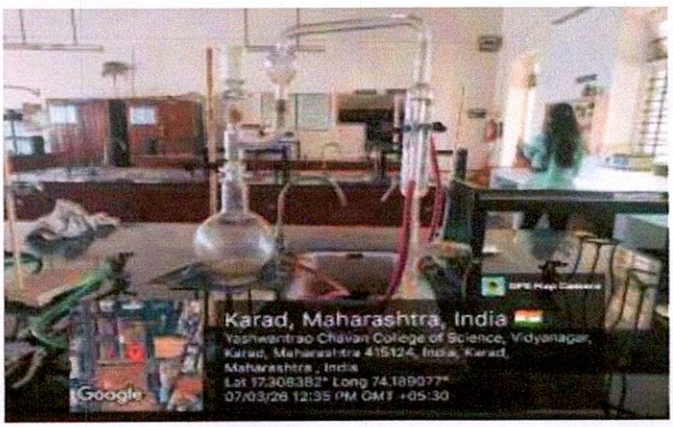
Yashwantrao Chavan College of Science, Karad

IQAC & Department of Chemistry organizing,

Extension Activity 2025-26

Name of activity- "To determination of Nitrogen percentage from Soil by Kjeldahl method."

Purpose:	**Using the Kjeldahl Method:** The Kjeldahl method is a scientific approach to accurately determine nitrogen content in the soil. **Nitrogen for Plant Growth:** Nitrogen is a fundamental nutrient for plants, influencing their growth, vitality, and overall health. Measuring nitrogen levels helps ensure an optimal environment for plant development. **Agricultural Impact:** Maintaining the right balance of nitrogen in the soil is crucial for crop productivity. This activity supports farmers in making informed decisions about fertilization to enhance plant growth.
No. of beneficiaries:	16
Outcome/ success achieved:	**Nutrient Management:** Helps optimize nutrient levels for crop growth and improve agricultural productivity. **Crop Health and Yield:** Adequate nitrogen is crucial for plant growth; the data aids in predicting and enhancing crop yield **Educational Value:** Serves as an educational tool for students and researchers to understand the link between soil nutrients and plant growth.
Teachers involved in the activity	Prof. Dr. S. H. Burungale Mr. A. N. Bhingare Dr. B. E. Mahadik Dr. U. P. Lad Mr. S. D. Karande Dr. K. s. Jagadhane Mr. M. K. Mahale Mrs. S. S. Kshirsagar Prof. Dr. A. V. Mali Prof. Dr. R.S. Patil Mr. G. B. Dhake Dr. V. S. Patil Dr. S. D. Jadhav Mr. M. I. Maneri Mrs. N. R. Panwal



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

YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

IQAC & Department of Chemistry

Name of activity: "To determination of Nitrogen Percentage from Soil by Kjeldahl method."

Year 2025-26

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Sr. No.	Name of Students
1.	Chavan Samruddhi Sachin
2.	Devake Shweta Vikramsing
3.	Jadhav Saradha Dattatreya
4.	Karale Samruddhi Sunil
5.	Karande Harshada Pramod
6.	Jadhav Harshvardhan Rajendra
7.	Desai Rohan Ananda
8.	Gaikwad Sahil Ramchandra
9.	Jagtap Atharv Jaywant
10.	Jadhav Nishant Bapurao
11.	Patil Anjali Chandrakant
12.	Tambe Dhanshree Adesh
13.	Sawant Shruti Shankar
14.	Sawant Asmita Bajirao
15.	Shaha Keshar Sanjay
16.	Pujari Shraddha Sunil

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Extension Activity 2025-26

Name of Activity: "To Determination of Nitrogen Percentage from Soil by Kjeldahl method."

Sr. No.	Name of Farmer	Address	Soil Received Date	Mobile No.	Sign
1.	Tambe Dhanshree Adesh	96, Shaniwar peth. near Vishnu Mandir, Karad	6-01-2026	7208102887	D.A.Tambe
2.	Sawant Asmita Bajirao	At. Koregaon Tal. karad. Dist. Satara.	06-01-2026	9322315007	Sawant
3.	Pujari Shraddha Sunil	At. post kival. Tal. karad Dist. Satara	17/01/26	8766869928	Shraddha
4.	Shaha keshar Sanjay	At. post. kival Tal. karad Dist. satara	17/01/26	8623011020	Shaha
5.	Patil Anjali chandrakant	A/P 187, Mangalwar Peth karad.	31/01/26	9527099692	Patil
6.	Sawant shruti shankar	A/P chikhali tal. karad Dist - satara	31/01/26	9112989846	Sawant
7.	Jadhav Harshvardhan Rajendrasinh.	A/P. Arvi Tal- koregaon Dist - Satara	31/01/26	7249425759	Harsh

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Name of Activity: "To Determination of Nitrogen Percentage from Soil by Kjeldahl method."

Sr. No.	Name of Farmer	Address	Soil Received Date	Mobile No.	Sign
8)	Jagtap Atharv Jayvant	AP / Vadgaon Haveli	21/02/26	7038967495	
9.	Rohan Ananda Desai	AP Salshirambe Tal. Karad	22/02/26	7350363650	Rohan
10.	Gaikwad Sahil Ramchandra	A/P. Vidyamagar; karad.	04/03/26	8806151916	Sahil.
11.	Jadhav Nishant Bapurao	AP/ Gursale Tal. Khatav.	04/03/26	9834776098	N.B.Jadhav
12)	Jadhav Shradha Dattatray	AP Saidapur Tal Karad	04/03/26	8378048300	SJadhav
13)	Karale Samruddhi Sunil	AP. Kusur Tal- Karad	05/03/26	9834748757	Skarale
14)	Karande Harshada Pramod	387, Guruwar peth, karad	05/03/26	9119477799	Harshada Karande

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Name of Activity: "To Determination of Nitrogen Percentage from Soil by Kjeldahl method."

Sr. No.	Name of Farmer	Address	Soil Received Date	Mobile No.	Sign
15)	Chavan Samruddhi Sachin	Near Cottage hospital, Budhwar peth, Karad.	05-03-2026	9370615838[illegible]	S.Chavan
16)	Devke Shwetavikramsing	Ggjaran society, Saidapur Karad	05-03-2026	9146428538	Svdelke.

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Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name : Chavan Samruddhi Sachin

Address : Karad Tal. Karad Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 12.5 ml

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 12.5) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(12.5) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = 1.75 \%$$

Thus, the nitrogen content in the soil sample is **1.75 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content	1.50 – 3.00	2.50

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Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of : Devake Shweta Vikramsign

Address :A/p. Saidapur Tal. Karad Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 15.9 ml

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 15.9) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(9.1) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = 1.27\ \%$$

Thus, the nitrogen content in the soil sample is **1.27 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content	1.50 – 3.00	2.50

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Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of farmer**:** Jadhav Shradha Dattatray

Address :A/p. Saidapur Tal. Karad Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 15 ml

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 15) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(10) \times 0.1 \times 1.401}{1}$$

% of N =1.40 %

Thus, the nitrogen content in the soil sample is **1.40 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content	1.50 – 3.00	2.50

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Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of Farmer: Karale Samruddhi Sunil

Address :A/p. Kusur Tal. Karad Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 16 ml

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 16) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(9) \times 0.1 \times 1.401}{1}$$

% of N =1.26 %

Thus, the nitrogen content in the soil sample is **1.26 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content	1.50 – 3.00	2.50

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Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of Farmer: Karande Harshada Pramod

Address : Karad Tal. Karad Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 19.5 ml

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 12.9) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(12.1) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = 0.77\ \%$$

Thus, the nitrogen content in the soil sample is **0.77 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content.	1.50 – 3.00	2.50

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Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of Farmer: Jadhav Harshvardhan Rajendra

Address :A/p. Arvi Tal. Koregaon Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 12.1 ml

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 12.1) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(12.9) \times 0.1 \times 1.401}{1}$$

% of N 1.80 %

Thus, the nitrogen content in the soil sample is **1.80 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content.	1.50 – 3.00	2.50

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Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of Farmer: Desai Rohan Ananda

Address :A/p. Salshirambe Tal. Karad Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 5.2

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 5.2) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(19.8) \times 0.1 \times 1.401}{1}$$

% of N =2.77 %

Thus, the nitrogen content in the soil sample is **2.77 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content	1.50 – 3.00	2.50

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Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of Farmer: Gaikwad Sahil Ramchandra

Address :A/p. Karad Tal. Karad Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 10.5 ml

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 10.5) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(14.5) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = 2.03 \%$$

Thus, the nitrogen content in the soil sample is **2.03 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content.	1.50 – 3.00	2.50

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Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of Farmer: Jagtap Atharv Jaywant

Address :A/p. Vadgaon Tal. Karad Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 21.6 ml

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 21.6) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(3.4) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = 0.47\ \%$$

Thus, the nitrogen content in the soil sample is **0.47 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content	1.50 – 3.00	2.50

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Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of Farmer: Jadhav Nishant Bapurao

Address :A/p. Gursale Tal. Khatav Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 3.0 ml

Volume of HCl used for blank Back titration (V2) = 11.5

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 11.5) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(13.5) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = 1.89\ \%$$

Thus, the nitrogen content in the soil sample is **1.89 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content.	1.50 – 3.00	2.50

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Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of Farmer: Patil Anjili Chandrakant

Address :A/p. Karad Tal. Karad Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 20 ml

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 20) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(5) \times 0.1 \times 1.401}{1}$$

% of N =0.77 %

Thus, the nitrogen content in the soil sample is **0.77 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content.	1.50 – 3.00	2.50

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Extension Activity 2025-26

Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of Farmer: Tambe Dhanshree Adesh

Address :A/p. Karad Tal. Karad Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 5.8 ml

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 5.8) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(19.2) \times 0.1 \times 1.401}{1}$$

% of N =2.68 %

Thus, the nitrogen content in the soil sample is **2.68 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content.	1.50 – 3.00	2.50

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Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of Farmer: Sawant Shruti Shankar

Address :A/p. Chikali Tal. Karad Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 8.6 ml

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 8.6) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(16.4) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = 2.29\ \%$$

Thus, the nitrogen content in the soil sample is **2.29 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content.	1.50 – 3.00	2.50

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Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of Farmer: Sawant Asmita Bajirao

Address :A/p. Koregaon Tal. Karad Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 11.1 ml

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 11.1) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(13.9) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = 1.94 \%$$

Thus, the nitrogen content in the soil sample is **1.94 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content	1.50 – 3.00	2.50

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Extension Activity 2024-25

Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of Farmer: Shaha Keshar Sanjay

Address :A/p. Kival Tal. Karad Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 11.9 ml

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 14.9) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(13.1) \times 0.1 \times 1.401}{1}$$

% of N =1.83 %

Thus, the nitrogen content in the soil sample is **1.83 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content.	1.50 – 3.00	2.50

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Name of Activity: To determination of Nitrogen percentage from Soil by Kjeldahl method.

Name of Farmer: Pujari Shraddha Sunil

Address :A/p. Kival Tal. Karad Dist. Satara

Weight of Soil taken = 1gm

Volume of HCl used for sample Blank titration (V1) = 25 ml

Volume of HCl used for blank Back titration (V2) = 12.6 ml

Normality of HCl = 0.1 N

$$\% \text{ of N} = \frac{(V2-V1) \times N \times 14.01}{W \times 1000} \times 100$$

$$\% \text{ of N} = \frac{(25 - 12.6) \times 0.1 \times 1.401}{1}$$

$$\% \text{ of N} = \frac{(12.4) \times 0.1 \times 1.401}{1}$$

% of N =1.73 %

Thus, the nitrogen content in the soil sample is **1.73 %**.

Soil Type Characteristics Nitrogen Content (%)

Soil Type	Characteristics	Standard Range (%)	Experimentally Nitrogen Content (%)
Clay Soil	Small particles, high water retention, mineral-rich	0.10 – 2.00	1.80
Sandy Soil	Loose, poor in organic matter, large particles, poor water retention, low nutrients	0.02 – 1.00	0.90
Alluvial Soil	Nutrient-rich, found in river plains	0.05 – 2.50	2.10
Red/Laterite Soil	Rich in iron oxides	0.10 – 1.80	1.50
Saline Soil	High salt content, poor drainage, unfriendly for crops	0.02 – 0.10	1.10
Peaty Soil	High organic matter, found in wet regions	2.50 – 4. 00	3.20
Loam/Black Soil	High in clay, ark black or deep brown in colour due to high iron and organic content.	1.50 – 3.00	2.50

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