



BALASAHEB DESAI FOUNDATION

Smt. Vijyadevi Desai Senior College ,Daulatnagar

Department of Chemistry (2021-22)

Nature of Course :

Course Name : irrigitated and non-irrigitated area by Soil Sample

Course Duration : Months

Eligibility : Std.XII Science Pass

Intake capacity : 25

Faculty : Experienced faculty in the respective field.

Course Structure : Theory : 10 periods

Practical : 10 periods

Nature of Examination : 50 %



BALASHEB DESAI FOUNDATION

Smt. Vijayadevi Desai Senior College, Daulatnagar

Department of Chemistry

Notice


Date- 21/02/2022

Co-orderlyInvited to Board of studies Members of certificate course of Analysis of Soil Sample of irrigated and non irrigated land near Patan region Meeting on 28/02/ 2022 11.00 am at Department of Chemistry.

Agenda

1. Preparation of Syllabus on Analysis of Soil Sample Short term Course.
2. Course conduct Duration ,Date and time.
3. Course conduct Theory and practical Exam.
4. Sudden question by chairman permission.


Course Co-ordinator


HOD
Chemistry
Smt. Vijayadevi Desai Sr. College


HOD
Principal
Smt. Vijayadevi Desai Sr. College
Patan, Dist. Solapur



BALASHEB DESAI FOUNDATION

Smt. Vijyadevi Desai Senior College, Daulatnagar

Department of Chemistry

Proceeding Of Meeting

Date : 25/11/2022

1. Prepared short term course Analysis of soil sample syllabus will be accepted by department of chemistry.
2. Course will be conducted free of the cost for duration of two month from 1st March to 30th April
3. After completion of course theory and practical exam will be conducted And results will declared. The successful students will be felicitated by Certificate.


Principal
Smt. Vijyadevi Desai Senior College
Daulatnagar, Dist: Buldhana, Maharashtra



BALASHEB DESAI FOUNDATION

Smt. Vijayadevi Desai Senior College, Daulatnagar

Department of Chemistry

Analysis of Soil Sample of irrigated and non irrigated land near Patan region

2021-22

Notice

Date: 21/02/2023

All the Bsc III students informed that Department of chemistry going to organize one short term course on " **Analysis of Soil Sample of irrigated and non irrigated land near Patan region**" interested student advised to meet miss. Panaskar .S.A Before 28/02/2022.

Course Co-ordinator

HOD
Chemistry

Smt. Vijayadevi Desai Sr. College

include available phosphorous pH and crop



BALASHEB DESAI FOUNDATION

Smt.Vijyadevi Desai Senior College, Daulatnagar

Department of Chemistry

Bord of studies of certificate course on

Analysis of Soil Sample of irrigated and non irrigated land near Patan region

Chairman : Prof. Kamble .V.N.

Principle

(Smt. Vijyadevidesai college, Daulatnagar)

Vice.Chairman : Prof. Shirke.R.M.

(Head of Chemistry Department)

Members : 1. Prof. Panaskar S.A.

2 . Prof. Dige. J.S.



BALASHEB DESAI FOUNDATION

Smt. Vijayadevi Desai Senior College, Daulatnagar

Department of Chemistry

Analysis of Soil Sample of irrigated and non irrigated land near Patan region

Duration of course : 2 Months

Total Marks : 100 (50 Theory + 50 Practical)

Co-Ordinator : Prof. Panaskar .S.A.

Assistance Professor

Department of Chemistry

Theory Syllabus

Objectives :

To enable students –

1. To develop basic understanding regarding soil testing in the students
2. To introduce them with macro and micro nutrients for soil.

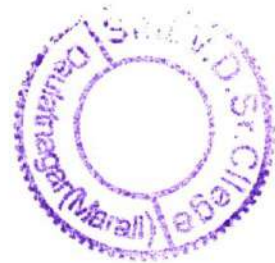


Unit - I - Study of soil

- a) Structure of earth, Element composition of earth crust, definition of soil,
- b) Nature and Classification of soil, important soil forming minerals, soil as aecosystem.
- c) Properties of soil – Coloure ,temperature,PH,electrical conductance (EC),Water holding capacity,organiccarbon,soilsalinity,soil density.

Unit - II - Chemistry of soil

- a) Soil health – Concept of nutrients , micro and macro nutrients and it's relation to plant health and productivity
- b) Soil moisture – Maximum water holding capacity , soil water
Movement under saturated and unsaturated condition.



Practical syllabus

1. soil analysis terms
2. Sampling area
3. Electrical conductivity
4. PH Procedure
5. Estimation of Available Potassium
6. Estimation of Phosphate
7. Estimation of Organic carbon
8. Estimation of Nitrogen

References :

1. The text book of soil chemistry by L.Bhattacharya and V.N.varma.
- 2 .The text book of analytical chemistry and industrial chemistry
R.M. Sharma.
3. soil chemical Analysis – P.R.Hesse
4. Soil testing mannual by department of Agriculture and
Co-operation, india.



BALASHEB DESAI FOUNDATION

Smt. Vijyadevi Desai Senior College, Daulatnagar

Department of Chemistry

Student List (2021-22)

Sr no	Name of the Student
1.	Adsule Anjali Devananda
2.	Adsule Siddhesh Subhash
3.	Attar Aashraf Ajj
4.	Bondre Namita Krushanat
5.	Borugale Ruturaj Vilas
6.	Chavan Vishal Prakash
7.	Chavan Avinash Hambhirao
8.	Chavan Bhagyashri Tukaram
9.	Chavan Sonali Jalindar
10.	Choudhari Akash Dattatray
11.	Desai Harshal Shankar



12	Desai Aniket Shankar
13	DigeSwapnilBalkrishna
14	DindePooja Ramesh
15	GosaviPriyankaRajendra
16	DongareAkashMahadev
17	GavhaneSamadhan Suresh
18	GachaneRajashriDhanaji
19	GhadaheRupeshDipak
20	Gurav Kailas Pandurang
21	JadhavShubham Narayan
22	Jadhav Sunil Ashok
23	JadhavUmeshHanmant
24	Jadhav Vishal Sitaram
25	JadhavNilesh Shankar



BALASHEB DESAI FOUNDATION

Smt.Vijyadevi Desai Senior College, Daulatnagar

Department of Chemistry

Short term course

Time Table(2021-22)

All the students of Bsc.III here by informed that the lecture of certificate course In "Analysis of Soil Sample of irrigated and non irrigated land near Patanregion" will Be conducted as per the schedule given below. The duration of course is **two month** From **1st march to 30th April 2022.**

Day	Monday	Tuesday	Wednesday	Thuresday	Friday	Saturday
Time	10.00 a.m. to 11.00 a.m.					

AB
(course co-ordinator)



BALASHEB DESAI FOUNDATION

Smt. Vijyadevi Desai Senior College, Daulatnagar

Department of Chemistry

(1 March to 30 April)

Annual Report

Short term course Presenty (2021-22)

Sr. No	Student name	1/3/22	2/3/22	3/3/22	4/3/22	5/3/22	6/3/22	7/3/22	8/3/22	9/3/22	10/3/22	11/3/22	12/3/22	13/3/22	14/3/22	15/3/22	16/3/22	17/3/22	18/3/22	19/3/22	20/3/22	21/3/22	22/3/22	23/3/22	24/3/22	25/3/22	26/3/22	27/3/22	28/3/22	29/3/22	30/3/22	
1	Adsule Anjali Devananda	P	P	P	P	A		A	A	P	P	P	P	P		P	P	P	P	P	A		P	P	P	P	P	P		P	P	P
2	Adsule Siddhesh Subhash	P	P	P	A	A		P	P	P	P	P			P	P	P	P	P				P	A	P	P	P	P		P	P	P
3	Attar Aashraf Aji	P	P	P	P	P		P	A	P	P	P	P			P	P	P	A	P	P		P	P	P	P	P		P	P	P	
4	Bondre Namita Krushanat	P	P	P	P	P		P	P	P	A	P	P			P	P	P	P	P	A		P	P	P	P	P		P	A	P	
5	Borugale Raturaj Vilas	P	A	P	P	P		P	P	P	P	P			P	P	P	P	P	A			P	P	P	P	P		P	P	P	
6	Chavan Vishal Prakash	P	P	P	P	P		P	P	A	P	P			P	P	P	P	P				P	P	P	P	A	P		P	P	P
7	Chavan Avinash Hambhirao	P	P	A	A	P		P	P	P	P	P	A			P	P	P	P	P			P	P	P	P	P		P	P	P	
8	Chavan Bhagyashri Tukaram	P	P	P	P	P		P	P	P	P	A	P			P	P	P	P	P			P	P	P	P	P		P	P	P	
9	Chavan Sonali Jalindar	P	P	P	P	P		P	P	P	P	P			P	P	P	A	P	A			P	P	P	P	P		P	P	P	
10	Choudhari Akash Dattatray	P	P	P	P	P		P	P	A	P	P	P			P	P	P	P	A	P			P	P	P	P	A		P	P	P
11	Desai Harshal Shankar	P	P	P	P	P		P	P	P	P	P			P	P	P	A	A	A			P	P	P	P	P		P	P	P	
12	Desai Aniket Shankar	P	P	P	P	P		P	P	P	P	P	A			P	P	A	P	P	P			P	P	P	P	P		P	P	P
13	Dige Swapnil Balkrishna	P	P	A	P	P		P	P	P	P	P			P	P	P	A	P	P			P	A	A	P	P	P		P	P	P
14	Dinde Pooja Ramesh	P	P	P	P	P		P	A	P	P	P	P			P	P	P	P	P			P	P	P	P	P		P	P	P	
15	Gosavi Priyanka Rajendra	P	P	P	A	A		P	P	P	P	P			P	P	P	A	P	A			P	P	P	P	A	P		P	P	P
16	Dongare Akash Mahadev	P	P	P	P	A		P	P	P	A	P	A			P	P	P	P	P			P	P	P	P	A		P	P	P	
17	Gavhane Samadhan Suresh	P	P	P	P	P		P	P	P	P	P			P	P	P	P	P				P	P	P	P	A		P	P	P	
18	Gachane Rajashri Dhanaji	P	P	P	P	P		P	A	A	A	P	P			P	P	P	P	P			P	P	P	P	P		P	P	P	
19	Ghadahe Rupesh Dipak	P	P	P	P	P		P	P	P	P	P			P	P	A	P	P	P			P	P	P	P	P		P	P	P	
20	Gurav Kailas Pandurang	P	A	P	P	P		P	P	P	P	P	A			P	P	P	A	A	P			P	P	P	P	P		P	P	P
21	Jadhav Shubham Narayan	P	P	P	A	A		P	P	P	P	P			P	P	P	P	P				P	P	P	P	P		P	A	P	
22	Jadhav Sunil Ashok	P	P	P	P	P		P	P	P	P	P			P	A	P	P	P	P			P	P	P	P	P		P	P	P	
23	Jadhav Umesh Hanmant	P	P	P	P	P		P	A	A	P	P			P	P	P	P	P				P	P	P	P	P		P	P	P	
24	Jadhav Vishal Sitaram	P	P	P	P	P		P	P	P	P	P			P	P	P	P	P				P	P	P	P	P		P	P	P	
25	Jadhav Nilesh Shankar	P	P	P	P	P		P	P	P	P	P			P	P	P	P	A	P			P	P	A	P	P		P	P	P	



Sr. No.	Student name	1/4/22	2/4/22	3/4/22	4/4/22	5/4/22	6/4/22	7/4/22	8/4/22	9/4/22	10/4/22	11/4/22	12/4/22	13/4/22	14/4/22	15/4/22	16/4/22	17/4/22	18/4/22	19/4/22	20/4/22	21/4/22	22/4/22	23/4/22	24/4/22	25/4/22	
		1	Adsule Anjali Devananda	P	P	P	A	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
2	Adsule Siddhesh Subhash	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3	Attar Aashraf Ajij	P	A	A	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P
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8	Chavan Bhagyashri Tukaram	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
9	Chavan Sonali Jalindar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
10	Choudhari Akash Dattatray	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
11	Desai Harshal Shankar	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
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14	Dinde Pooja Ramesh	P	P	P	P	A	P	H	P	P	P	P	P	P	P	P	A	P	A	P	H	P	P	P	P	P	H
15	Gosavi Priyanka Rajendra	A	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
16	Dongare Akash Mahadev	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P	P
17	Gavhane Samadhan Suresh	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P
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23	Jadhav Umesh Hanmant	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
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25	Jadhav Nilesh Shankar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P

Shejwal P.K
 Prof. Shejwal P.K
 Course Coordinator

[Signature]
 I/C Principal
 Smt. Vijayadevi Desai Sr. College
 Daulatnagar, Tal. Patan, Dist. Satara



BALASHEB DESAI FOUNDATION

Smt. Vijayadevi Desai Senior College, Daulatnagar

Department of Chemistry

Short term course (2021-22)

Analysis of Soil Sample of irrigated and non irrigated land near Patan region

“ Analysis of Soil Sample of irrigated and non irrigated land near Patan region” Examination to held 9th may to 10th 2022 Examination time table schedule is as following.

Sr no.	Date	Day	Time	Paper
1	09/05/ 2022	Monday	10:30 am to 12:30 pm	Theory
2	10/05/2022	Tuesday	10:30 am to 12:30 pm	Practical

Anastor
(course co-ordinator)



42/50

Balashheb Desai Foundation's
Smt. Vijyadevi Desai Senior College, Daulatnagar
Department of Chemistry
Coc Course Exam 2021-2022
Class - Bsc - III

Name - Adsule Anjali Devananda Date - 09/05/2022

Que -1) Multiple choice question

Mark - 50

- 0X1 Electrical conductivity meter measure
- a) Total salt in ion soluble salt in ion
c) Both the salt d) none of the above
222. PH Meter measures.....
- H ions activity b) H ion Concentration
c) Al ions d) all of the above
223. which instrument used for the estimation of potash (k).....
- Spectrophotometre b) Flame photometre
c) colorimeter d) Atomic absorbtion
224. Spectrophotometre is used for determination of.....
- a) N b) p
 K d) All of the above
- 0X5. It is also termed as muriate of potash.....
- a) KCl b) K_2SO_4
c) KH_2PO_4 none of these
226. Which of the following is not essential for plant.....
- a) Molybdrnum b) Copper
c) Chloride Cadmium
227. DAP is a fertilizer source of
- b) Nitrogen b) Phosphours
 Both a and b d) none of these
228. Nutrient which is required by plants in larger amount are termed as...
- b) Micronutrients b) Beneficial nutrients
 Macronutrients d) Useful nutrients
229. The loss of nitrogen as NH_3 gas from soil surface is termed as
- b) Nitrification b) Denitrification
c) Leaching Volatalization
2210. High analysis N fertilizer is.....
- a) Ammonium sulfate Urea
c) DAP d) Ammonium nitrate
2211. Deficiency in plant causes chlorosis first in younger leaves
- a) Nitrogen b) Phosphours
 Iron d) Potassium
2212. Urea is an Fertilizer .



- a) Organic b) Inorganic
c) Synthetic d) both a and c

213 A Soil with above PH 7 is called

- a) Acidic b) Alakaline
c) Normal d) Saline

214 The most common fertilizer Zn is

- a) $ZnNO_3$ b) $ZnCO_3$
 c) $ZnSO_4$ d) $ZnCl_2$

215 Acid rain is due to

- a) NO_2 in Air b) SO_2 in Air
 c) Both a and b d) None

216 Clay soil can holds Nutrients

- a) More than sandy soil b) less than sandy soil
c) same as sandy soil d) none of these

217 In earth Crust thepercentage age of oxygen.

- a) 47% b) 21% c) 0.03%

218 In Soil oxygen is present in Percentage .

- a) 42 % b) 21% c) 51%

219 Chemical formula of thorium is

- a) $Co(NH_2)_2$ b) $Sc(NH_2)_2$
c) HCN d) None of above

220 Nitrification rapid in season .

- a) Winter b) Rainy
 c) Summer d) all of the above

221 Red colour of soil is due to

- a) Hematite b) Geothite
c) Glauconite d) Maghemite

222 Black colour soil due to

- a) Titaniferous magnetite b) Geothite
c) Glauconite d) organic matter

223 The unit used for measured of EC is.....

- a) ds/m b) $\mu s/cm$ c) mg/m d) both a and b

224 $Kmno_4$ is used for

- a) Available Nitrogen b) Organic carbon
c) Available Phosphours d) Available Potassium

225 Rock Phosphate has P_2O_5



a) 10-20 % b) 20-40 % c) 30-50% d) 20-30%



BALASAHEB DESAI FOUNDATION

Smt. Vijayadevi Desai Senior College, Daulatnagar

Department of Chemistry

Coc Course Practical Exam 2021-22

Class-B.sc-III

Time -10:30 am to 12:30 pm

Date -10/05/2022

Q-1) Solve The following .

20

1) Determination of Soil analysis terms.

2) Determination of Electrical conductivity of Soil.

Q-2) Solve the Any two of the following.

30

1) Estimation of Nitrogen in Soil.

2) Estimation of Phosphate in Soil.

3) Estimation of Organic carbon in Soil.



Name :- Adsule Anjali Devananda
class :- B.Sc-III
sub :- Chemistry

Q-1) solve the following.

1) Determination of soil analysis terms.

* Aim :- soil analysis terms in different contains.

4 * Apparatus :- pH-meter, spectrophotometer, beaker, glass rod.

* observation :-

i). Buffer pH - this is a index value used for determining the amount of lime to apply on acid to bring the pH to the desired pH for for the crop to be grown. The lower the buffer pH reading the higher the lime requirement.

ii). Magnesium - Adequate magnesium levels range from 30 to 65 ppm. the cation saturation for magnesium should be 10 to 15%.

5 * iii). Iron :- soil pH is a very important factor in interpreting iron tests. In addition, crops vary a great deal in sensitivity to iron deficiency. Normally a medium level would be adequate for most soils.

iv). zinc - others factors, which should be considered in interpreting the zinc test

2) Determination of Electrical conductivity of soil.

* Aim :- Electrical conductivity.

5 * Apparatus :- beaker, measuring cylinder, glass rod, conductivity cell etc.

* observation :-

Reading of soil on the basis of Electric conductivity.

EC range (M mhos/cm) Rating

- | | |
|-----|------------------------|
| 0-1 | Good soil |
| 1-2 | poor seed emergence |
| 2-3 | Harmful to some crops |
| 3-4 | Harmful to most of the |

4 * Result :-

1) sample - 1.32

2) sample - 0.53

3) sample - 1.24



Q-2). solve any two.

1). Estimation of Nitrogen in soil.

* Aim :- Estimation of Nitrogen.

* Apparatus :- Distillation flask, measuring cylinder, beaker, paraffin wax, beaker and glass rod, etc.

* observation :-

Classification of Nitrogen -

category	Available Nitrogen kg/hect
very low	< 140
Low	141 - 240
moderate	281 - 420
moderately high	421 - 560
High	561 - 700
very high	> 700

* Result :-

1). sample - 19.3 kg/hect

2). sample - 20.3 kg/hect

3). sample - 37.4 kg/hect

BALASHEB DESAI FOUNDATION

Smt.Vijyadevi Desai Senior College, Daulatnagar

Department of Chemistry

Short term course

Analysis of Soil Sample of irrigated and non irrigated land near Patan region

Theory and Practical Result (2021-22)



Sr no.	Name of the Students	Theory Mark (50)	Practical Mark (50)	Total (100)
1.	Adsule Anjali Devananda	42	44	86
2.	Adsule Siddhesh Subhash	46	46	92
3.	Attar Aashraf Ajj	48	48	96
4.	Bondre Namita Krushanant	32	34	66
5.	Borugale Raturaj Vilas	35	38	74
6.	Chavan Vishal Prakash	38	39	77
7.	Chavan Avinash Hambhirao	38	38	72
8.	Chavan Bhagyashri Tukaram	38	42	80
9.	Chavan Sonali Jalindar	42	44	86
10.	Choudhari Akash Dattatray	44	48	92
11.	Desai Harshal Shankar	48	49	97
12.	Desai Aniket Shankar	44	47	91
13.	Dige Swapnil Balkrishna	42	44	86
14.	Dinde Pooja Ramesh	38	43	81
15.	Gosavi Priyanka Rajendra	32	38	70
16.	Dongare Akash Mahadev	Ab	Ab	Ab
17.	Gavhane Samadhan Suresh	38	41	79



18	GachaneRajashriDhanaji			
19	GhadaneRupeshDipak			
20	Gurav Kailas Pandurang			
21	JadhavShubham Narayan			
22	Jadhav Sunil Ashok			
23	JadhavUmeshHanmant			
24	Jadhav Vishal Sitaram			
25	JadhavNilesh Shankar			

V. Desai

VC Principal
Smt. Vijayadevi Desai Sr. College
Daulatnagar, Tal. Patan, Dist. Satara

BALASHEB DESAI FOUNDATION

Smt. Vijyadevi Desai Senior College, Daulatnagar

Department of Chemistry

(1 March to 30 April)

Annual Report

Short term course (2021-22)

Analysis of Soil Sample of irrigated and non irrigated land near Patan region

Department of chemistry has conducted Short term course on "Analysis of Soil Sample of irrigated and non irrigated land near Patan region" for Bsc .III Year Students. This affiliated by department of chemistry Smt. Vijyadevi Desai Senior College, Daulatnagar in the academic Year 2021-22. This course is completed under the guidance of Prof. Shirke .R.M (Head of Chemistry Department) .

This Course is suitable for chemistry graduates ,this course design to enhance the laboratory skills among the students. In this short term course 10 students were participated they were learn about the knowledge of soil analysis.

During this course department of chemistry conducted practical and lecture as weakly time table Department of chemistry were also conducted theory as well as practical.

Duration : 2 months (1st March to 30th April 2022)

Beneficiary : 25 Students

Outcome : 1. Soil testing – Various soil test methods can be

Learn

2. Understand the role of micronutrients in plant Growth and development.





Balasaheb Desai Foundation's
Shivajuni /affi/T-2/NewCollege/2013-14 Primary affi/V.V.A/
Smt. Vijayadevi Desai Senior College Daulatnagar
(Arts, Commerce, Science)

श्रीमती विजयादेवी देसाई सिनिअर कॉलेज दौलतनगर
(कला, वाणिज्य, विज्ञान)

Tal. Patan Dist. Satara (Maharashtra) Tel- 02372-295050 Email- Vddc490.cl@unishivaji.ac.in
Date: / /

Ref.No.

Certificate of appreciation

This is to certified that, Mr./ Miss. ...Ad.sule Anjali Desai Ananda.....

Smt. Vijayadevi Desai Senior College Daulatnagar.

has actively participated in the "**Irrigated and non-irrigated soil sample**" organized by **Chemistry Department**,

Year - 2021-22


HOD -

Chemistry
Smt. Vijayadevi Desai Sr. College

Head of Department


Prof. Panaskar .S.A

Course Co-ordinator





I/C Principal

Smt. Vijayadevi Desai Sr. College
Daulatnagar, Tal. Patan, Dist. Satara
Principal

(Kamble V.N.)



BALASAHEB DESAI FOUNDATION

Smt. Vijyadevi Desai Senior College ,Daulatnagar

Department of Chemistry (2022-23)

Nature of Course :

Course Name : irrigitated and non-irrigitated area by Soil Sample

Course Duration : Months

Eligibility : Std.XII Science Pass

Intake capacity : 25

Faculty : Experienced faculty in the respective field.

Course Structure : Theory : 10 periods

Practical : 10 periods

Nature of Examination : 50 %



BALASHEB DESAI FOUNDATION

Smt. Vijayadevi Desai Senior College, Daulatnagar

Department of Chemistry

Notice


Date – 20/ 02/2023

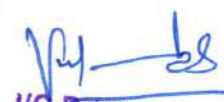
Co-orderly Invited to Board of studies Members of certificate course of Analysis of Soil Sample of irrigated and non irrigated land near Patan region Meeting on 27/02/ 2023 1.00 am at Department of Chemistry.

Agenda

1. Preparation of Syllabus on Analysis of Soil Sample Short term Course.
2. Course conduct Duration ,Date and time.
3. Course conduct Theory and practical Exam.
4. Sudden question by chairman permission.


Course Co-ordinator


HOD -
Chemistry
Smt. Vijayadevi Desai Sr. College
HOD


I/C Principal
Smt. Vijayadevi Desai Sr. College
Daulatnagar, Tal. Patan, Dist. Satara
Principal

BALASHEB DESAI FOUNDATION

Smt.Vijyadevi Desai Senior College, Daulatnagar

Department of Chemistry



Proceeding Of Meeting

Date : 24/11/2023

1. Prepared short term course Analysis of soil sample syllabus will be accepted by department of chemistry.
2. Course will be conducted free of the cost for duration of two month from 1st March to 30th April
3. After completion of course theory and practical exam will be conducted And results will declared. The successful students will be felicitated by Certificate.


I/C Principal
Smt. Vijayadevi Desai Sr. College
Daulatnagar, Tal. Patan, Dist. Satara



BALASHEB DESAI FOUNDATION

Smt. Vijyadevi Desai Senior College, Daulatnagar

Department of Chemistry

Analysis of Soil Sample of irrigated and non irrigated land near Patan region

2022-23

Notice

Date: 20/02/2023

All the Bsc III students informed that Department of chemistry going to organize one short term course on "**Analysis of Soil Sample of irrigated and non irrigated land near Patan region**" interested student advised to meet miss. Panaskar .S.A Before 27/02/2023.

I/C Principal

Smt. V.D. Sr. College
Daulatnagar, Tal. Patan, Dist. Satara



BALASHEB DESAI FOUNDATION

Smt. Vijyadevi Desai Senior College, Daulatnagar

Department of Chemistry

Bord of studies of certificate course on

Analysis of Soil Sample of irrigated and non irrigated land near Patan region

Chairman : Prof. Kamble .V.N.

Principle

(Smt. Vijyadevi desai college, Daulatnagar)

Vice. Chairman : Prof. Shirke.R.M.

(Head of Chemistry Department)

Members : 1. Prof. Panaskar S.A.

2 . Prof. Dige. J.S.



BALASHEB DESAI FOUNDATION

Smt. Vijyadevi Desai Senior College, Daulatnagar

Department of Chemistry

Analysis of Soil Sample of irrigated and non irrigated land near Patan region

Duration of course	:	2 Months
Total Marks	:	100 (50 Theory + 50 Practical)
Co-Ordinator	:	Prof. Panaskar .S.A.
		Assistance Professor
		Department of Chemistry

Theory Syllabus

Objectives :

To enable students –

~~To enable students –~~

1. To develop basic understanding regarding soil testing in the students
2. To Introduced them with macro and micro nutrients For soil.



Unit - I - Study of soil

- a) Structure of earth, Element composition of earth crust, definition of soil,
- b) Nature and Classification of soil, important soil forming minerals, soil as a ecosystem.
- c) Properties of soil – Coloure ,temperature,PH,electrical conductance (EC),Water holding capacity,organic carbon,soil salinity,soil density.

Unit - II - Chemistry of soil

- a) Soil health – Concept of nutrients , micro and macro nutrients and it's relation to plant health and productivity
- b) Soil moisture – Maximum water holding capacity , soil water
Movement under saturated and unsaturated condition.



Practical syllabus

1. soil analysis terms
2. Sampling area
3. Electrical conductivity
4. PH Procedure
5. Estimation of Available Potassium
6. Estimation of Phosphate
7. Estimation of Organic carbon
8. Estimation of Nitrogen

References :

1. The text book of soil chemistry by L.Bhattacharya and V.N.varma.
2. The text book of analytical chemistry and industrial chemistry R.M. Sharma.
3. soil chemical Analysis – P.R.Hesse
4. Soil testing mannual by department of Agriculture and Co-operation, india.



BALASHEB DESAI FOUNDATION

Smt. Vijayadevi Desai Senior College, Daulatnagar

Department of Chemistry

Student List (2022-23)

Sr no	Name of the Student
1.	Ghadge Vaibhav Sarjerao
2.	Potar Aniket Shivaji
3.	Suryawanshi hemant pandurang
4.	Shejwal Sushant Sudam
5.	Desai Akashda Shankar
6.	Desai Prajakata Shankar
7.	Desai Sanjivani Sanjay
8.	Desai Rohini Ananda
9.	Chavan pratikasha Ashok
10.	Suryawanshi Pragati Bhimrao
11.	Bavadekar Sawati Dnyandev
12.	
13.	

I/C Principal
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Daulatnagar, Tal. Patan, Dist. Satara



BALASHEB DESAI FOUNDATION

Smt. Vijayadevi Desai Senior College, Daulatnagar

Department of Chemistry

Short term course


Time Table (2022-23)

All the students of Bsc.III here by informed that the lecture of certificate course
In " **Analysis of Soil Sample of irrigated and non irrigated land near Patan region**" will
Be conducted as per the schedule given below. The duration of course is **two month**
From **1st march to 30th April 2023.**

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Time	10.00 a.m. to 11.00 a.m.					


H.C. Principal

Smt. Vijayadevi Desai Sr. College
Daulatnagar, Tal. Patan, Dist. Satara


[Course Co-ordinator]

BALASHEB DESAI FOUNDATION

Smt. Vijyadevi Desai Senior College, Daulatnagar

Department of Chemistry

(1 March to 30 April)

Annual Report

Short term course Presenty (2022-23)



Sr. No	Student name	1/3/23	2/3/23	3/3/23	4/3/23	5/3/23	6/3/23	7/3/23	8/3/23	9/3/23	10/3/23	11/3/23	12/3/23	13/3/23	14/3/23	15/3/23	16/3/23	17/3/23	18/3/23	19/3/23	20/3/23	21/3/23	22/3/23	23/3/23	24/3/23	25/3/23	26/3/23	27/3/23	28/3/23	29/3/23
11.	Ghadge Vaibhav Sarjerao	P	P	P	P	A	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
12.	Potar Aniket Shivaji	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
13.	Suryawanshi hemant pandurang	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
14.	Shejwal Sushant Sudam	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
15.	Desai Akashda Shankar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
16.	Desai Prajakata Shankar	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
17.	Desai Sanjivani Sanjay	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
18.	Desai Rohini Ananda	P	P	P	P	H	P	A	P	A	P	P	H	P	P	P	P	P	P	H	P	P	A	P	P	P	P	P	P	P
19.	Chavan pratikasha Ashok	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
20.	Suryawanshi Pragati Bhimrao	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
11	Bavadekar Swati Dnyandev	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

Sr. No	Student name	1/4/23	2/4/23	3/4/23	4/4/23	5/4/23	6/4/23	7/4/23	8/4/23	9/4/23	10/4/23	11/4/23	12/4/23	13/4/23	14/4/23	15/4/23	16/4/23	17/4/23	18/4/23	19/4/23	20/4/23	21/4/23	22/4/23	23/4/23	24/4/23	25/4/23	26/4/23	27/4/23	28/4/23	29/4/23	30/4/23
1.	Ghadge Vaibhav Sarjerao	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
2.	Potar Aniket Shivaji	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
3.	Suryawanshi hemant pandurang	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
4.	Shejwal Sushant Sudam	P	H	P	P	P	P	P	P	H	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
5.	Desai Akashda Shankar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
6.	Desai Prajakata Shankar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	

in sensitive



BALASHEB DESAI FOUNDATION

Smt. Vijayadevi Desai Senior College, Daulatnagar

Department of Chemistry

Short term course (2022-23)

Analysis of Soil Sample of irrigated and non irrigated land near Patan region

" Analysis of Soil Sample of irrigated and non irrigated land near Patan region" Examination to held 8th may to 9th 2023 Examination time table schedule is as following.

Sr no.	Date	Day	Time	Paper
1	8/05/ 2023	Monday	10:30 am to 12:30 pm	Theory
2	09/05/2023	Tuesday	10:30 am to 12:30 pm	Practical


I/C Principal

Smt. Vijayadevi Desai Sr. College
Daulatnagar, Tal. Patan, Dist. Satara


[course co-ordinator]



42
50

Class - Bsc - III

Name - Ghadge Vaibhav Sarjerao

Date - 08/05/2023

Mark - 50

Que -1) Multiple choice question

- 2.1. Electrical conductivity meter measure
- a) Total salt in ion b) soluble salt in ion
 c) Both the salt d) none of the above
- 2.2. PH Meter measures.....
- a) H ions activity b) H ion Concentration
 c) Al ions d) all of the above
- 2.3. which instrument used for the estimation of potash (k).....
- a) Spectrophotometre b) Flame photometre
 c) colorimeter d) Atomic absorbtion
- 0x4. Spectrophotometre is used for determination of.....
- a) N b) p
c) K d) All of the above
- 2.5. It is also termed as muriate of potash.....
- a) KCl b) K₂SO₄
c) KH₂PO₄ d) none of these
- 2.6. Which of the following is not essential for plant.....
- a) Molybdrnum b) Copper
c) Chloride d) Cadmium
- 2.7. DAP is a fertilizer source of
- a) Nitrogen b) Phosphours
 c) Both a and b d) none of these
- 2.8. Nutrient which is required by plants in larger amount are termed as...
- a) Micronutrients b) Beneficial nutrients
 c) Macronutrients d) Useful nutrients
- 0x9. The loss of nitrogen as NH₃ gas from soil surface is termed as
- a) Nitrification b) Denitrification
c) Leaching d) Volatalization
- 2.10. High analysis N fertilizer is.....
- a) Ammonium sulfate b) Urea
c) DAP d) Ammonium nitrate
- 2.11. Deficiency in plant causes chlorosis first in younger leaves
- a) Nitrogen b) Phosphours
 c) Iron d) Potassium
- 0x12. Urea is an Fertilizer .
- a) Organic b) Inorganic
c) Synthetic d) both a and c
- 2.13. A Soil with above PH 7 is called
- a) Acidic b) Alakaline
c) Normal d) Saline



- 14 The most common fertilizer Zn is
a) $ZnNO_3$ b) $ZnCO_3$
 c) $ZnSO_4$ d) $ZnCl_2$
- 15 Acid rain is due to
a) NO_2 in Air b) SO_2 in Air
 c) Both a and b d) None
- 16 Clay soil can hold Nutrients
 a) More than sandy soil b) less than sandy soil
c) same as sandy soil d) none of these
- 17 In earth Crust thepercentage age of oxygen.
 a) 47% b) 21% c) 0.03%
- 18 In Soil oxygen is present in Percentage .
a) 42 % b) 21% c) 51%
- 19 Chemical formula of thorium is
a) $Co(NH_2)_2$ b) $Sc(NH_2)_2$
c) HCN d) None of above
- 20 Nitrification rapid in season .
 a) Winter b) Rainy
c) Summer d) all of the above
- 21 Red colour of soil is due to
 a) Hematite b) Geothite
c) Glauconite d) Maghemite
- 22 Black colour soil due to
 a) Titaniferous magnetite b) Geothite
c) Glauconite d) organic matter
- 23 The unit used for measured of EC is.....
a) ds/m b) Us/cm c) mg/m d) both a and b
- 24 $Kmno_4$ is used for
 a) Available Nitrogen b) Organic carbon
c) Available Phosphours d) Available Potassium
- 25 Rock Phosphate has P_2O_5
a) 10-20 % b) 20-40 % c) 30-50% d) 20-30%



BALASAHEB DESAI FOUNDATION

Smt. Vijyadevi Desai Senior College, Daulatnagar

Department of Chemistry

Coc Course Practical Exam 2022-23

Class-B.sc-III

Time -10:30 am to 12:30 pm

Date -09/05/2023

Q-1) Solve The following .

20

- 1) Determination of Soil analysis terms.
- 2) Determination of Electrical conductivity of Soil.

Q-2) Solve the Any two of the following.

30

- 1) Estimation of Nitrogen in Soil.
- 2) Estimation of Available Potassium in Soil.
- 3) Estimation of Organic carbon in Soil.

40
50

COC course practical Exam - 2022-23



Name :- Ghadge Vaibhav
class :- B.Sc-III sarjerao
sub :- chemistry

Q-1) solve the following.

1) Determination of soil analysis terms.

* Aim :- soil analysis terms in different contains.

4 * Apparatus :- pH meter, spectrophotometer, beaker, glass rod etc.

4 * observation :-

i). soil pH - The soil pH, measure active soil acidity or alkalinity. pH of 7.0 is neutral. The lower value than 7.0 are acid. Most of the pH range of mineral soils is 6.0 to 7.0 for organic soil 5.0 to 5.5.

ii). Calcium - primarily soil type, drainage, liming and cropping practices effects the levels of calcium found in the soil. The level for calcium will vary with soil type, but optimum range are normally.

4 iii). sodium - sodium is not essential plant nutrient but is usually considered in light effect on the physical condition on soil.



2) Determination of Electrical conductivity.

Aim - Electrical conductivity.

Apparatus - Beaker, measuring cylinder, glass rod, conductivity cell etc.

4 ~~Observation -~~

~~Reading of soil on the basis of electric conductivity.~~

EC range (mmhos/cm)	Rating
---------------------	--------

0-1	Good soil
-----	-----------

1-2	poor seed emergence
-----	---------------------

2-3	Harmful to some crops
-----	-----------------------

3-4	Harmful to most of the crops.
-----	-------------------------------

~~Result -~~

1) sample - 1.32

5 2) sample - 0.58

3) sample - 1.01

in light effect on the physical condition of soil.

to obtain a good deal of soil.



Q-2) solve any two.

1) Estimation of Nitrogen in soil.

Aim - Estimation of Nitrogen.

Apparatus - Distillation flask, measuring cylinder, beaker, paraffin wax.

Observation

Classification of Nitrogen -

category

Available Nitrogen
kg/haect

very low	< 140
Low	141 - 240
moderate	241 - 420
moderately high	421 - 560
High	561 - 700
very High	> 700

Result :-

- 1) sample - 19.4 kg/haect
- 2) sample - 18.2 kg/haect
- 3) sample - 38.2 kg/haect.



3). Estimation of organic carbon in soil.

* Aim:- Estimation of organic carbon.

* Apparatus:- test tube, beaker, scope, stopper, dropper

* ~~Observation:-~~

5

sample No - 1) organic carbon are white soil in below 0.38%.

2) organic carbon are red soil in below 0.42%.

3) Organic carbon are black soil in below 0.82%.

* ~~Result:-~~

6

1) sample - Below 0.38%.

2) sample - Below 0.42%.

3) sample - Below 0.82%.

Spanaskar



BALASHEB DESAI FOUNDATION

Smt. Vijayadevi Desai Senior College, Daulatnagar

Department of Chemistry

Short term course

Analysis of Soil Sample of irrigated and non irrigated land near Patan region

Theory and Practical Result (2022-23)

Sr no.	Name of the Students	Theory Mark (50)	Practical Mark (50)	Total (100)
1.	Ghadge Vaibhav Sarjerao	42	40	82
2.	Potar Aniket Shivaji	46	48	94
3.	Suryawanshi hemant pandurang	35	30	66
4.	Shejwal Sushant Sudam	38	35	73
5.	Desai Akashda Shankar	46	45	91
6.	Desai Prajakata Shankar	40	40	80
7.	Desai Sanjivani Sanjay	32	38	70
8.	Desai Rohini Ananda	44	46	90
9.	Chavan pratikasha Ashok	38	40	78
10.	Suryawanshi Pragati Bhimrao	40	42	82
11.	Bavadekar Sawati Dnyandev	Ab	Ab	Ab


H.C. Principal
Smt. Vijayadevi Desai Sr. College
Daulatnagar, Tal. Patan, Dist. Satara



BALASHEB DESAI FOUNDATION

Smt. Vijyadevi Desai Senior College, Daulatnagar

Department of Chemistry

(1 March to 30 April)

Annual Report

Short term course (2022-23)

Analysis of Soil Sample of irrigated and non irrigated land near Patan region

Department of chemistry has conducted Short term course on "Analysis of Soil Sample of irrigated and non irrigated land near Patan region" for Bsc .III Year Students. This affiliated by department of chemistry Smt. Vijyadevi Desai Senior College, Daulatnagar in the academic Year 2022-23. This course is completed under the guidance of Prof. Shirke .R.M (Head of Chemistry Department) .

This Course is suitable for chemistry graduates ,this course design to enhance the laboratory skills among the students. In this short term course 10 students were participated they were learn about the knowledge of soil analysis.

During this course department of chemistry conducted practical and lecture as weakly time table Department of chemistry were also conducted theory as well as practical.

Duration : 2 months (1st March to 30th April 2023)

Beneficiary : 10 Students

Outcome :

1. Soil testing – Various soil test methods can be Learn
2. Understand the role of micronutrients in plant Growth and development.



BalasahebDesai Foundation's
Shivajiuni /affi/T-2/NewCollege/2013-14Primary affi/V.V.N./
Smt. Vijayadevi Desai Senior College Daulatnagar
(Arts, Commerce, Science)

श्रीमती विजयादेवी देसाई सिनिअर कॉलेज दौलतनगर
(कला , वाणिज्य ,विज्ञान)

Tal .Patan Dist. Satara (Maharashtra) Tel- 02372-295050 Email-Vddc490.cl@unishivaji.ac.in

Ref.No.

Date : / /

Certificate of appreciation

This is to certified that, **Mr/ Miss.Ghadge.....Saibhan.....Saxena.....**
Smt. Vijayadevi Desai Senior College Daulatnagar .

has actively participated in the "**Irrigated and non-irrigated soil sample**" organized by **Chemistry Department**,
Year - 2022-23

R. Shirke
HOD -

Chemistry
Smt. Vijayadevi Desai Senior College

Head of Department

P. Panaskar

Prof. Panaskar .S.A

Course Co-ordinator



V. N. Kamble

I/C Principal
Smt. Vijayadevi Desai Sr. College
Daulatnagar, Tal. Patan, Dist. Satara
(Kamble V.N.)