

# Dr. Ambedkar College Deekshabhoomi, Nagpur

## Department Of Chemistry: 2022-23

### Report Of Certificate Course on “Chemical Analysis of Soil and Their Impact in Sustainable Agriculture”

Department of chemistry of Dr. Ambedkar College Deekshabhoomi, Nagpur has conducted Certificate Course in “Chemical Analysis of Soil and Their impact in Sustainable agriculture” of thirty hours durations. Course was conducted from 5<sup>th</sup> April and continued to 20<sup>th</sup> April 2023. And it was **thirty hours certificate** course program. Total 96 students of Chemistry subject were participated in this certificate course. Students from B.Sc. sem VI, Sem IV and Sem II were participated in the course.

This certificate course was inaugurated on **5<sup>th</sup> April 2023**. Chief guest was Dr. Rajdip Utane, Assistant Professor, SGM Mahavidyalaya, Hingna Nagpur. Dr. Mrs. B.A. Mehere, Principal of the college had chaired the function. Dr. V.M. Shivankar Professor Department of Chemistry, course Coordinator of this Certificate Program has introduced the guest and conducted the proceeding of the program. He has brief about this program and has explain the importance of this certificate program for students in the future life. On this occasion Dr. Mrs. D.Y. Panhekar Head Chemistry Department. N. G. Telkapalliwari, Dr. Mrs. D.M. Borikar, Professor Chemistry Department were present. More than hundred students of B.Sc. students of Chemistry Department were present in the inaugurations program. Time table of Chemical analysis of soil Certificate course program was displayed among the students. It was thirty hours duration certificate course.

Dr. Rajdip Utane has given the key note talk on this occasion. He explains very well of the importance about Certificate course. In our country soil texture is different in the different region. Even in our Maharashtra state Vidarbha region also have different soil texture. Farmers are taking variety of crops due variation in the soil. Dr. R.D. Utane said that chemical properties like moisture, PH of the soil is important for better crop productions. Determination of organic Carbon, nitrogen, Phosphorus and potassium are also the key parameters for the good crops yield.

**On 6<sup>th</sup> April** theory session was conducted. In this session moisture in soil sample and PH in in the soil sample were explain. In practical session percentage of moisture in the given soil sample was determined. Also, Acidity or PH in the given soil sample was determine. Students have found out the values from more than fifty soil samples. They have collected soil samples from different places.

**On 8<sup>th</sup> April**, theory session on Soil Nutrients as Organic Carbon was conducted. On the same day, practical session on analysis of Soil nutrient as Organic Carbon were determined for different soil samples. The data obtained of the samples are found different as the samples are different.

**On 17 th of April** Theory session on Soil nutrients as Nitrogen were conducted for students, followed by in practical session on soil Nutrients as Nitrogen experiments were performed by students for different soil samples. The data found different for different samples.

**On 18 th April** theory session was conducted on Soil Nutrients as Phosphorous for participant students. Same day practical session on analysis of Soil Nutrients as Phosphorous were conducted for different samples. Data determined and then compare with other samples.

**On 19 th April** theory session on Soil Nutrients as Potassium was conducted followed by practical session conducted on soil analysis of Soil Nutrients as Potassium for different soil samples.

**On 20 th April 2023**, execution of course was done and valedictory function was carried out. Students shared their views of this certificate program.

More than fifty soil samples were performed experimentally, their data were collected and then compared and finally conclusion is reported in result sheet.

Students have collected soil samples from different places like Takalghat area, Butiboiri, Nagpur, Airport area Nagpur, Deekshabhoomi area Nagpur, Laxminagar area Nagpur, Botanical Garden Nagpur, Kalmeshwar area Nagpur Gorewada area Nagpur etc. They performed the chemical experiments and find out chemical parameters like Acidity, Organic carbon, Nitrogen, Phosphorous and Potassium and Moisture content etc.

Conclusion was drawn from various samples.

**Takalghat area soil samples** observed that, soil is acidic, organic carbon is moderately present. Soil nutrient as Nitrogen is also moderately present. Soil phosphorous is also moderate but Soil Potassium is low. Hence Soil is good for crops but require potassium application.

**Deekshabhoomi area soil samples** PH value shows 6.2 found slightly acidic. Organic carbon is moderately present. Nitrogen, Phosphorous and Potassium contents are extremely low, hence soil is not suitable for crops.

**Gorewada area soil sample** is slightly acidic, carbon content is moderate and Nitrogen, phosphorous contents are low while available Potassium is moderately present in sample. Hence soil may be not be good for crops, which require NPK application.

**Botanical garden area soil samples** are acidic, carbon contents is moderately present but available Nitrogen Phosphorous and Nitrogen are found extremely low in quantity. Hence Soil is poor for crops cultivation.

**Kalmeshwar area soil sample** is acidic and organic carbon is moderately present, Nitrogen and Phosphorous found low but Potassium is sufficiently found, hence slightly better for some crops. Certificates were distributed to all participants B.Sc. students in the valedictory program.

**Dr. Ambedkar College Deekshabhoomi, Nagpur**

**Department Of Chemistry**

**Date: 1/04/2023**

**Certificate Course: 2022-23**

The Chemistry Department of the college has organized Certificate Course on "Chemical Analysis of Soil and their impact in sustainable agriculture" for B.Sc. students.

The guest speaker is Dr. Rajdip Utane, Associate Professor Department of Chemistry, SGM Mahavidyalaya, Nagpur.

All the Chemistry Students and Faculties are requested to attend the Inauguration program on dated 5/04/2023, sharply at 12.00 pm in the Main auditorium.



Program coordinator

(Dr. V.M. Shivankar)

Professor

Chemistry Department



Head

(Dr. Mrs. D.Y. Panhekar)

Professor

Chemistry Department



Principal

(Dr. Mrs. B.A. Mehere)

**PRINCIPAL  
DR. AMBEDKAR COLLEGE  
NAGPUR.**

1. Dr. N.G. Telkapaliwar, Professor, Chemistry Department
2. Dr. Mrs. D. M. Borikar, Professor, Chemistry Department

**Dr. Ambedkar College Deekshabhoomi, Nagpur**

Date : 5/4/2023

To,

Dr. Rajdip Utane  
Assistant Professor  
Department of Chemistry.  
Sant Gadge Maharaj Mahavidyalaya, Hingna, Nagpur

Dear sir,

Department of Chemistry of Dr. Ambedkar College Deekshabhoomi, Nagpur has organized a certificate course program on "Chemical analysis of soil and their impact in sustainable agriculture" from 5/4/2023.

We are please to invite you as chief guest and expert for the inauguration function on 5<sup>th</sup> April 2023. Program will start sharply at 12 pm.

Your presence will grace the function.

Thanking you.

Principal

(Dr. Mrs. B. A. Mehere)

**PRINCIPAL  
DR. AMBEDKAR COLLEGE  
NAGPUR.**

**Dr. Ambedkar College Deekshabhoomi, Nagpur**

Date: 18/4/2023

**Letter of thanks**

To,

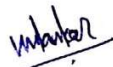
Dr. Rajdip Utane  
Assistant Professor  
Department of Chemistry.  
Sant Gadge Maharaj Mahavidyalaya, Hingna, Nagpur

Sir,

We are thankful to you for conducting a guest lectures and chemistry experiments on "Chemical analysis of soil and their impact in sustainable agriculture" on 5/4/2023 onwards, and to guide the students of Chemistry Department of Dr. Ambedkar College Deekshabhoomi, Nagpur.

We look forward to your valuable guidance in future also.

Thank you, sir.



Dr. V.M. Shivankar  
(Course Coordinator)



Principal

(Dr. Mrs. B.A. Mehere)

**PRINCIPAL  
DR. AMBEDKAR COLLEGE  
NAGPUR**

## Students Participant List

Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Chemistry

Session: 2022-23

Certificate Course in "chemical analysis of soil and their impact in sustainable agriculture"

Class: B.Sc. SEM-VI

Date: 5/4/2023 & Onwards

Course Coordinator: Dr. V. M. Shivankar

Sr. No.	Name of Student	Signature	Mob. No.	Remarks
1	Khushi Arun Hadke		8625922755	
2	Rashmi Rawate		7028949519	
3	Harshita Khopkar		9130624065	
4	Mansi Parihara		9119511607	
5	Khushi Kaundu Gaikwad		9112141650	
6	Tanaya Kirpan		9421068914	
7	Chetana Raut		9172368784	
8	Aashlesha Buty		8602020282	
9	Tigyasra Koli		7249779652	
10	Prathmesh Raut		7558645747	
11	Saurabh Kumbhakar		7020038228	
12	Anushka Pedhaji		7773940900	
13	Aditi Chawhan		9359660796	
14	Shruti Gaybhiye		7972152570	
15	Rohit Wairkar		9021062742	
16	Yash Gaybhiye		7972152570	
17	AMAR. D. KHURPANE		8237047895	
18	Akanksha Madavi		9229713544	
19	Saumya M. Bisen		8975816738	
20	Shital M. Shahu.		9890863066	



Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Chemistry

Session: 2022-23

Certificate Course in "chemical analysis of soil and their impact in sustainable agriculture"

Class: B.Sc. SEM- IV

Date: 5/4/2023 & Onwards

Course Coordinator: Dr. V. M. Shivankar

Sr. No.	Name of Student	Signature	mob. NO.	Remarks
1.	Aditi A. Nandeshwar	<u>Nandeshwar</u>	8956025787	
2.	Manushree P. Janjwar	<u>Janjwar</u>	7709200165	
3.	Payal P. Padale	<u>Padale</u>	7796130730	
4.	Kalash G. Dhoke	<u>Dhoke</u>	7089554594	
5.	Aditi Sharma	<u>Aditi</u>	8624086996	
6.	Dipali Hisulkar	<u>Hisulkar</u>	7498873293	
7.	Ritik Bopcha	<u>Bopcha</u>	9834134464	
8.	Akhil Kalbande	<u>Kalbande</u>	9356654479	
9.	Kashish Nankar	<u>Nankar</u>	7768010936	
10.	Jyashna Kuvanshi	<u>Kuvanshi</u>	7038755603	
11.	Dhanshree Khauri	<u>Khauri</u>	4325774769	
12.	Maha Kawale	<u>Kawale</u>	8806744380	
13.	Ishika Chauhan	<u>Chauhan</u>	7057680052	
14.	Sushil Bhagat	<u>Bhagat</u>	9975028606	
15.	Saumya M. Bisen	<u>Bisen</u>	8975816738	
16.	Sanket P. Waghmare	<u>Waghmare</u>	9284898550	



Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Chemistry



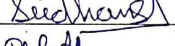



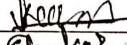
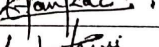
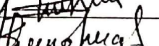
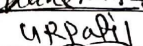

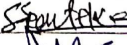

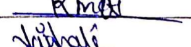

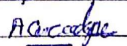
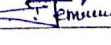



Session: 2022-23

Certificate Course in "chemical analysis of soil and their impact in sustainable agriculture"

Class: B.Sc. SEM- II

Date: 5/4/2023 & Onwards

Course Coordinator: Dr. V. M. Shivankar

Sr. No.	Name of Student	Signature	Mob. No.	Remarks
1	Om S. Rai		9021853460	
2	Shikha Nanaji Gantam		8010285841	
3	Sudhanshu Kintoray		9422476809	
4	Prabhu A. Patte		7385924876	
5	Nikita D. Hatwar		9356966392	
6	Leesha S. Dahat		9021560017	
7	Kshitij V. Kamble		8208588317	
8	Karishma P. Sontakke		7020051851	
9	Avinash S. Banekar		<del>7359782189</del> 7359782189	
10	Shalini G. Nayakwade		7559431660	
11	Shrushrashi Sahare		9359561644	
12	Uddesh R. Patil		8006679276	
13	Nakul R. Shenke		8308295527	
14	Shubham S. Ramteke		9359625615	
15	Sarthak P. Gaikwad		7249155396	
16	Krishna M. Gupta		8767489529	
17	Vaishali R. Verma		8010135900	
18	Saniya H. Sonkar		8668709245	
19	Anjali C. Zachare		8637739953	
20	Tidnyasha T. Tembhokar		7821872849	



Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Chemistry

Session: 2022-23

Certificate Course in "Chemical analysis of soil and their impact in sustainable agriculture"

Class: B.Sc. sem VI

Date: 5/4/2023 & onwards

Course coordinator: Dr. V. M. Shivankar

Sr. No.	Name of Student	Signature	Remarks
<u>Amr.</u> 1	Rashmi Rawate	<u>R Rawate</u>	
2	Anushi Hadke	<u>A Hadke</u>	
3	Mansi Parihar	<u>M Parihar</u>	
4	Harshita Khapekar	<u>H Khapekar</u>	
5	Shrutika Sahakar	<u>S Sahakar</u>	
6	Chelana Daut	<u>C Daut</u>	
7	Divas Pandey	<u>D Pandey</u>	
8	Anshul P. Nitnaware	<u>A Nitnaware</u>	
9	Ruchi C. Rathod	<u>R Rathod</u>	
10	Somya M. Bisen	<u>S Bisen</u>	
	<del>Riya R. Bawane</del>	<del>R Bawane</del>	
<u>Amr.</u> 11	Apeksha Reddy	<u>A Reddy</u>	
12	Prachi D. Vaidya	<u>P Vaidya</u>	
13	Bushra H. Pathan	<u>B Pathan</u>	
14	Divas D. Pandey	<u>D Pandey</u>	
15	Anshul P. Nitnaware	<u>A Nitnaware</u>	
16	Timanshu Kolate	<u>T Kolate</u>	
17	Yash Gajbhiye	<u>Y Gajbhiye</u>	
18	Rohit Waikar	<u>R Waikar</u>	
19	Aditi Chavhan	<u>A Chavhan</u>	
20	Karina Tichkar	<u>K Tichkar</u>	
21	Gauri Giridhar	<u>G Giridhar</u>	
22	Diksha Ninawe	<u>D Ninawe</u>	
	Deveshree Jawarkar	<u>D Jawarkar</u>	
	Bhumika Bawarkar	<u>B Bawarkar</u>	

Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Chemistry


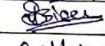
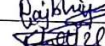
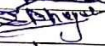
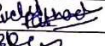
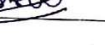
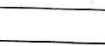

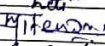
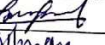
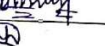
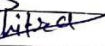
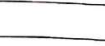
Session: 2022-23

Certificate Course in "chemical analysis of soil and their impact in sustainable agriculture"

Class: B.Sc. SEM- IV

Date: 5/4/2023 & Onwards

Course Coordinator: Dr. V. M. Shivankar

Sr. No.	Name of Student	Signature	Remarks
23	1. Ruchi C. Rathod		
24	2. Soumya M. Bisen		
25	3. Shanshree Gaibhiye		
26	4. Phangshree Kholte		
27	5. Sushil Bhagat		
X	17. Ruchi C. Rathod		
X	27. Soumya M. Bisen		
28	Om S. Rai		
29	Mohit Tembhurne		
30	Sandesh Meshram		
31	Harshad Sanjiv Meshram		
32	Nikita D. Hadwar		
33	Chitra R Gaibhiye		

Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Chemistry

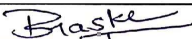
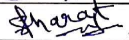
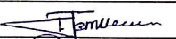
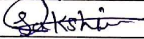


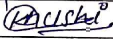
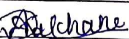
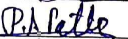

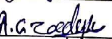
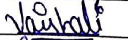
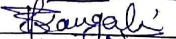
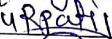

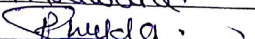

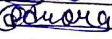
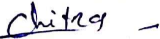
Session: 2022-23

Certificate Course in "chemical analysis of soil and their impact in sustainable agriculture"

Class: B.Sc. SEM- II

Date: 5/4/2023 & Onwards

Course Coordinator: Dr. V. M. Shivankar

Sr. No.	Name of Student	Signature	Remarks
1.	Prajwal. S. Maske		
2.	Pawan. B. Gharat		
3.	Tidnyasha T. Tembhekar		
4.	Sakshi, S. Baghele		
5.	ehastali V. Manwar		
6.	Mehandi S. Bhojar	M. S. Bhojar	
7.	Rachita S. Fulzele		
8.	Khushi Bagmane		
9.	Krutika V. Gawali	Krutika Vijay Gawali	
10.	Anjali K. Dakhane		
11.	Bunay A. Patte.		
12.	Krishna A. M. Gupta		
13.	Anjali C. Zedpe		
14.	Vaishali R. Verma		
15.	Lipakshi R. Kargali		
16.	Uddesh R. Katti		
17.	Nakul R. Shende		
18.	Riya R. Bawane.	R. Bawane.	
19.	Paalak C. Shetke		
20.	Shrawani S. Zile		
21.	Purnima A. Asora		
22.	Chitra R. Gajbhire		

# Time Table of Certificate Course



Param Poojya Dr. Babasaheb Ambedkar Smarak Samiti's

## Dr. Ambedkar College Deekshabhoomi, Nagpur



RE-ACCREDITED WITH 'A' GRADE BY NAAC CGPA: 3.45  
RECOGNIZED AS COLLEGE WITH POTENTIAL FOR EXCELLENCE BY UGC

**Certificate course in "Chemical Analysis of Soil & their impact in sustainable agriculture"**  
**Duration: 7 Days- 2022-2023** **Time: 11.00am to 05.00 pm**

### Scheduled

Date/ Time	11.00 -01.00 pm	01.00- 02.00pm	2.00 to 5.00 pm
05/04/2023 Wednesday	Inauguration / Brief Outlier about Certificate Course in Soil Chemistry		
06/04/2023 Thursday	Theory Session on Moisture in soil sample and Acidity or pH in given soil sample		Practical Session on Determination of percentage of moisture in given soil sample and Acidity or pH in given soil sample
08/04/2023 Wednesday	Theory Session on Soil Nutrients as Organic Carbon		Practical Session on Analysis of Soil Nutrients as Organic Carbon
17/04/2023 Monday	Theory Session on Soil Nutrients as Nitrogen	Lunch Break	Practical Session on Analysis of Soil Nutrients as Nitrogen
18/04/2023 Tuesday	Theory Session on Soil Nutrients as Phosphorous		Practical Session on Analysis of Soil Nutrients as Phosphorous
19/04/2023 Tuesday	Theory Session on Soil Nutrients as Potassium		Practical Session on Analysis of Soil Nutrients as Potassium
20/04/2023 Wednesday	Execution of Course Valedictory and Feedback Session		

Course coordinator  
**Dr. V.M. Shivankar**  
Professor  
Department of Chemistry

Expert  
**Dr. R.D. Utane**  
Assistant Professor and Head  
Department of Chemistry  
Sant Gadge Maharaj Mahavidyalaya Hingna, Nagpur

# Students Soil Experimental Reports

Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Chemistry

Session: 2022-23

Certificate Course in "chemical analysis of soil and their impact in sustainable agriculture"

Class: B.Sc. SEM- II/IV/VI

Date: 5/4/2023 & Onwards

Name of Student: Sushil. Bhagar

Sample Location/Area: Botanical garden soil.

Sr. No.	Chemical Properties	Experimental value	Theoretical value	Remarks
1	Ph / aci	6.2.	0-14.	Acidic.
2	Carbon	0.512 - 0.75.	0.30 - 1.3 .	
3	Nitrogen	160 .	140 - 700 kg/h	low
4	Phosphorous	7	6 - 10 kg/he.	low .
5	Potassium.	110	101 - 150 kg/he.	low

Conclusion:

1. Most soils have pH value bet<sup>n</sup> 3.5 to 10 we get 6.2, acidic
2. Soil contain 0.5% to 3.0% organic carbon, in soil sample 0.58%.
3. Soil contain 25-50 mg-N / kg soil, in soil sample 160 kg/h, low
4. Soil contain 0.1 to 3.0 g P kg<sup>-1</sup>, in soil sample 7 kg/h / low
5. Soil contain 11.0 kg/he soil, in soil sample 110 kg/hector low

— This soil is healthy, for the plant.

M. Mahajan  
Course Coordinator

Expert

Student signature

[Signature]

[Signature]

Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Chemistry

Session: 2022-23

Certificate Course in "chemical analysis of soil and their impact in sustainable agriculture"

Class: B.Sc. SEM- II/IV/VI

Date: 5/4/2023 & Onwards

Name of Student: Prajwal S. Maske Sample Location/Area: Kalmeshwar, Nagpur.  
Pawan. B. Gharat

Sr. No.	Chemical Properties	Experimental value	Theoretical value	Remarks
(1)	pH	6.8	0 to 14	Acidic
(2)	Carbon	0.512 - 0.75	0.30 - 1.3	Moderate
(3)	Nitrogen contain	Low (A.V.) kg/He < 141 - 280	140 - 280 kg/He	Low
(4)	Phosphorous contain	6 - 10	5 - 35 kg/He	Low
(5)	Potassium contain	151 - 205	100 - 300 kg/Hec	Moderate

Conclusion: (1) Soil pH is a measure of the acidity or basicity of soil.  
(2) Carbon contained in a soil is found to be 0.30-1.3 & E.V is 0.512-0.75 moderate  
(3) Nitrogen contain in soil is found to be low.  
(4) Phosphorous contain is found 6-10 as E.V and 5-35 kg/Hec with low.  
(5) Potassium is 151-205 as E.V and 100-300 kg/Hec as T.V. with moderate.

Course Coordinator

Expert

Student signature

Prajwal

Pawan Gharat



Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Chemistry

Session: 2022-23

Certificate Course in "chemical analysis of soil and their impact in sustainable agriculture"

Class: B.Sc. SEM- II/IV/VI

Date: 5/4/2023 & Onwards

Name of Student: 1. Nikita Devanand Hatwan  
2. Chitra Raju Gajbhiye  
3. Purnima Ajay Arora

Sample Location/Area: Borewada, Nagpur-13

Sr. No.	Chemical Properties	Experimental value	Theoretical value	Remarks
1.	PH determination	6.5	0-14	PH is acidic
2.	Carbon (organic)	0.51 to 0.75 0.30 to 0.3	0.30 to 1.3	Moderate
3.	Nitrogen	145	140-700 kg/ha	Low
4.	Phosphorus	6-10	5-35 kg/ha	Low
5.	Potassium	151-200	100-300 kg/ha	Moderate

Conclusion:

- 1] Anything below pH 7 is acidic. It affects plant nutrient.
- 2] Estimates of total organic carbon are used to assess the amount of organic matter in soil.
- 3] Nitrogen is found in all soils and is required by all living creatures.
- 4] The total phosphorus content of most surface soils is low.
- 5] The total K content of soils frequently exceeds 20,000 ppm

This soil is healthy

*Wankar*  
Course Coordinator

*Pune*  
Expert

Student signature

1] *NA*  
2] *Chitra*  
3] *Purnima*

Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Chemistry

Session: 2022-23

Certificate Course in "chemical analysis of soil and their impact in sustainable agriculture"

Class: B.Sc. SEM-IV/VI

Date: 5/4/2023 & Onwards

Name of Student: Krutika Vijay Gawali  
Anjali Kailash Dakhane  
Khushi C. Bhagmare

Sample Location/Area: Takalghat,  
Nagpur

Sr. No.	Chemical Properties	Experimental value	Theoretical value	Remarks
①	PH	6.4	0 to 14	Slightly Acidic
②	Carbon	0.5 to 0.75	0.30 to 1.3	Moderate
③	Nitrogen	281-420	140 to 700kg/hec	Moderate
④	Phosphorous	18-25	5 to 35 kg/ha	Moderate
⑤	Potassium	101-150	100 to 300 kg/hec	low

Conclusion:

PH → PH range for growing fruits and vegetables  
Carbon → photosynthetic process by using sunlight and air  
Nitrogen → critical to plant growth to release oxygen.  
Phosphorous → necessary to maintain profitable crop.  
Potassium → increases root growth and improves drought resistance.

Course Coordinator

Expert

Student signature  
Krutika Vijay Gawali

Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Chemistry

Session: 2022-23

Certificate Course in "chemical analysis of soil and their impact in sustainable agriculture"

Class: B.Sc. SEM- II/IV/VI

Date: 5/4/2023 & Onwards

Name of Student: 1) Ruchi C. Rathod  
2) Soumya M. Bisen

Sample Location/Area: Deekshabhoomi, Nagpur.

Sr. No.	Chemical Properties	Experimental value	Theoretical value	Remarks
1)	PH Level of soil	PH-6.8.	0-14	PH is slightly acidic.
2)	Carbon contain of sample	0.5 - 0.5	0.30 - 0.13	Moderate
3)	Nitrogen contain.	Low (Av. N) (kg/ha) < 141 - 280.	140 - 700 kg/ha	Low
4)	Potassium contain.	Very low 151 - 200 (kg/ha)	100 - 300 kg/ha	Moderate contain of K.
5)	Phosphorus contain	Very low (Av P) (kg/ha) < 10.5	5 - 35 kg/ha	very low P in soil

Conclusion: ① We have analysed that our soil sample is slightly acidic with moderate potassium contain. ② We have very low amount of P and N in our sample i.e. to be enriched. \* The potato and onion can grow well in sample.

Course Coordinator

Expert

Student signature

Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Chemistry

Session: 2022-23

Certificate Course in "chemical analysis of soil and their impact in sustainable agriculture"

Class: B.Sc. SEM- II/IV/VI

Date: 5/4/2023 & Onwards

Name of Student: Sanatkumar Kulle Alam Sample Location/Area: Laxminagar,  
Sandesh Chanshyam Meshram Nagpur.

Sr. No.	Chemical Properties	Experimental value	Theoretical value	Remarks
1	PH	6.3	1-14	highly acidic
2	Carbon	0.5-0.75	0.13-1.3	Moderate
3	Nitrogen	141-280	140-700 kg/ha	Very low
4	phosphorous	6-10	5-35 kg/ha	Low
5	Potassium	101-150	100-800 kg/ha	Low

Conclusion:

soil contain favourable for  
PH - 6.7 - flower garden & vegetables  
Carbon - 0.5-0.75 - wetland ecology, fire ecology  
Nitrogen - 141-280 - essential for plant growth  
phosphorous - 6-10 - soil dissolution & development of tip  
Potassium - 101-150 - Increase roots growth improves  
Soil is healthy for plants drought resistance,  
like rice, wheat

*[Signature]*  
Course Coordinator

Expert

Student signature

Sanatkumar - *[Signature]*

Sandesh - *[Signature]*

Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Chemistry

Session: 2022-23

Certificate Course in "chemical analysis of soil and their impact in sustainable agriculture"

Class: B.Sc. SEM- II/IV/VI

Date: 5/4/2023 & Onwards

Name of Student: 1. Bushra H. Pathan 2. Prachi D. Vaidya Sample Location/Area: Airport Area Soil

Sr. No.	Chemical Properties	Experimental value	Theoretical value	Remarks
1.	pH determination	6.8	0 - 14	Slightly Acidic
2.	Organic Carbon.	< 0 - 30	0.30 - 1.3	Very low
3.	Nitrogen	281 - 480	140 - 700 kg/h	Moderate
4.	Phosphorous	< 5	5 - 35 kg/h	Very low
5.	Potassium	151 - 200	100 - 300 kg/h	Moderate

Conclusion: 1. For Slightly acidic pH - Optimal balance of major nutrients.  
2. for Low Organic Carbon - Yield affects food security  
3. for moderate Nitrogen - It helps production of AA, proteins & N.A  
4. for Very low Phosphorous - It is essential for cell division & development of growing tip.  
5. for Moderate Potassium - It helps sustain plant growth and reproduction.

Course Coordinator

Expert

Student signature

1. Pathan  
2. Vaidya

**Dr. Ambedkar College, Deekshabhoomi, Nagpur**  
**Department of Chemistry**  
**Session: 2022-23**

**Certificate Course in "chemical analysis of soil and their impact in sustainable agriculture"**

Class: B.Sc. SEM- II/IV/VI

Date: 5/4/2023 & Onwards

Name of Student: Harshad Sanjiv Meshram Sample Location/Area: Deekshabhoomi Nagpur.  
Mohit Jitenara Tembhumne  
Om S. Rai

Sr. No.	Chemical Properties	Experimental value	Theoretical value	Remarks
1	PH	6.3	0.1 - 14	slightly acidic
2	Carbon (Organic)	0.51 - 0.75	0.30 - 1.3	moderate
3	Nitrogen	141 - 280	140 - 700 kg/ha	very low
4	Phosphorous	6 - 10	5 - 35 kg/ha	low
5	Potassium	101 - 150	100 - 300 kg/ha	Low

Conclusion:

The soil between PH 5.8 & 6.3 are favorable for Flower gardens  
 Soil with 0.5 - 0.75 are upland soil good for vegetable and vegetables  
 Nitrogen 141 - 280 is moderately low for good yield  
 Phosphorus 6 - 10 is low but is essential for growth and tip  
 Potassium 101 - 150 is low is essential for root growth and drought resistance

Soil: Favorable for Flower Gardens & Leguminous crops.

Mohit  
 Course Coordinator

Om S. Rai  
 Expert

Student signature  
Mohit Tembhumne (Mohit Tembhumne)

Om S. Rai (Om S. Rai)  
Harshad S. Meshram

Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Chemistry

Session: 2022-23

Certificate Course in "chemical analysis of soil and their impact in sustainable agriculture"

Class: B.Sc. SEM- II/IV/VI

Date: 5/4/2023 & Onwards

Name of Student: Krishna M. Gupta  
Ranay A. Patle

Sample Location/Area: Takalghat

Sr. No.	Chemical Properties	Experimental value	Theoretical value	Remarks
1	PH	6.4	0 to 14	Acidic
2	Carbon	0.5 to 0.75	0.30 to 1.3	Moderate
3	Nitrogen contain	<sup>140</sup> 281 - 420	140 to 700 kg/ hec.	Moderate
4	Phosphorous contain	18 - 25	5 to 35 kg/ hec	Moderate
5	Potassium contain	101 - 150	100 to 300 kg/ hec	Low

Conclusion: PH → PH range for growing fruits and vegetables.  
Carbon → Photosynthetic process by using and air to release oxygen  
Nitrogen → Critical to plant growth.  
Phosphorous → Necessary to maintain profitable crop.  
Potassium → increase root growth and improve drought resistance

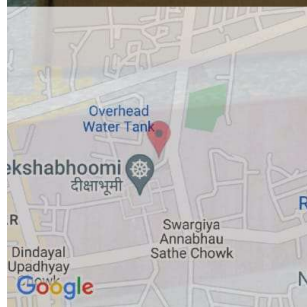
*Ranay A. Patle*  
Course Coordinator

*Ranay A. Patle*  
Expert

Student signature

*Krishna M. Gupta* *Ranay A. Patle*

# Photos of soil Analysis Inauguration & Students Performing Experiments



Deekshabhoomi, Nagpur, Maharashtra 440010, India

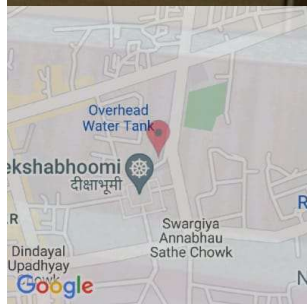
Nagpur  
Maharashtra  
India



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2023-04-05(Wed) 12:20(PM)



Deekshabhoomi, Nagpur, Maharashtra 440010, India

Nagpur  
Maharashtra  
India

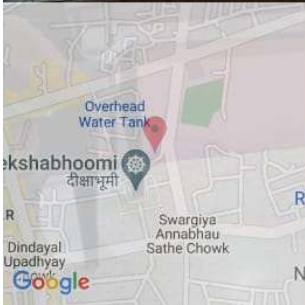


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Deekshabhoomi, Nagpur, Maharashtra 440010, India

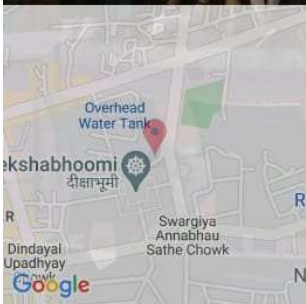
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Maharashtra  
India



36°C

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Deekshabhoomi, Nagpur, Maharashtra 440010, India

Nagpur  
Maharashtra  
India



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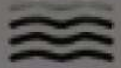
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Nagpur

Maharashtra

India

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43J9+49X, Vasant Nagar, Nagpur, Maharashtra 440010, India

Nagpur

Maharashtra

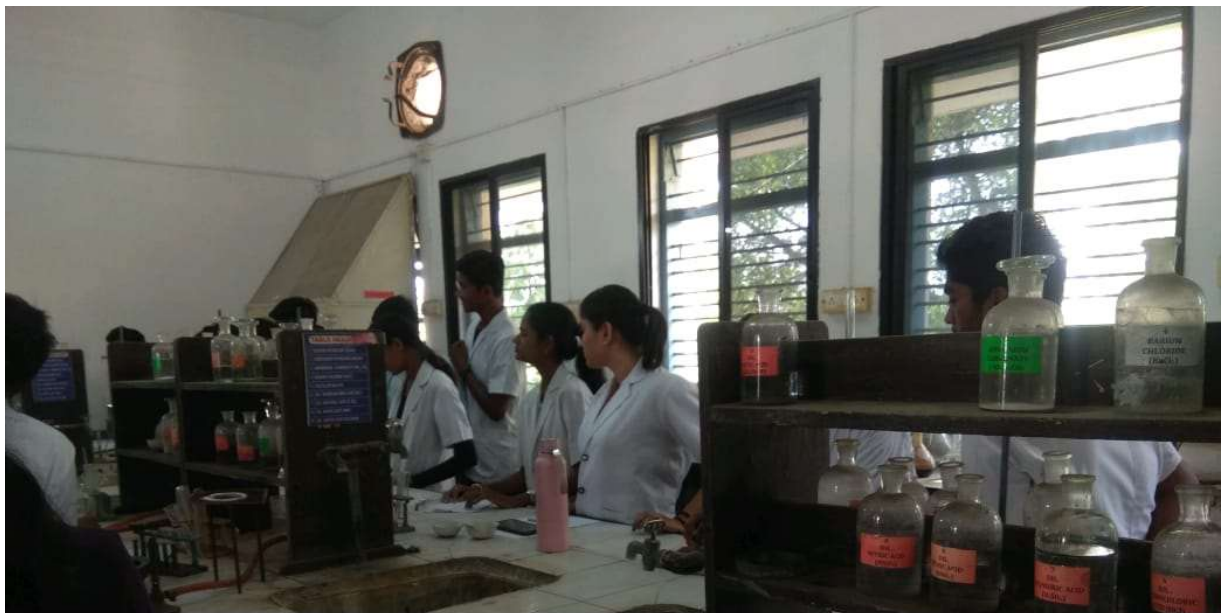
India

2023-04-18(Tue) 01:56(PM)



42°C

108°F



43H9+F2V, Nagpur, Maharashtra 440010, India

Nagpur

Maharashtra

India

2023-04-18(Tue) 02:06(PM)



42°C

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43J9+49X, Vasant Nagar, Nagpur, Maharashtra 440010, India

Nagpur  
Maharashtra  
India



42°C

108°F

2023-04-18(Tue) 01:56(PM)



43H9+F2V, Nagpur, Maharashtra 440010, India

Nagpur  
Maharashtra  
India



42°C

108°F

2023-04-18(Tue) 01:56(PM)



Plot no: 28, Vitthal Rukmai Palace, 1st Floor, W High Ct Rd, Laxminagar, Nagpur, Maharashtra 440020, India

Nagpur  
Maharashtra  
India



42°C

108°F

2023-04-18(Tue) 02:06(PM)



43J9+49X, Vasant Nagar, Nagpur, Maharashtra 440010, India

Nagpur  
Maharashtra  
India



42°C

108°F

2023-04-18(Tue) 01:56(PM)



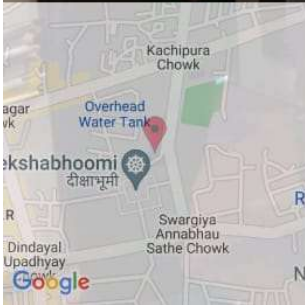
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Nagpur  
Maharashtra  
India



42°C  
108°F

2023-04-18(Tue) 01:56(PM)



Deekshabhoomi, Nagpur, Maharashtra 440010, India

Nagpur  
Maharashtra  
India



42°C  
108°F

2023-04-18(Tue) 03:39(PM)

## Photos Of Certificates



### DR. AMBEDKAR COLLEGE

Deekshabhoomi, Nagpur.

NAAC Re-accredited with 'A' Grade & College with Potential for Excellence by UGC

## Certificate

This is to certify that

Mr./Miss/Mrs. \_\_\_\_\_  
of \_\_\_\_\_

has successfully participated and completed a Certificate Course in " **Chemical Analysis of Soil And Their Impact in Sustainable Agriculture** " Organised by **Department of Chemistry** from **5<sup>th</sup> to 20<sup>th</sup> April 2023** of 30 hours duration.

We wish participant every success in the life.

Dr. V. M. Shivankar  
Course Coordinator  
Department of Chemistry

Dr. Mrs. D. Y. Panhekar  
Head  
Department of Chemistry

Dr. Mrs. B.A. Mehere  
Principal  
Dr. Ambedkar College  
Deekshabhoomi, Nagpur



### DR. AMBEDKAR COLLEGE

Deekshabhoomi, Nagpur.

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## Certificate

This is to certify that


Mr./Miss/Mrs. Bushra H. Pathan  
of B.Sc. Sem VI

has successfully participated and completed a Certificate Course in " **Chemical Analysis of Soil And Their Impact in Sustainable Agriculture** " Organised by **Department of Chemistry** from **5<sup>th</sup> to 20<sup>th</sup> April 2023** of 30 hours duration.

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Course Coordinator  
Department of Chemistry

  
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Principal  
Dr. Ambedkar College  
Deekshabhoomi, Nagpur



# DR. AMBEDKAR COLLEGE

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## Certificate


This is to certify that

Mr./Miss/Mrs. Himanshu Kolte


of B.Sc. Sem VI

has successfully participated and completed a Certificate Course in " **Chemical Analysis of Soil And Their Impact in Sustainable Agriculture** " Organised by **Department of Chemistry** from 5<sup>th</sup> to 20<sup>th</sup> April 2023 of 30 hours duration.

We wish participant every success in the life.

  
Dr. V. M. Shivankar  
Course Coordinator  
Department of Chemistry

  
Dr. Mrs. D. Y. Panhekar  
Head  
Department of Chemistry

  
Dr. Mrs. B.A. Mehere  
Principal  
Dr. Ambedkar College  
Deekshabhoomi, Nagpur

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Deekshabhoomi, Nagpur.

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## Certificate


This is to certify that

Mr./Miss/Mrs. Yash Gajbhiye


of B.Sc. Sem VI

has successfully participated and completed a Certificate Course in " **Chemical Analysis of Soil And Their Impact in Sustainable Agriculture** " Organised by **Department of Chemistry** from 5<sup>th</sup> to 20<sup>th</sup> April 2023 of 30 hours duration.

We wish participant every success in the life.

  
Dr. V. M. Shivankar  
Course Coordinator  
Department of Chemistry

  
Dr. Mrs. D. Y. Panhekar  
Head  
Department of Chemistry

  
Dr. Mrs. B.A. Mehere  
Principal  
Dr. Ambedkar College  
Deekshabhoomi, Nagpur

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# DR. AMBEDKAR COLLEGE

Deekshabhoomi, Nagpur.

NAAC Re-accredited with 'A' Grade & College with Potential for Excellence by UGC

## Certificate


This is to certify that

Mr./Miss/Mrs. Rohit Waikar


of B.Sc. Sem VI

has successfully participated and completed a Certificate Course in " **Chemical Analysis of Soil And Their Impact in Sustainable Agriculture** " Organised by **Department of Chemistry** from **5<sup>th</sup> to 20<sup>th</sup> April 2023** of 30 hours duration.

We wish participant every success in the life.

  
Dr. V. M. Shivankar  
Course Coordinator  
Department of Chemistry

  
Dr. Mrs. D. Y. Panhekar  
Head  
Department of Chemistry

  
Dr. Mrs. B.A. Mehere  
Principal  
Dr. Ambedkar College  
Deekshabhoomi, Nagpur

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# DR. AMBEDKAR COLLEGE

Deekshabhoomi, Nagpur.

NAAC Re-accredited with 'A' Grade & College with Potential for Excellence by UGC

## Certificate


This is to certify that

Mr./Miss/Mrs. Prachi Vaidya


of B.Sc. Sem VI

has successfully participated and completed a Certificate Course in " **Chemical Analysis of Soil And Their Impact in Sustainable Agriculture** " Organised by **Department of Chemistry** from **5<sup>th</sup> to 20<sup>th</sup> April 2023** of 30 hours duration.

We wish participant every success in the life.

  
Dr. V. M. Shivankar  
Course Coordinator  
Department of Chemistry

  
Dr. Mrs. D. Y. Panhekar  
Head  
Department of Chemistry

  
Dr. Mrs. B.A. Mehere  
Principal  
Dr. Ambedkar College  
Deekshabhoomi, Nagpur

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