

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



YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

Department of Chemistry

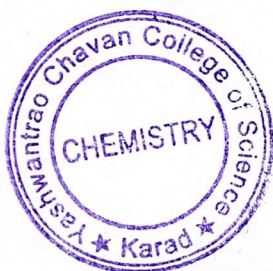
Year 2021-22

Name of activity- "Determination of Organic Carbon from Soil and Nature of pH."

Index

Sr. No.	Name
1.	Madan Shankar Jadhav
2.	Prachi Suresh Kadam
3.	Anandrao Eknath Gurav
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5.	Babaso Pandurang Desai
6.	Savita Hiralal Jadhav
7.	Gouri Pandlik Jujar
8.	Tilottama Sanjay Deshmukh
9.	Dattatray Mahadev Danane
10.	Chandrakant Dyandev Ghadage
11.	Ankush Ramchandra Jadhav
12.	Uttam Antu Desai
13.	Habiram Dyandev Chavan
14.	Tanaji Shivaji Gholap
15.	Madhav Nivruti Chavan
16.	Sambhaji Bhargav Chavan
17.	Sahil Arun Chavan
18.	Sambhaji Sadashiv Dalavi
19.	Vishal Hanumant Bhoyate
20.	Suyog Surend Desai

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Yashwantrao Chavan College of
Science, Karad



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Yashwantrao Chavan College
of Science, Karad

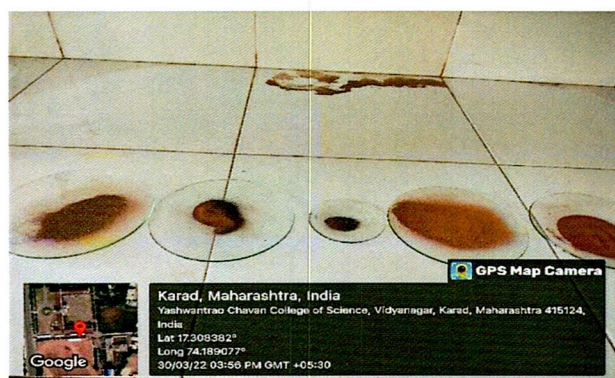
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Department of Chemistry

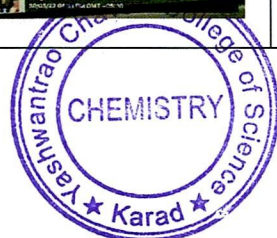
Extension Activity 2021-22

Name of activity- "Determination of Organic Carbon from Soil and Nature of pH."

Purpose:	<p>Agricultural Implications: Highlight the relevance of soil carbon measurements for agriculture, including its impact on soil fertility, nutrient cycling, and overall crop productivity.</p> <p>Practical Application: Illustrate how knowledge of soil carbon can be practically applied in making informed decisions regarding land management, sustainable agriculture, and environmental conservation.</p> <p>Foundational Knowledge: Establish a solid foundation in the fundamental principles of pH, including its definition, measurement, and significance in chemistry.</p>
No. of beneficiaries:	20
Outcome/ success achieved:	<p>Biological Implications: Recognition of the biological implications of pH, particularly its influence on enzyme activity, cellular function, and overall physiological processes in living organisms.</p> <p>Theory-to-Practice Connection: Bridging theoretical knowledge with practical application, demonstrating the application of scientific principles in real-world scenarios.</p> <p>Carbon Sequestration Benefits: Awareness of the potential for agriculture to contribute to carbon sequestration, mitigating the effects of climate change through soil carbon management.</p>
Teachers involved in the activity	<p>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</p>



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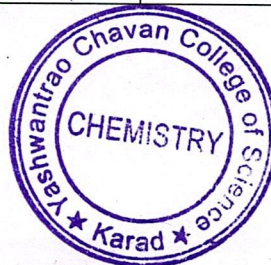
Extension Activity 2021-22

Department of Chemistry

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Sr. No	Name of Farmer	Address	Soil Received Date	Mobile No.	Sign
1.	Madan shankar Jadhav.	At. Wagheshwar post- Masur tal- Karad	18/1/22	8459845488	Jadhav
2.	Kadam Prachi Suresh	At. Kase Tal. Karad Dist. Satara	20/1/22	7498182373	Kadam
3.	गुरुव आनंदराव एकनाथ	मु. पो. शिरवडे ता- कराड जि. सातारा	20/1/22	7249198090	Gurav
4.	बुपटे सौनामी रमेश	मु. पो. कापील ता. कराड जि. सातारा	27/1-22	8329997048	Bupate
5.	बाळसो पांडुरंग देसाई	मु. पो. कोले ता. कराड जि. सातारा	02/02/22	8623995553	Desai
6.	Jadhav Savitra Hiralal	At. Post. Nagthane Tal- Dist. Satara	02/02/22	7350158649	Jadhav
7.	Tujar Gauri Pundlik	A.P. Kale Tal. Karad Dist. Satara	03/02/22	7666046695	Tujar
8.	Deshmukh Tilottama Sanjay	A/P. Belawade Haveli Tal- Karad Dist- Satara	08/02/22	9561000499	Deshmukh
9.	Dattatray Mahadev Danane	Agarshimagar malkapur, Karad.	09/02/22	9960022503	Danane
10.	चंद्रकांत रामदेव डांडगे	मु. पो. कुमारावा ता. परण	14-2-22	7391024208	Dandge
11.	अंकुश रामचंद्र जाधव	मु. बटेवाडी पो. वाडकोशी ता. पारण	17-2-22	750775081	Jaadhav

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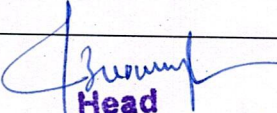
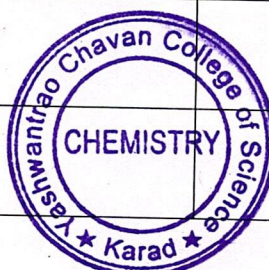


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Extension Activity 2021-22

Department of Chemistry

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Sr. No	Name of Farmer	Address	Soil Received Date	Mobile No.	Sign
12	Desai Uttam Antu	A/P. Arcwadi Tal. Karad.	4/3/2022	9768455358	<u>Desai</u>
13	चव्हाण हंबीराव ज्ञानदेव	A/P-Sajur T-Karad	4/3/2022	9049855261	<u>H.D. Chavan</u>
14	Tanaji Shivaji Gholap.	A/P. Nigadi Tal-Karad.	8/3-22	9529619793	<u>Gholap</u>
15	Madhav Nirvutti Chavan	A/P-Uttar Koparde, Tal-Karad	9/3/22	8432833588	<u>Madhav</u>
16	Sambhaji Bhagwar Chavan	A/P-Shisawade Tal-Karad.	16/3/22	9107335538	<u>Sambhaji</u>
17	चव्हाण साहित अण्ण	मु.पो. साजुर ता. कराड	21-3-2022	0200202908	<u>Chavan</u>
18	दमवी संजाली सदाशिव.	मु.पो. भेंदापूर ता. कराड	21-3-2022	6046392958	
19	भोईटे विशाल हनुमंत	मु.पो. हेंबु ता. कराड	24/03/2022	6930008030	<u>Boite</u>
20	Desai Suyog Surend.	At post-Vihe	28-3-2022	826393 5259	<u>Desai</u>
	 Head Department of Chemistry Yashwantrao Chavan College of Science, Karad				
					

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Extension Activity 2021-22

Department of Chemistry

Date : 29/1/22

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer: Jadhav Madan Shankar.

Address : At-wagheshwar post - Masur Tal - Karad. Dist - Satara

pH values : 8

Nature : Basic

Blank Titration X

Back Titration Y

1. 35.2 ml

1. 22.4 ml

2. 35.2 ml

2. 22.4 ml

3. 35 ml

3. 22 ml

CBR = 35.2 ml

CBR = 22.4 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

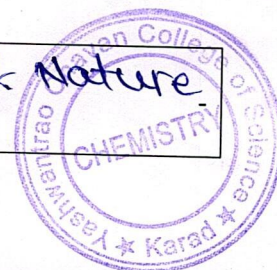
$$\text{Percentage of organic carbon} = \frac{[X-Y] \times N \times 0.003}{\text{Soil of the sample in gram}} \times 100$$

$$= \frac{(35.2 - 22.4) \times 0.5 \times 0.003}{1} \times 100$$

$$= \underline{1.92 \%}$$

Conclusion -

These soil contains 1.92% Carbon & Nature of soil is Basic.



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 29/1/22

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Jadhav Madan Shankar

Address - At - Wagheshwar post - Masur Tal - Karad Dist - Satara

% of Organic Carbon in Soil is : 1.92 %

Nature of Soil : Basic

Limit :

Low : $< 0.5 \%$

Medium : $0.5 - 0.75 \%$

High : $> 0.75 \%$

Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7



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Extension Activity 2021-22

Department of Chemistry

Date : 29/1/22

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer: Kadam prachi suresh

Address : At - Kesse Tal - Karad Dist - Satara

pH values : 7

Nature : Neutral

Blank Titration X

1. 33.2 ml

2. 33.2 ml

3. 33 ml

CBR = 33.2 ml

Back Titration Y

1. 20.4 ml

2. 20.4 ml

3. 20 ml

CBR = 20.4 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

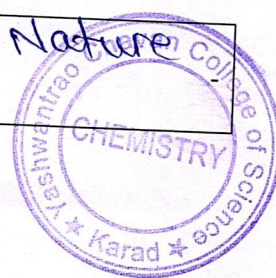
0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

$$\text{percentage of organic carbon} = \frac{(X-Y) \times N \times 0.003}{\text{Soil of sample in gram}} \times 100$$

$$= \frac{(33.2 - 20.4) \times 0.5 \times 0.003}{1} \times 100$$

$$= 1.92\%$$

Conclusion - These soil contains 1.92% carbon & Nature of Soil is Neutral



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Extension Activity 2021-22

Department of Chemistry

Date : 29/11/22

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Kadam Prachi Suresh

Address - At - Kase Tal - Karad Dist - Satara.

% of Organic Carbon in Soil is : 1.92%

Nature of Soil : Neutral

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

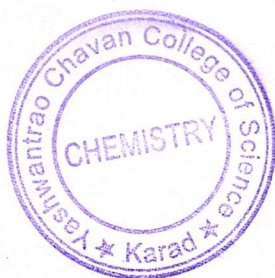
High : > 0.75 %


Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7




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Extension Activity 2021-22

Department of Chemistry

Date : 29/1/22

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer: गुरुव आनंदराव एकनाथ

Address : सु.पो. शिवडे ता. कराड जि. सातारा.

pH values : 7

Nature : Neutral

Blank Titration X

Back Titration Y

1. 34.2 ml

1. 24.2 20.4 ml

2. 34.2 ml

2. 24.2 20.4 ml

3. 36 ml

3. 24 ml

CBR = ~~36.2~~ 34.2 ml

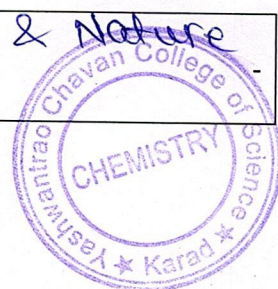
CBR = 24.2 20.4 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

$$\begin{aligned} \text{Percentage of organic carbon} &= \frac{(X-Y) \times N \times 0.003}{\text{Soil of Sample in gram}} \times 100 \\ &= \frac{(34.2 - 20.4) \times 0.5 \times 0.003}{1} \times 100 \\ &= \underline{2.07\%} \end{aligned}$$

Conclusion - These soil contains 2.07% carbon & Nature of Soil is Neutral.



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 29/11/22

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - गुरुव आनंदराव एकनाथ

Address - मु.पो. शिरवडे ता. कराड जि. सातारा

% of Organic Carbon in Soil is : 2.07 %

Nature of Soil : Neutral

Limit :

Low : < 0.5 %

Medium : 0.5 – 0.75 %

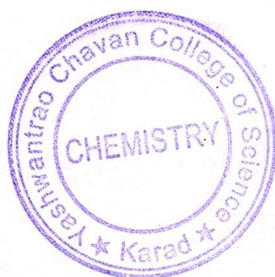
High : > 0.75 %

Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7



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Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 29/1/22

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer: दुपेट सोनाबी रमेश

Address: मु.पो. कापील ता.कराड जि.सातारा

pH values : 7

Nature : neutral

Blank Titration X

Back Titration Y

1. 36.4 ml

1. 24.2 ml

2. 36.4 ml

2. 24.2 ml

3. 36 ml

3. 24 ml

CBR = 36.4 ml

CBR = 24.2 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X= Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

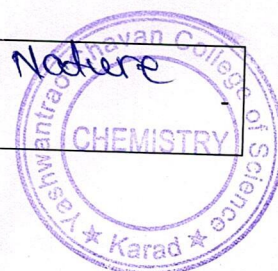
Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

$$\text{Percentage of organic carbon} = \frac{[X-Y] \times 0.003}{\text{Soil of sample in gram}} \times 100$$

$$= \frac{(36.4 - 24.2) \times 0.5 \times 0.003}{1} \times 100$$
$$= 1.83 \%$$

Conclusion - These soil contains 1.83% carbon & Nature of soil is Neutral.



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 29/1/22

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - दुपटे सोनावी रमेश

Address - मु.पो. कापील ता. करड जि. सातारा.

% of Organic Carbon in Soil is : 1.83 %

Nature of Soil : Neutral

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

High : > 0.75 %

Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7



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Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 02-03-2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer: Balaso pandurang Desai

Address : AP kale Tal. Karad Dist. Satara.

pH values : 4

Nature : Acidic

Blank Titration x

Back Titration y

1. 22.5 ml

1. 20.4 ml

2. 22.5 ml

2. 20.4 ml

3. 22 ml

3. 20 ml.

CBR = 22.5 ml

CBR = 20.4 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

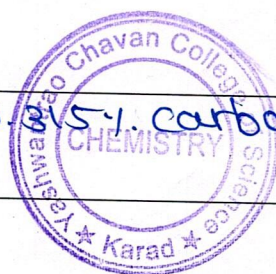
0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

$$\text{Percentage of organic carbon} = \frac{(x-y) \times N \times 0.003 \times 100}{\text{soil of The sample in gram}}$$

$$= \frac{(22.5 - 20.4) \times 0.5 \times 0.003}{1}$$

$$= 0.315\%$$

Conclusion - This soil contains 0.315% carbon & Nature of soil is Acidic.



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Extension Activity 2021-22

Department of Chemistry

Date : 02-03-2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Balaso pandurang Desai

Address - A + post kale Tal. Karad Dist - Satara.

% of Organic Carbon in Soil is : 0.315%.

Nature of Soil : Acidic

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

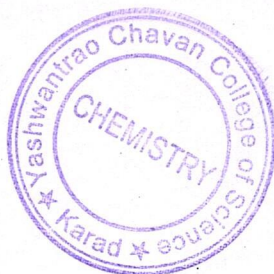
High : > 0.75 %

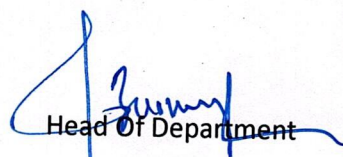
Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7




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Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 02-03-2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer: Jadhav Savitra Hirajal

Address : At. post Noythane tal- Karad Dist- Satara.

pH values : 8.5 7 Nature : Neutral

Blank Titration

1. 24 ml

2. 24 ml

3. 28 ml

CBR = 24 ml

Back Titration

1. 22.5 ml

2. 22.5 ml

3. 22 ml

CBR = 22.5 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

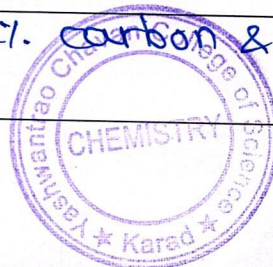
X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

$$\begin{aligned} \text{Percentage of organic Carbon} &= \frac{(x-y) \times N \times 0.003}{\text{soil of The sample in gram}} \times 100 \\ &= \frac{(24-22.5) \times 0.5 \times 0.003}{1} \times 100 \\ &= \frac{1.5 \times 0.5 \times 0.003}{1} \times 100 \\ &= \frac{0.00225 \times 100}{1} \\ &= \underline{0.227} \end{aligned}$$

Conclusion - This soil contains 0.227% carbon & Nature of Soil is Neutral.



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 02-03-2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Jadhav Savitra Hiralal

Address - At post Nagthane Tal-kard Dist-Satara.

% of Organic Carbon in Soil is : 0.22%

Nature of Soil : Neutral

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

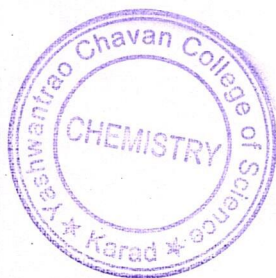
High : > 0.75 %

Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7



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Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 02-03-2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer: Tajur Gouri pundlik

Address : AP post. kale Tal. Karad Dist - Satara.

pH values : 7.3

Nature : Basic

Blank Titration X

1. 34.2 ml

2. 34.2 ml

3. 33 ml

CBR = 34.2 ml

Back Titration Y

1. 21.4 ml

2. 21.4 ml

3. 20 ml.

CBR = 21.4 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

$$\begin{aligned} \text{Percentage of organic carbon} &= \frac{(x-y) \times N \times 0.003 \times 100}{\text{Soil of The sample in gram}} \\ &= \frac{(34.2 - 21.4) \times 0.5 \times 0.003}{1} \times 100 \\ &= 0.45 \times 100 = 45\% \end{aligned}$$

Conclusion - This soil contains 45% carbon & Nature of soil is Basic



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 02-03-2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Tujar Gourri pundlik

Address - At post kale Tal. Karad Dist - Satara.

% of Organic Carbon in Soil is : 1.92%

Nature of Soil : Basic

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

High : > 0.75 %

Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7



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Extension Activity 2021-22

Department of Chemistry

Date : 02-03-2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer: Jeshmukh Tilottama sanjay

Address : Alp Belawade Haveli Tal. Karad Dist. Satara.

pH values : ~~2~~ 7

Nature : Neutral

Blank Titration

1. 24 ml

2. 24 ml

3. 23 ml

CBR = 24 ml

Back Titration

1. 21 ml

2. 21 ml

3. 20 ml

CBR = 21 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10 ml K_2CrO_7 solution (Blank reading)

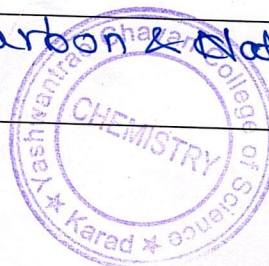
Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

$$\begin{aligned} \text{Percentage of organic carbon} &= \frac{(x-y) \times N \times 0.003}{\text{soil of The sample in gm}} \times 100 \\ &= \frac{(24-21) \times 0.5 \times 0.003}{1} \times 100 \\ &= 0.45\% \end{aligned}$$

Conclusion -

This soil Contains 0.45% Carbon & Nature of soil is Neutral.



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 02-03-2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Deshmukh Tilottoma sanjay

Address - AIP Belawade Haveli Tal. Karad. Dist - satara.

% of Organic Carbon in Soil is : 0.45%.

Nature of Soil : Neutral

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

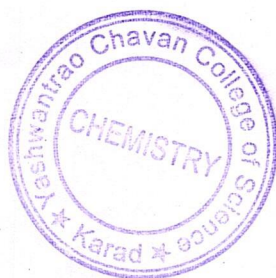
High : > 0.75 %

Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7



Head of Department

Head

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Yashwantrao Chavan College of
Science, Karad

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Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 02-03-2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer: Dattatray Mahadev Danane

Address : Agashivnagar malkapur, Karad. Dist - Satara.

pH values : 5.6

Nature : Acidic

Blank Titration

1. 26ml

2. 26ml

3. 25ml

CBR = 26ml

Back Titration

1. 22ml

2. 22ml

3. 21ml

CBR = 22ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

$0.003 = 1 \text{ ml of } 1 \text{ N } K_2CrO_7 = 3 \text{ mg} = 0.003 \text{ g of C}$

$$\text{Percentage of organic carbon} = \frac{(x-y) \times N \times 0.003}{\text{soil of a sample in gram}} \times 100$$

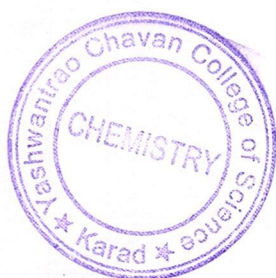
$$= \frac{(26-22) \times 0.5 \times 0.003}{1} \times 100$$

$$= \frac{4 \times 0.5 \times 0.003}{1} \times 100$$

$$= \frac{2 \times 0.003}{1} \times 100$$

$$= \frac{0.006}{1} \times 100$$

$$= 0.6\% \quad = 0.6\%$$



Conclusion - This soil contains 0.6% carbon & Nature of soil is Acidic.

Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 02-03-2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Dattatray Mahadev Danane

Address - A/P Agashinagar Malkapur Tal. Karad Dist-Satara.

% of Organic Carbon in Soil is : 0.6%

Nature of Soil : Acidic

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

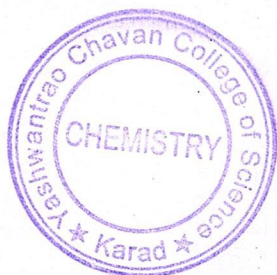
High : > 0.75 %

Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7



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Yashwantrao Chavan College of
Science, Karad

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Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 02-03-2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer: Chandrakant Daynender ghadge

Address : A/p kumbharghat tal. patun.

pH values : 7.4 Nature : Basic

Blank Titration

1. 19.1 ml

2. 19.1 ml

3. 18 ml

CBR = 19.1 ml

Back Titration

1. 18.2 ml

2. 18.2 ml

3. 17 ml

CBR = 18.2 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

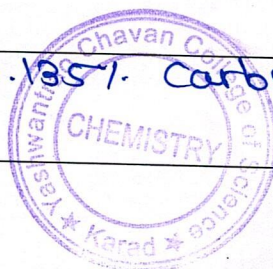
Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

$$\text{Percentage of organic carbon} = \frac{(x-y) \times N \times 0.003 \times 100}{\text{Soil of The sample in gram}}$$

$$= \frac{(19.1 - 18.2) \times 0.5 \times (0.003) \times 100}{1}$$
$$= 0.135 \%$$

Conclusion - This soil contains 0.135% Carbon & Nature of soil is Basic



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 02-03-2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Chandrakant Dyndev ghadge

Address - A/p kumbharghat Tal. patan.

% of Organic Carbon in Soil is : 0.135%

Nature of Soil : Basic

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

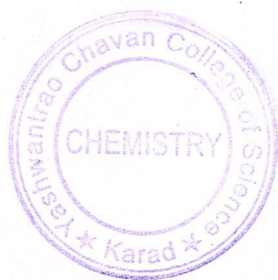
High : > 0.75 %

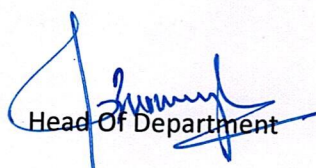
Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7




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Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 02-03-2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer : Ankush Ramchandra Jadhav

Address : Alp batevadi, padloshi, tal. Patan

pH values : 6

Nature : Acidic

Blank Titration

1. 18.5 ml

2. 18.5 ml

3. 17 ml

CBR = 18.5 ml

Back Titration

1. 17.7 ml

2. 17.7 ml

3. 16 ml

CBR = 17.9 ml.

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

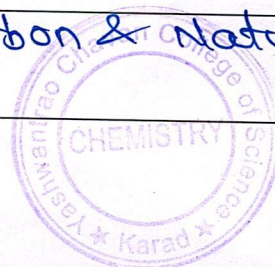
X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

$$\begin{aligned} \text{Percentage of organic carbon} &= \frac{(X-Y) \times N \times 0.003 \times 100}{\text{soil of the sample in gram}} \\ &= \frac{(18.5 - 17.7) (0.5) (0.003) \times 100}{1} \\ &= \frac{0.8 \times 0.5 \times 0.003}{1} \times 100 \\ &= 0.12\% \end{aligned}$$

Conclusion - This soil contains 0.12% Carbon & Nature of soil is Acidic.



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 02-03-2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Ankush Ramchandra Jadhav

Address - A/p badevadi, padlashi, tal. patan.

% of Organic Carbon in Soil is : 0.12%

Nature of Soil : Acidic

Limit :

Low : < 0.5 %

Medium : 0.5 – 0.75 %

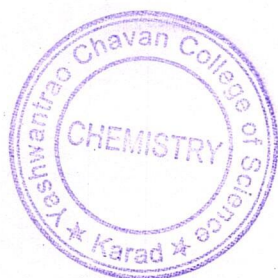
High : > 0.75 %

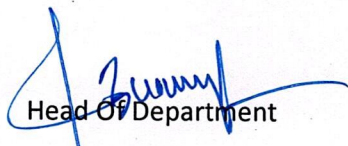
Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7




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Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/3/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer : Desai Uttam Antu

Address : A/p Arwadadi, Tal - Karad, Dist - Satara

pH values : 7

Nature : Neutral

Blank Titration X

1. 34 ml

2. 34 ml

3. 33.2 ml

CBR = 34 ml

Back Titration Y

1. 16 ml

2. 16 ml

3. 15.4 ml

CBR = 16 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

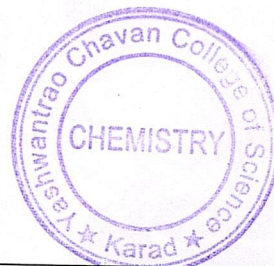
$0.003 = 1 \text{ ml of } 1 \text{ N } K_2CrO_7 = 3 \text{ mg} = 0.003 \text{ g of C}$

$$\text{Percentage of organic solvent} = \frac{(x-y) \times N \times 0.003}{\text{Soil of sample in gram}} \times 100$$

$$= \frac{(34-16) \times 0.5 \times 0.003}{1} \times 100$$

$$= 2.7\%$$

pH = 7



Conclusion -

This soil contains 2.7% Carbon and nature of soil is Neutral

Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/3/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Desai Uttam Antu

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

% of Organic Carbon in Soil is : 2.7%

Nature of Soil : Neutral

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

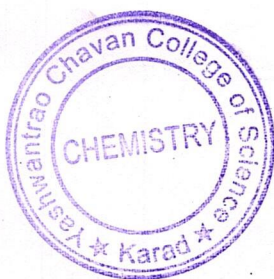
High : > 0.75 %

Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7



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Yashwantrao Chavan College of
Science, Karad

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Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/3/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer : chavan Habirao dnyandev

Address : A/p - sejur, Tal - Karad, Dist - Satara

pH values : 8

Nature : Basic

Blank Titration x

1. 34 ml

2. 34 ml

3. 33 ml

CBR = 34 ml

Back Titration y

1. 18 ml

2. 18 ml

3. 17 ml

CBR = 34 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

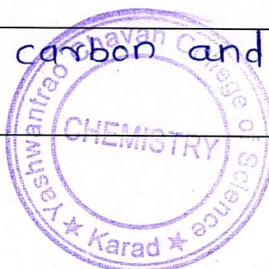
0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

$$\text{Percentage of organic solvent} = \frac{(x-y) \times N \times 0.03}{\text{Soil of sample in gram}} \times 100$$

$$= \frac{(34-18) \times 0.5 \times 0.03}{1} \times 100$$

$$= 2.4$$

Conclusion - This soil contains 2.4 % carbon and nature of soil is Basic



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/3/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Chavan Habirao Dnyander

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

% of Organic Carbon in Soil is : 2.4%

Nature of Soil 8 : Basic

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

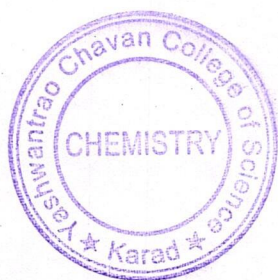
High : > 0.75 %

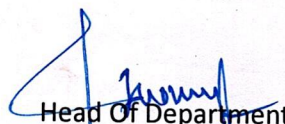
Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7




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Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/3/22

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer : Tanaji Shivaji Gholap

Address : Alp. Nigadi, Tal - Karad, Dist - Satara

pH values : 7.2

Nature : Basic

Blank Titration

1. 25 ml

2. 25 ml

3. 24 ml

CBR = 25 ml

Back Titration

1. 22 ml

2. 22 ml

3. 22 ml

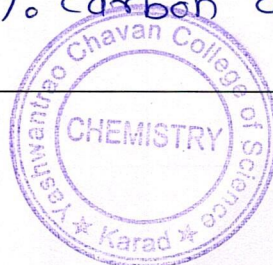
CBR = 22 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

$$\begin{aligned} \text{Percentage of organic carbon} &= \frac{(x-y) \times N \times 0.003}{\text{Soil of the sample in gram}} \times 100 \\ &= \frac{(25-22) \times 0.5 \times 0.003}{1} \times 100 \\ &= \underline{0.45\%} \end{aligned}$$

Conclusion - This soil contains 0.45% Carbon and nature of soil is Basic



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/3/22

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Tanaji Shivaji Gholap

Address - AIP, Nigadi Tal - Karad, Dist - Satara

% of Organic Carbon in Soil is : 0.45%

Nature of Soil : Basic

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

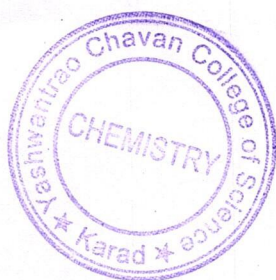
High : > 0.75 %

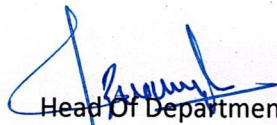
Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7




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Extension Activity 2021-22

Department of Chemistry

Date : 30/3/22

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer : Madhav Nivruti Chavan

Address : A/p - Uttar Kopade, Tal - Karad, Dist - Satara

pH values : 8.4

Nature : Basic

Blank Titration

1. 21 ml

2. 21 ml

3. 20 ml

CBR = 21 ml

Back Titration

1. 17.5 ml

2. 17.5 ml

3. 17 ml

CBR = 17.5 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

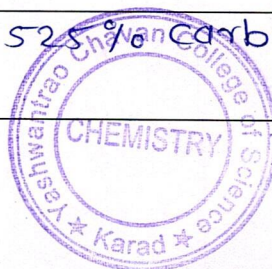
Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

$$\text{Percentage of organic carbon} = \frac{(X-Y) \times N \times 0.003}{\text{Soil of the sample in gram}} \times 100$$

$$= \frac{(21 - 17.5) \times 0.5 \times 0.003}{1} \times 100$$
$$= 0.525$$

Conclusion - This soil contains 0.525% carbon and nature of soil is Basic



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/3/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Madhav Nivruti Chavan

Address - A/p - Uttar Koparde, Tal - Karad, Dist - Satara.

% of Organic Carbon in Soil is : 0.525%

Nature of Soil : Basic

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

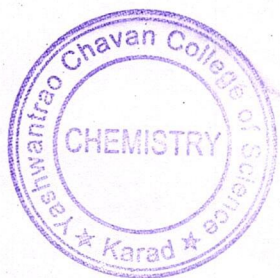
High : > 0.75 %

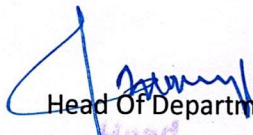
Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7




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Yashwantrao Chavan College of
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Extension Activity 2021-22

Department of Chemistry

Date : 30/3/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer : Sambhaji Bhargav chavan

Address : A/P - Shirawade Tal - Karad, Dist - Satara

pH values : 7.7

Nature : Basic

Blank Titration

1. 21.3 ml

2. 21.3 ml

3. 20 ml

CBR = 21.3 ml

Back Titration

1. 17.4 ml

2. 17.4 ml

3. 17 ml

CBR = 17.4 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

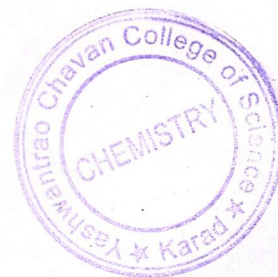
Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

$$\text{Percentage of organic Carbon} = \frac{(x-y) \times N \times 0.003}{\text{Soil of the sample in gram}} \times 100$$

$$= \frac{(21.3 - 17.4) \times 0.5 \times 0.003}{1} \times 100$$

$$= 0.585$$



Conclusion -

This soil contains 0.585% carbon and nature of soil is Basic

Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/3/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Sambhaji Bhargav Chavan

Address - A/P Shirawade, tal - Karad, Dist - Satara

% of Organic Carbon in Soil is : 0.585%

Nature of Soil : Basic

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

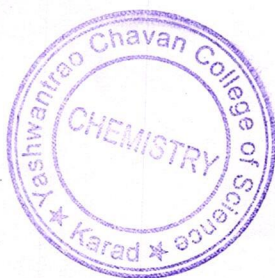
High : > 0.75 %

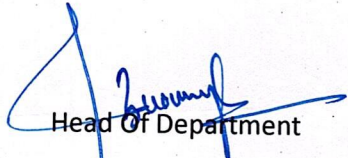
Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7




Head of Department
Department of Chemistry
Yashwantrao Chavan College of Science, Karad

Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/3/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer : Chavan Sahil Arun

Address : Alp Sajun, tal - Karad, Dist - Satara

pH values : 9.2 Nature : Basic

Blank Titration

1. 20.1 ml

2. 20.1 ml

3. 20 ml

CBR = 20.1 ml

Back Titration

1. 19.5 ml

2. 19.5 ml

3. 19 ml

CBR = 19.5 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

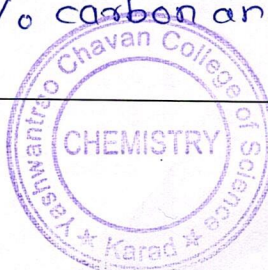
Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

$0.003 = 1 \text{ ml of } 1 \text{ N } K_2CrO_7 = 3 \text{ mg} = 0.003 \text{ g of C}$

$$\text{Percentage of organic Carbon} = \frac{(X-Y) \times N \times 0.003}{\text{Soil of the sample in gram}} \times 100$$

$$= \frac{(20.1 - 19.5) \times 0.5 \times 0.003}{1} = 0.09$$

Conclusion - This soil contains 0.09% carbon and nature of soil is Basic



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/3/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Chavan Sahil Arun

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

% of Organic Carbon in Soil is : 0.09%

Nature of Soil : Basic

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

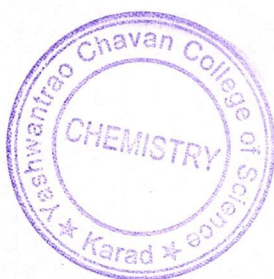
High : > 0.75 %

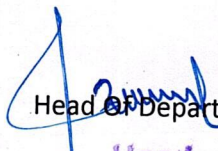
Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7




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Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/3/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer : Dalavi Sambhaji Sadashiv

Address : A/P Saidapur, Tal - Karad, Dist - Satara

pH values : 7.7

Nature : Basic

Blank Titration

1. 21.2 ml

2. 21.2 ml

3. 21 ml

CBR = 21.2 ml

Back Titration

1. 17.3 ml

2. 17.3 ml

3. 17 ml

CBR = 17.3 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

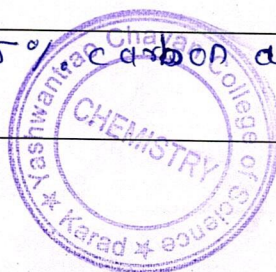
Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

$0.003 = 1 \text{ ml of } 1 \text{ N } K_2CrO_7 = 3 \text{ mg} = 0.003 \text{ g of C}$

Percentage of organic carbon =

$$\begin{aligned} & \frac{(X-Y) \times N \times 0.003}{\text{Soil of the sample in gram}} \times 100 \\ &= \frac{(21.2 - 17.3) \times 0.5 \times 0.003}{1} \times 100 \\ &= 0.585 \end{aligned}$$

Conclusion - This soil contains 0.585% carbon and nature of soil is Basic



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/3/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Dalavi Sambhaji Sadashiv

Address - A/p Saidapur, Tal - Karad, Dist - Satara

% of Organic Carbon in Soil is : 0.585%

Nature of Soil : Basic

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

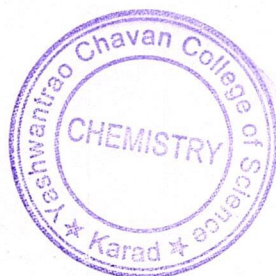
High : > 0.75 %

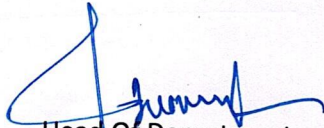
Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7




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Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/04/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer : DESAI Suyog Surendra

Address : AT/POST/Wing

pH values : 10 Nature : Basic

Blank Titration (X)

1. 19.2 ml

2. 19.2 ml

3. 19.02 ml

CBR = 19.2 ml

Back Titration (Y)

1. 18.3 ml

2. 18.3 ml

3. 18.1 ml

CBR = 18.3 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

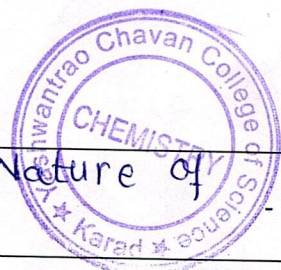
Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

$0.003 = 1 \text{ ml of } 1 \text{ N } K_2CrO_7 = 3 \text{ mg} = 0.003 \text{ g of C}$

$$\text{Percentage of organic carbon} = \frac{(X-Y) \times N \times 0.003}{\text{Soil of the sample in gram}} \times 100$$

$$= \frac{(19.2 - 18.3) \times 0.5 \times 0.003}{2} \times 100$$
$$= 0.135\%$$

Conclusion - This soil contains 0.135% Carbon & Nature of Soil is Basic.



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/04/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Desai suyog suresh

Address - AT/post - wing

% of Organic Carbon in Soil is : 0.135%

Nature of Soil : Basic

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

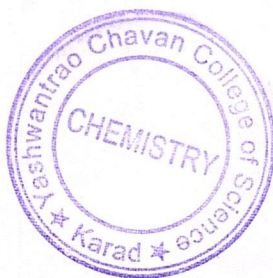
High : > 0.75 %

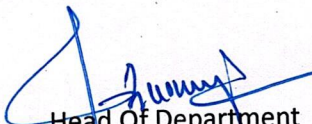
Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7




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Extension Activity 2021-22

Department of Chemistry

Date : 30/04/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer : ~~मोडरे~~ Bhole Vishal Hanmanth

Address : mu/post/Hambhu Tal/KARAD Dis/SATARA

pH values : 8.6

Nature : Basic

Blank Titration

1. 22.6 ml

2. 22.6 ml

3. 22 ml

CBR = 22.6 ml

Back Titration

1. 20.4 ml

2. 20.4 ml

3. 20 ml

CBR = 20.4 ml

$$\% \text{ of Organic Carbon in Soil} = \frac{(X-Y) \times N \times 0.003}{\text{Amount of soil sample in gm}} \times 100$$

X = Volume of 0.5 N FAS required for reducing 10ml K_2CrO_7 solution (Blank reading)

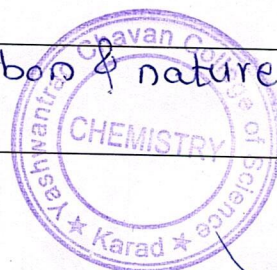
Y = Volume of 0.5 N FAS required for reducing the excess of 1 N K_2CrO_7 solution (sample reading)

0.003 = 1 ml of 1 N K_2CrO_7 = 3 mg = 0.003 g of C

Percentage of organic carbon -

$$\begin{aligned} & \frac{(X-Y) \times N \times 0.003}{\text{soil of the sample in gram}} \times 100 \\ & = \frac{(22.6 - 20.4) \times 0.5 \times 0.003}{1} \times 100 \\ & = 0.33 \% \end{aligned}$$

Conclusion - This soil contains 0.33% carbon & nature of Soil is Basic.



Yashwantrao Chavan College of Science, Karad

Extension Activity 2021-22

Department of Chemistry

Date : 30/4/2022

Name of Activity - Determination of organic Carbon from Soil and Nature of pH

Name of Farmer - Bhoite Vishal Hanmant.

Address - AT/post - Humbhal, Tal-Karad, Dist - Satara.

% of Organic Carbon in Soil is : 0.33%

Nature of Soil : Basic

Limit :

Low : < 0.5 %

Medium : 0.5 - 0.75 %

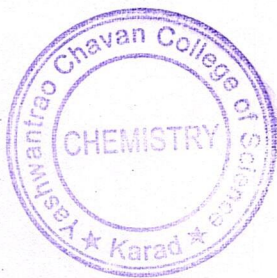
High : > 0.75 %

Limit :

Acidic : less than 7

Neutral : 7

Basic : More than 7



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