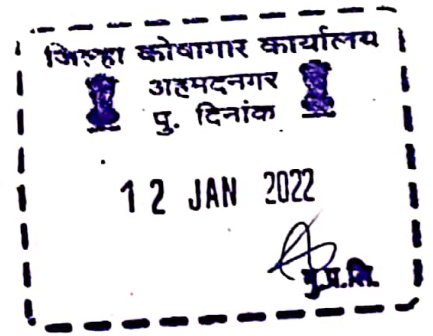


महाराष्ट्र MAHARASHTRA

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ZH 377511



Memorandum of Understanding

This memorandum is signed between Rayat Shikshan Sanstha's, Abasaheb Marathe Arts and New Commerce, Science College, Rajapur, Dist- Ratnagiri

And

Agrowarta Mati Pani Parikshan Prayogshala, Ahmednagar (Soil and Water testing laboratory)



Objectives:

Rayat Shikshan Sanstha's, Abasaheb Marathe Arts and New Commerce, Science College, Rajapur, Dist- Ratnagiri and Agrowarta Mati Pani Parikshan Prayogshala, Ahmednagar (Soil and Water testing laboratory) agreed to conduct the following activities,

(P.T.O.)



दस्तावेजा प्रकार / अनुच्छेद क्र. 17100
कार्यालय / कार्यालय आहे का? होय / नाही
वै. क्र. / कार्यक्रमाचे नांव :

मुद्रांक शुल्क रक्कम: 98
नोंदवही अ.क्र.: 2022

आबासाहेब मराठे आर्ट्स न्यू कॉमर्स सायन्स कॉलेज
जे. एम.ए. अकोलकर राजापूर

हरिष द. माडगे
मुद्रांक शुल्क, तहसिल कार्यालय, नगर
क्र. नं. 90860/98

AMAS

- The Department of Chemistry, Rayat Shikshan Sanstha's, Abasaheb Marathe Arts and New Commerce, Science College, Rajapur offers a 30 hours Short Term Course on 'Soil and Water Analysis'. For this Short Term Course, Ms. Sonali B. More of Agrowarta Mati Pani Parikshan Prayogshala, Ahmednagar will take theory lectures and demonstration of some of the practical through online mode.
- To exchange information of research and educational programme.
- To undertake a laboratory visit, if possible.
- To counsel problems of local needs regarding soil and water testing.
- To organize expert lecture.

Tenure and termination:

This MoU will take effect from the date it is signed by representatives of the two parties. It will remain valid for two years, and may be continued thereafter after suitable review and agreement.

Date: 15/01/2022
Place: Ahmednagar

Witness:

1) Name: Dr. H. N. Akolkar
Address: Ahmednagar
Occupation: Assistant Professor



2) Name: Dr. A. V. Bhav
Address: Rajapur
Occupation: Assistant Professor



I/C Principal
A.M.A. & N.C.S. College
Rajapur, Dist. Ratnagiri.

प्रोग्रोवातो माती-पाणी परीक्षण प्रयोगशाळा
Lab Incharu

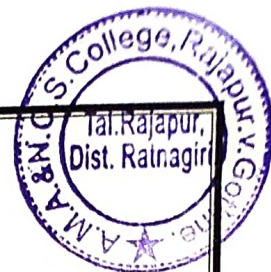


Rayat Shikshan Sanstha's
Abasaheb Marathe Arts and New Commerce, Science College,
Rajapur, Dist-Ratnagiri
Department of Chemistry

**Certificate Course in "Soil and Water Analysis"
(2021-2022)**

Enrollment of Students

Sr.No	Roll No.	Name of the student
1	219001	Bait Ruchita Ramesh
2	219003	Dhuri Amisha Harishchandra
3	219004	Faras Namira Adamsab
4	219005	Hardikar Audumbar Dnyaneshwar
5	219006	Jadhav Rasika Mahadev
6	219008	Kamble Smruddhi Dilip
7	219009	Khalife Simran Shoukat
8	219010	Kinnake Vaishnavi Dnyaneshwar
9	219013	Naware Chaitanya Mahesh
10	219014	Prabhulkar Anisa Mahamad Asharif
11	219015	Sail Swapnali Prabhakar
12	219016	Shaikh Simran Imtiyaz
13	219017	Solkar Salman Rizwan
14	219019	Tukarul Arati Jayram



Rayat Shikshan Sanstha's

**Abasaheb Marathe Arts and New Commerce, Science
College, Rajapur, Dist - Ratnagiri.**

Department of Chemistry

**"Certificate Course
in
Soil and Water Analysis"**

2021-22



Rayat Shikshan Sanstha's

Abasaheb Marathe Arts and New Commerce, Science College, Rajapur

Department of Chemistry

Short Term Course: Soil and Water Analysis

Board of Studies (2021-22)

Sr. No.	Name of Person	Designation
01	Dr. G.D. Harale (Principal)	Chairman
02	Dr. H. N. Akolkar (Head, Department of Chemistry)	Member
03	Dr. K. A. Sasane (Course coordinator)	Member
04	Ms. Sonali B. More (Expert)	Member
05	Dr. H. N. Akolkar (Chairman, Short Term Course Committee)	Member

Minutes of Meeting

The zoom meeting of Board of Studies for short term course, soil and water analysis was held on 15th January 2022 in Department of Chemistry. The following members were present for the same and above points were discussed.

- Designing of Syllabus for course.
- Course Implementation Period.
- Distribution of theory and practical work.
- Fee structure.

Signatures: I/c Prin. G. D. Harale

Dr. H. N. Akolkar

Dr. K. A. Sasane

Mrs. K.R. Mahanwar

[Handwritten signatures]

[Handwritten signature]

Principal

A. M. A. & N. C. S. College
Rajapur, Dist. Ratnagiri,

[Handwritten signature]
HEAD

Department of chemistry
A. M. A. & N. C. S. College, Rajapur



Rayat Shikshan Sanstha's

Abasaheb Marathe Arts and New Commerce, Science College, Rajapur

Department of Chemistry

Short Term Course: Soil and Water Analysis

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03	Dr. K. A. Sasane (Course coordinator)	Member
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Dr. H. N. Akolkar

Dr. K. A. Sasane

Mrs. K.R. Mahanwar

HEAD

Department of Chemistry

A.M.A. & N.C.S. College, Rajapur

Coordinator

Principal
A.M.A. & N.C.S. College
Rajapur, Dist. Ratnagiri



Department of Chemistry

"Certificate Course in Soil and Water Analysis"
2021-22

Aims and Objectives

- 1) To Give the skilful knowledge regarding soil and water analysis
- 2) To provide practical skill of soil testing and water testing
- 3) To ensure the quality of water.
- 4) To spread awareness about importance of safe drinking water.
- 5) To spread the effect of drinking of contaminated water on health among the student and society.
- 6) To check the water quality parameters.
- 7) To determine the fertility of soil.
- 8) To provide an index of nutrient availability in a given soil.
- 9) To predict the probability of obtaining the profitable response to fertilizer application.



Rayat Shikshan Sanstha's
Abasaheb Marathe Arts and New Commerce, Science College
Rajapur, Dist – Ratnagiri.

Department of Chemistry

“Certificate Course in Soil and Water Analysis”
2021-22

=====
Duration: 30 Hours

Fees: Rs. 200 per Students
=====

Syllabus: (Theory)

- i. Introduction.
- iii. Concept of PH.
- v. Conductivity of Water.
- vii. Determinations of Ions-Na, Mg, Ca and Cl.
- ix. Alkalinity of Water.
- xi. Fertility of Soil, Nitrogen Fixation etc.

Lect. 10 Hours

- ii. Hardness of Water.
- iv. Concept of POH.
- vi. Minerals.
- viii. BOD, COD and DO.
- x. Electrical Cond. of Soil.
- xii. Isolated Micro Organism.

Syllabus: (Practical)

- i. Determination of pH of soil by pH Metry.
- ii. To determine electrical conductivity of soil and thereby its total soluble salts.
- iii. Determination of available nitrogen from soil by alkaline permanganate method.
- iv. Determination of calcium carbonate in soil by Rapid titration method.
- v. Determination of pH and electrical conductivity of irrigation water samples.
- vi. Determination of carbonate (CO_3^{2-}), bicarbonate (HCO_3^-) from Irrigation water sample.
- vii. Determination of chloride from Irrigation water sample
- viii. To determine the total hardness of the given water sample.
- ix. To determine of dissolve oxygen of irrigation water by Winkler's Method.
- x. To determine Total Dissolved Solids (TDS) from water samples by evaporation method.

Prac. 20 Hours



Rayat Shikshan Sanstha's

Abasaheb Marathe Arts and New Commerce, Science College, Rajapur, Dist. Ratnagiri



Department of Chemistry
Certificate Course in Soil and Water Analysis (2021-2022)

Syllabus Distribution

Syllabus: (Theory)

Lect. 10

1. Ms. Sonali B. More (Theory)

Lect. 05

- i. Introduction.
- ii. Hardness of Water.
- iii. Concept of P^H .
- iv. Concept of P^{OH} .
- v. Conductivity of Water.
- vi. Minerals.

2. Mrs. Kirti R. Mahanwar (Theory)

Lect. 05

- i. Determinations of Ions-Na, Mg, Ca and Cl.
- ii. BOD, COD and DO.
- iii. Alkalinity of Water.
- iv. Electrical Conductivity of Soil.
- v. Fertility of Soil, Nitrogen Fixation.
- vi. Isolated Micro Organism.

Syllabus: Ms. Sonali B. More (Practical)

Lect. 20

- i. Determination of pH of soil by pH Metry.
- ii. To determine electrical conductivity of soil and thereby its total soluble salts.
- iii. Determination of available nitrogen from soil by alkaline permanganate method.
- iv. Determination of calcium carbonate in soil by Rapid titration method.
- v. Determination of pH and electrical conductivity of irrigation water samples.
- vi. Determination of carbonate (CO_3^{2-}), bicarbonate (HCO_3^-) from Irrigation water sample.
- vii. Determination of chloride from Irrigation water sample.
- viii. To determine the total hardness of the given water sample.
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Rayat Shikshan Sanstha's
Abasaheb Marathe Arts and New Commerce, Science College, Rajapur, Dist – Ratnagiri

Department of Chemistry

Certificate Course in Soil and Water Analysis

2021-22

NOTICE

Date: 18/01/2022

All the students of T.Y.B.Sc. Chemistry are hereby informed that, the “*Certificate Course in Soil and Water Analysis*” will starts from Monday, 21 January 2022 at Department of Chemistry. All students must remain present for this course.


HEAD
Department of chemistry
A.M.A & N.C.S.College,Rajapur



Rayat Shikshan Sanstha's

**Abasaheb Marathe Arts and New Commerce, Science College, Rajapur,
Dist-Ratnagiri**



Department of Chemistry

Certificate Course in Soil and Water Analysis

(2021-2022)

Time-Table

Time	Theory/Practical	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8.45 am to 9.30 am	Theory	SBM	SBM	SNB	--	-	---
2.30 pm onwards	Practical	-----	-----	-----	SBM	SBM	KRM

Note: Lectures and Practical's were conducted through online zoom platform.

Theory:

- 1) Ms. Sonali B. More (SBM)

Practicals:

- 1) Dr. Kirti R. Mahanwar (KRM)
- 2) Miss. Sonali B. More (SBM)

Head

Department of Chemistry



Rayat Shikshan Sanstha's
Abasaheb Marathe Arts and New Commerce, Science College,
Rajapur, Dist-Ratnagiri

Department of Chemistry
Certificate Course in Soil and Water Analysis
Attendance Sheet 2021-22

Sr. No.	Roll No.	Name of the student	Sign	Sigh	Sigh	Sigh	Sigh
1	2063042	Bait Ruchita Ramesh	<i>Ruchita</i>	Ab	Ab	<i>Ruchita</i>	<i>Ruchita</i>
2	2063043	Dhuri Amisha Harishchandra	<i>Dhuri</i>	<i>Dhuri</i>	<i>Dhuri</i>	<i>Dhuri</i>	<i>Dhuri</i>
3	2063044	Faras Namira Adamsab	<i>Faras</i>	<i>Faras</i>	Ab	<i>Faras</i>	<i>Faras</i>
4	2063045	Hardikar Audumbar D	AL	Ab	<i>Hardikar</i>	<i>Hardikar</i>	<i>Hardikar</i>
5	2063046	Jadhav Rasika Mahadev	<i>Rasika</i>	Ab	<i>Rasika</i>	Ab	<i>Rasika</i>
6	2063047	Kamble Smruddhi Dilip	Ab	<i>Smruddhi</i>	<i>Smruddhi</i>	<i>Smruddhi</i>	Ab
7	2063048	Khalife Simran Shoukat	<i>Khalife</i>	<i>Khalife</i>	<i>Khalife</i>	<i>Khalife</i>	<i>Khalife</i>
8	2063049	Kinnake Vaishnavi D	<i>Vaishnavi</i>	Ab	Ab	<i>Vaishnavi</i>	<i>Vaishnavi</i>
9	2063050	Naware Chaitanya Mahesh	Ab	C.m.Naware	Ab	C.m.Naware	C.m.Naware
10	2063051	Prabhulkar Anisa Mahamad	<i>Prabhulkar</i>	<i>Prabhulkar</i>	<i>Prabhulkar</i>	<i>Prabhulkar</i>	<i>Prabhulkar</i>
11	2063052	Sail Swapnali Prabhakar	Ab	Ab	S.P.Sail	Ab	Ab
12	2063053	Shaikh Simran Imtiyaz	<i>Shaikh</i>	Ab	Ab	<i>Shaikh</i>	Ab
13	2063054	Solkar Salman Rizwan	Ab	<i>Salman</i>	Ab	<i>Salman</i>	<i>Salman</i>
14	2063055	Tukarul Arati Jayram	<i>Arati</i>	<i>Arati</i>	<i>Arati</i>	<i>Arati</i>	<i>Arati</i>

HARSHAD
 Department of chemistry
 A.M.A. & N.C.S. College, Rajapur

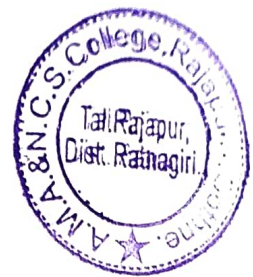


Rayat Shikshan Sanstha's
Abasaheb Marathe Arts and New Commerce, Science College,
Rajapur, Dist-Ratnagiri

Department of Chemistry
Certificate Course in Soil and Water Analysis
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Sr. No.	Roll No.	Name of the student	Sign	Sigh	Sigh	Sigh	Sigh
1	2063042	Bait Ruchita Ramesh	<i>Ruchita</i>	<i>Ruchita</i>	<i>Ruchita</i>	<i>Ruchita</i>	<i>Ruchita</i>
2	2063043	Dhuri Amisha Harishchandra	—	<i>Amisha</i>	<i>Amisha</i>	—	<i>Amisha</i>
3	2063044	Faras Namira Adamsab	<i>Faras</i>	—	<i>Faras</i>	<i>Faras</i>	<i>Faras</i>
4	2063045	Hardikar Audumbar D	—	<i>Aud</i>	<i>Aud</i>	—	<i>Aud</i>
5	2063046	Jadhav Rasika Mahadev	<i>Rasika</i>	—	<i>Rasika</i>	<i>Rasika</i>	<i>Rasika</i>
6	2063047	Kamble Smruddhi Dilip	<i>Smruddhi</i>	<i>Smruddhi</i>	—	<i>Smruddhi</i>	<i>Smruddhi</i>
7	2063048	Khalife Simran Shoukat	<i>Simran</i>	—	<i>Simran</i>	<i>Simran</i>	<i>Simran</i>
8	2063049	Kinnake Vaishnavi D	—	<i>Vaishnavi</i>	—	<i>Vaishnavi</i>	<i>Vaishnavi</i>
9	2063050	Naware Chaitanya Mahesh	—	<i>C.M. Naware</i>	—	—	<i>C.M. Naware</i>
10	2063051	Prabhulkar Anisa Mahamad	<i>Anisa</i>	<i>Anisa</i>	—	<i>Anisa</i>	<i>Anisa</i>
11	2063052	Sail Swapnali Prabhakar	—	<i>S.P. Sail</i>	<i>S.P. Sail</i>	<i>S.P. Sail</i>	—
12	2063053	Shaikh Simran Intiyaz	<i>Simran</i>	—	<i>Simran</i>	—	<i>Simran</i>
13	2063054	Solkar Salman Rizwan	—	<i>Salman</i>	—	<i>Salman</i>	<i>Salman</i>
14	2063055	Tukarul Arati Jayram	<i>Arati</i>	<i>Arati</i>	<i>Arati</i>	<i>Arati</i>	<i>Arati</i>

(Signature)
HEAD
 Department of chemistry
 A.M.A. & N.C.S. College, Rajapur



Rayat Shikshan Sanstha's
Abasaheb Marathe Arts and New Commerce, Science College,
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Department of Chemistry
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2	2063043	Dhuri Amisha Harishchandra	Amisha	Amisha	Amisha	Amisha	Amisha
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6	2063047	Kamble Smruddhi Dilip	Smruddhi	Smruddhi	Smruddhi	Smruddhi	Smruddhi
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8	2063049	Kinnake Vaishnavi D	Vaishnavi	Vaishnavi	Vaishnavi	Vaishnavi	Vaishnavi
9	2063050	Naware Chaitanya Mahesh	Ab	Chaitanya	Ab	Chaitanya	Chaitanya
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12	2063053	Shaikh Simran Imtiyaz	Simran	Ab	Ab	Simran	Simran
13	2063054	Solkar Salman Rizwan	Ab	Salman	Ab	Salman	Ab
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1	2063042	Bait Ruchita Ramesh	—	<i>Bait</i>	—	<i>Bait</i>	<i>Bait</i>
2	2063043	Dhuri Amisha Harishchandra	<i>Dhuri</i>	<i>Dhuri</i>	<i>Dhuri</i>	<i>Dhuri</i>	<i>Dhuri</i>
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4	2063045	Hardikar Audumbar D	<i>ADH</i>	<i>ADH</i>	<i>ADH</i>	<i>ADH</i>	<i>ADH</i>
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14	2063055	Tukarul Arati Jayram	<i>Tukarul</i>	<i>Tukarul</i>	<i>Tukarul</i>	—	<i>Tukarul</i>

(Signature)

HEAD

Department of chemistry
A.M.A. & N.C.S.College,Rajapur



Rayat Shikshan Sanstha's
Abasaheb Marathe Arts and New Commerce, Science College,
Rajapur, Dist-Ratnagiri

Department of Chemistry
Certificate Course in Soil and Water Analysis
Attendance Sheet 2021-22

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2	2063043	Dhuri Amisha Harishchandra					
3	2063044	Faras Namira Adamsab	—				
4	2063045	Hardikar Audumbar D	—			—	
5	2063046	Jadhav Rasika Mahadev		—			
6	2063047	Kamble Smruddhi Dilip		—			
7	2063048	Khalife Simran Shoukat					
8	2063049	Kinnake Vaishnavi D	—		—		
9	2063050	Naware Chaitanya Mahesh	—			—	
10	2063051	Prabhulkar Anisa Mahamad					
11	2063052	Sail Swapnali Prabhakar	S.P.Sail.	—	S.P.Sail.	S.P.Sail.	—
12	2063053	Shaikh Simran Imtiyaz			—		
13	2063054	Solkar Salman Rizwan	—	—			
14	2063055	Tukarul Arati Jayram					

HEAD
Department of chemistry
A.M.A. & N.C.S. College, Rajapur