



SPVVS'S

**G.P.PORWAL ARTS, COMMERCE &
V.V.SALIMATH SCIENCE COLLEGE,
SINDGI**

BROCHURE



DEPARTMENT OF CHEMISTRY

**CERTIFICATE COURSE
2022-23**

TITLE : SOIL ANALYSIS

DATE:15/10/2022 TO 31/12/2022

**Inauguration
15/10/2022
Time : 10:30 AM**

**Valedictory
05/01/2023
Time : 10:30 AM**

S. K. Jangaloue
H.O.D.

Dept. of Chemistry
G. P. Porwal Arts & Commerce & V. V. Salimath Science College
SINDGI-586128

S. K. Jangaloue

**Coordinator IQAC
G. P. PORWAL ARTS, COM
V. V. SALIMATH Sc. College
SINDGI-586128.**

S. K. Jangaloue

**Principal,
G. P. Porwal Arts, Comm &
V. V. Salimath Sc. College
SINDGI-586128. College Code: 5234**



S.P.V.V.S'S
G.P.PORWAL ARTS, COMMERCE AND V.V.SALIMATH SCIENCE COLLEGE,
SINDGI – 586 128
(Dist: Vijayapur. Karnataka State)

NAME OF THE COURSE

SOIL ANALYSIS

OFFERED BY

DEPARTMENT OF
CHEMISTRY

COURSE CODE

CCCHEMSOI 22-23

COURSE COORDINATOR

SMT.S.S.MANGALORE
HOD, CHEMISTRY

DEPARTMENT OF CHEMISTRY CERTIFICATE COURSE DETAILS

INSTRUCTIONAL DESIGN

30 HOURS (This course is of Thirty Hrs duration which include Theory and Practical)

ABOUT COLLEGE

G.P.Porwal Arts, Commerce & V.V.Salimath Science College is the first science college in Sindagi Taluk of Vijayapur district which provides education in science stream at U.G. level to the educationally, economically and socially backward students of this Taluk. Since 1988, many students are graduated with B.Sc in chemistry. Chemistry is one of the optional subject.

IQAC of G.P.Porwal Arts, Commerce & V.V.Salimath Science College, in its meeting decided to introduce few self financed certificate courses from the academic sessions 2022-23. The continuation of these courses will depend on interest and participation of students.

ELIGIBILITY

All students of I semester are eligible to enroll for the course.

SCOPE OF THE COURSE

The course paves way for Entrepreneurship and career opportunities in Central Government and State Government Organizations.

OBJECTIVES

- To evaluate the fertility status of a soil for providing an index of nutrient availability or supply in a given soil.
- To provide a basis for recommendations on the amount of lime and fertilizer.
- TO evaluate the fertility status of a soil on area basis by the use of soil test summaries.

BENEFITS OF SOIL ANALYSIS

- Determines level of nutrients in the soil.
- Helps farmers in making smart data driven decisions.
- Helps in getting higher yield of crop.
- Helps in optimizing the fertilizer expenditure.
- Helps in selecting the right fertiliser and quantity for optimum fertility.
- Determination the effect of environment factors on soil
- Determination soil fertility.

COURSE OUTCOMES

- At the end of the program, students identify the benefits of soil organic matter
 - Identify the six essential nutrients elements in soil and describe how they affect soil fertility.
 - Identify the factors affecting soil formation and describe processes involved.
 - Identify soil profile in terms of soil colour, texture and quantity of organic matter
-

COURSE CONTENT

UNIT-I

10 Hrs

Introduction : definition of soil, concept of lithosphere, soil as a natural body soil components

UNIT-II

10 Hrs

Properties of soil

- Physical properties- soil separates, texture, Aggregation and structure.
- Chemical properties- Morphology of colloids, chemistry of clays, Ionic exchange.

UNIT-III

10 Hrs

Common soil test methods for fertilizers recommendations: Quantity- intensity relationships: soil test crop response correlations and response functions

BOARD OF STUDIES

- | | | |
|------------------------|---|----------------------|
| 1. Prof. D.M.Patil | : | Chairman & Principal |
| 2. Prof. S.S.Mangalore | : | Coordinator |
| 3. Miss. P.S.Biradar | : | Member |
| 4. Miss. B.S.Heremath | : | Member |

THANK YOU


S.S. Mangalore
Dept. of Chemistry
G. P. Porwal Arts & Comm. College
V. V. Salimath Science College
SINDGI-506128


Coordinator IQAC
G. P. PORWAL ARTS, COMM &
V. V. SALIMATH Sc. College
SINDGI-506128


Principal,
G. P. Porwal Arts, Comm &
V. V. Salimath Sc. College
SINDGI-506128. College Code: 5234



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S.P.V.V.S'S
**G.P.PORWAL ARTS, COMMERCE AND V.V.SALIMATH SCIENCE
COLLEGE, SINDGI – 586 128** (Dist : Vijayapur. Karnataka State)
Affiliated to Rani Channamma University, Belagavi
Accredited at 'B' Grade (2.42 CGPA) by NAAC
E-mail: gppprincipal@gmail.com Web: www.gppvvs.ac.in Ph: 08488-221244 Mobile : 9611032604

DEPARTMENT OF CHEMISTRY

From,
The HOD,
Department of chemistry
Date: 07-10-2022

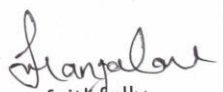
To,
The Principal,
G P Porwal Arts ,Commerce and V V Salimath Science college

Sub: Permission to certificate course on "soil analysis"

Respected Sir,
We are the faculty of chemistry department have decided to start Certificate course on "soil analysis" for BSc I sem students. So we kindly request you to please give the permission to start the course for the academic year 22-23.we Hope that the authority will consider the request and oblige.
Thanking You,

Date: 07-10-2022

Yours faithfully


H.O.D.
Chemistry
G.P.P. Dept. of Chemistry
G.P.Porwal Arts & Commerce College
V.V. Salimath Science College
SINDGI - 586 128

S.P.V.V.S'S



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Date: 09/10/22

DEPARTMENT OF CHEMISTRY

NOTICE

It is hereby informed to all the students of BSc I semester that Certificate course on "soil analysis " will be started in our college from 15-10-2022. Hence interested students may apply on or before 10-10-2022

Contact:

Prof: Smt. S.S.Mangalore

Prof:B.S.Hiremath

Prof:P.S.Biradar

HOD.

Dept. of Chemistry

G P Porwal Arts, Commerce, &
V V Salimath Science College
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**DEPARTMENT OF CHEMISTRY
CERTIFICATE COURSE 2022-23
TOPIC : SOIL ANALYSIS
STUDENT ENROLLMENT LIST**

Sl No.	Reg No	Name	Signature
1	U15NB22S0015	CHAITRA	Chaitra
2	U15NB22S0017	VAISHNAVI DHARIKAR	Vaishnavi
3	U15NB22S0018	RAKSHITA SHREEMANTH HADAPAD	Rakshita
4	U15NB22S0020	SAHANA BADIGER	Sahana
5	U15NB22S0021	MEGHA SHIVANAND DODDENAVAR	Megha
6	U15NB22S0025	AMULKUMAR RAMESH HUGAR	Amul Kumar
7	U15NB22S0031	PAVITRA ANGADI	Pavitra
8	U15NB22S0037	KAVERI BASAVARAJ BIRADAR	Kaveri
9	U15NB22S0045	VIDYASHREE JOGUR	Vidya
10	U15NB22S0046	AKASHA RAJPUT	Akasha
11	U15NB22S0049	SATISH	Satish
12	U15NB22S0054	UDAYKUMAR PUJARI	Uday Kumar
13	U15NB22S0056	MADINA HUNASHYAL	Madina
14	U15NB22S0078	SAVITRI SHIVAPPA DHANNURA	Savitri
15	U15NB22S0081	BASAMMA	Basamma
16	U15NB22S0082	GOUSIYA BEGUM	Gousiya
17	U15NB22S0084	SANGEETA SHARANAGOUDA ALALA	S.S. Alala
18	U15NB22S0086	SHIVANAND GUGGARI	Shivanand
19	U15NB22S0096	AKSHATA BHEEMSING CHAVAN	Akshata
20	U15NB22S0100	LAXMI A GUNARI	Laxmi
21	U15NB22S0101	CHAITRA JAKKAPPA	Chaitra
22	U15NB22S0102	SUDARSHAN BHIMARAYA PUJARI	Sudarshan
23	U15NB22S0104	VIKAS GADDAD	Vikas
24	U15NB22S0105	VISHWAS JOGUR Anand	Vishwas
25	U15NB22S0109	AYESHA BEGUM N MELINAMANI	Ayesha
26	U15NB22S0110	RADHIKA RAMESH PANDIT	Radhika
27	U15NB22S0027	Syeda Aimen Fatima	Syeda

H.O.D. Dept. of Chemistry
Coordinator IQAC
G.P. Porwal Arts, Comm. & V.V. Salimath Science College, Sindgi

Principal,
G. P. Porwal Arts, Comm. & V. V. Salimath Sc. College
SINDGI-586128. College Code: 15



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COLLEGE, SINDGI – 586 128** (Dist : Vijayapur. Karnataka State)

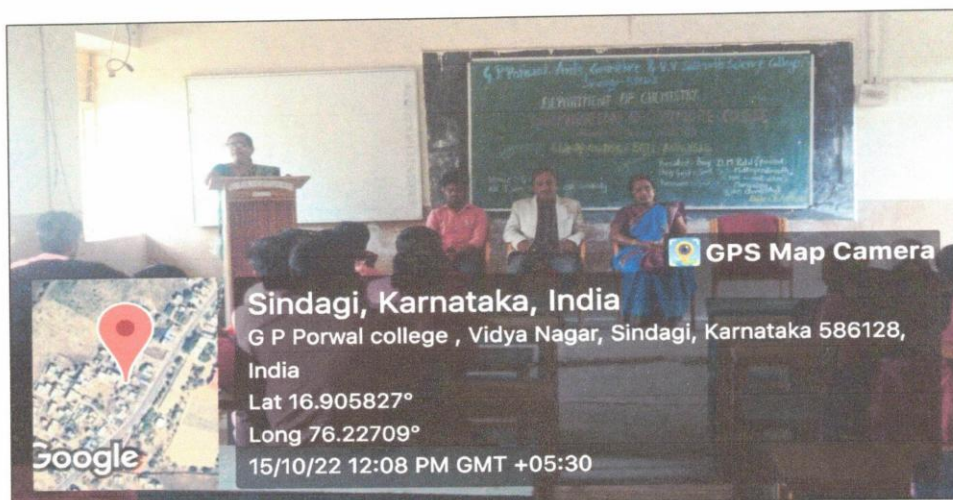
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DEPARTMENT OF CHEMISTRY

SOIL ANALYSIS

INAUGURATION PROGRAMME 2022-23



H. O. D.
H.O.D.

Dept. of Chemistry
G.P. Porwal Arts & Commerce &
V.V. Salimath Science College
SINDGI-586128

ISM

Coordinator IQAC
G.P. PORWAL ARTS, COM &
V.V. SALIMATH Sc. College.
SINDGI-586128.

Principal

Principal,
G. P. Porwal Arts, Comm &
V. V. Salimath Sc. College
SINDGI-586128. College Code: 520



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COLLEGE, SINDGI – 586 128 (Dist : Vijayapur. Karnataka State)

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DEPARTMENT OF CHEMISTRY

(only for First semester)

THEORY & PRACTICAL TIME TABLE 2022-23

Days	TIME		Name of the faculty
	THEORY	PRACTICAL	
Monday	3PM to 4PM		Prof: Smt. S.S.Mangalore Prof: P.S. Biradar Prof:B.S.Hiremath
Tuesday	3PM to 4PM		
Wednesday	3PM to 4PM	3PM to 4PM	
Thursday	3PM to 4PM	3PM to 4PM	
Friday	3PM to 4PM		

S. Mangalore
H.O.D.

Dept. of Chemistry
G.P. Porwal Arts & Commerce &
V.V. Salimath Science College
SINDGI - 586 128

S.M.

Co-ordinator IQAC
G. P. Porwal Arts, Comm & V. V. Salimath
Science College, SINDGI-586128. Dt:Vijayapur

S.
Principal,

G.P.Porwal Arts, Comm. &
V.V.Salimath Sc. College
& P. G. Centre, SINDGI.



S.P.V.V.S'S

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DEPARTMENT OF CHEMISTRY

Certificate Course 2022-2023

"soil analysis "

NOTICE

It is hereby informed to all the students of B.Sc I semester who have participated in Certificate course please attend Practical and Theory exam as per following time table.

Date	Day	Time		Marks
30/12/2022	Friday	3:00pm to 4:00pm	Theory	50
31/12/2022	Saturday	3:00pm to 4:00pm	Practical	50

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Science College, SINDGI-586128.

Principal,

G.P. Porwal Arts, Comm. &
V.V. Salimath Sc. College
S.P.V. Centre, SINDGI

Department of chemistry

Certificate course

Syllabus

hours

Unit I :

Introduction : definition of soil , concept of lithosphere , soil as a natural body ,soil components : Air , water , inorganic and organic solids, formation of soil ,types of soils and basic concepts.

Unit II: Properties of soil

- A) Physical properties:- soil separates , Texture, Aggregation and structure, Temperature, Colour, Properties of soil mixture, Bulk density , Particle density, Aeration and drainage, compaction, Surface area, Soil water relationships.
- B) Chemical properties:- Morphology of colloids, Chemistry of clays, Ionic exchange, Acidity, Alkalinity, pH, salinity, reactions in liming and acidification.

Unit III:

Common soil test methods for fertilizers recommendations : quantity – intensity relationships ; soil test crop response correlations and response functions.

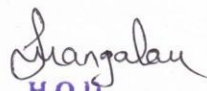
PRACTICALS:

Part I: Soil analysis

hours

- 1) To determine ph of given soil sample.
- 2) To determine the bulk density of given soil.
- 3) To determine the specific gravity of the given soil.
- 4) To determine the moisture content of given soil.
- 5) To determine the electrical conductivity of given soil.
- 6) To determine the alkalinity of given soil.

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SINDGI-586128. College Code: 5234

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G.P.PORWAL ARTS, COMMERCE AND V.V.SALIMATH SCIENCE COLLEGE
AND BHASKARACHARYA-II PG CENTRE, SINDGI-586128 DIST: Bijapur

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Department of Chemistry

Certificate Course-2022-2023

" Soil analysis "

(Only for First semester)

Tme: 2 Hrs

Question Paper 2022-2023

Max Marks: 50

10 X 5 = 50

Q.No: 1 Answer the following questions.

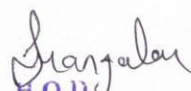
- 1) What is Soil? Nutrients Present in soil.
- 2) Write the types of Soil.
- 3) What is Soil analysis?
- 4) Write the components of Soil.
- 5) Draw the PH meter of soil analysis.

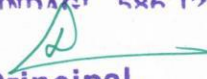
Q.No: 2 Answer the following questions

- 1) Explain in detail PH meter of soil.
- 2) Explain alkalinity and salinity of soil.
- 3) Explain the difference between inorganic and organic soil.
- 4) Define :Alkalinity ,PH, Salinity.
- 5) Answer the following questions
 - a) Explain nitrogen and phosphorous contents present in soil.
 - b) Explain properties of soil.


Coordinator IQAC

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G.P. PORWAL ARTS, COMMERCE & V.V. SALIMATH SCIENCE COLLEGE, SINDAGI

SUBJECT : CHEMISTRY

B.SC. I SEMESTER

CERTIFICATE COURSE

2022-23

TOPIC SOIL ANALYSIS

No.	RegNo.	StudentName	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1	S0002	ANAND																											
2	S0005	INDRA BASAPPA NABAGERI																											
3	S0015	CHAITRA																											
4	S0017	VAISHNAVI DHARIKAR																											
5	S0018	RAKSHITA S HADAPAD																											
6	S0020	SAHANA BADIGER																											
7	S0021	MEGHA S DODDENAVAR																											
8	S0025	AMULKUMAR RAMESH HUGAR																											
9	S0027	SYEDA AIMEN FATIMA																											
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12	S0045	VIDYASHREE JOGUR																											
13	S0046	AKASHA RAJPUT																											
14	S0049	SATISH																											
15	S0054	UDAYKUMAR PUJARI																											

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16	S0056	MADINA HUNASHYAL																											
17	S0078	SAVITRI SHIVAPPA DHANNURA																											
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26	S0103	ABHINAVARAYA S VARAGAL																											
27	S0104	VIKAS GADDAD																											
28	S0109	AYESHA BEGUM N MELINAMANI																											
29	S0110	RADHIKA RAMESH PANDIT																											

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			G.P. PORWAL ARTS, COMMERCE & V.V. SALIMATH SCIENCE COLLEGE, SINDAGI																				2022-23									
SUBJECT : CHEMISTRY			B.SC. I SEMESTER										CERTIFICATE COURSE																			
			TOPIC SOIL ANALYSIS																													
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1	S0002	ANAND	—	—	—	—	—	—	—																							
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Co-ordinator IQAC
G.P. Porwal Arts, Comm & V.V. Salimath Science College, SINDAGI-586128. De Vijayapur

Principal,
G.P. Porwal Arts, Comm. & V.V. Salimath Sc. College
& P.G. Centre, SINDAGI

Page 1 of 2

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Shangalau
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G.P. Porwal Arts, Comm. & V.V. Salimath Science College
SINDAGI - 586128

Principal,

Reg No: V15NB2250017
Vaishnavi. Dhaukar

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50

Q.No (1)
(1) Soil is the loose surface material that covers most land. It consists of inorganic particles & organic matter.
→ Nutrients present in soil are: Nitrogen, phosphorus, potassium, Calcium, magnesium, sulfur, iron, zinc, manganese, copper, boron, molybdenum & chlorine.

(2) Soil is classified into four types:

(1) Sandy Soil (2) Silt Soil (3) Clay Soil (4) Loamy Soil

(3) Soil analysis is a set of various chemical processes that determine the amount of available plant nutrients in the soil, but also the chemical, physical & biological soil properties important for plant nutrition.

(4) Soil is a material composed of five ingredients:

Minerals, soil organic matter, living organisms, gas & water

Q.No (2)

(1) pH meter of soil - Soil pH meters are devices used by gardeners & agricultural professions to measure the acid or alkalinity of a soil. Getting your soil pH right is a must if you want to produce healthy, vibrant plants.
To get accurate measurements you need to know the size procedure for your soil pH meter.
→ The soil pH meter consists of probe & an indicator. The probe

→ A pH of 9 is ten times more alkaline than pH of 8 & a pH of 10 is ten times more alkaline than a pH of 9. Thus, soil with pH of 10 is 100 times more alkaline than a soil with a pH of 8.

(3) All soils are composed of organic matter. Organic, inorganic refer to the process & the chemicals used to maintain soil.

→ Bulk density is way smaller in organic soil compared to inorganic soil.

→ The colour of organic soil is usually dark.

→ Capacity for water retention is higher in organic soil.

→ Cation exchange capacity is higher in organic than inorganic soil.

→ Lower pH in organic soils (typically 5.5 vs 7.5 for inorganic soils).

→ Exchangeable hydrogen is much higher in organic soil (50% vs 10% for inorganic).

(4) • Alkalinity: Refers to the amount of alkali. An alkali is a chemical that can dissolve in water, combine with acids to form salts, & make acids less acidic.

5 • pH: Quantitative measure of the acidity or basicity of aqueous or other liquid solutions.

• Salinity: Can be defined as the concentration of dissolved mineral salts present in water & soils on a unit volume or weight basis.

(5) (a) Nitrogen: Gets the growth shown on the root. It's a building block for growing new stems & leaves, & it is a necessary part of chlorophyll, which in-

is important for plant growth, regulating the movement of air & water, influencing root development & affecting nutrient availability.

(3) Soil Porosity: Refers to the pores within the soil. It influences the movement of air & water. Healthy soils have many pores between & within the aggregate. The way in which a soil is managed can affect its porosity. Poor quality soils have few visible pores, cracks or holes.

(4) Soil Chemistry: Clays & organic matter in the soil carry negative charges. Water in the soil dissolves nutrients & other chemicals. Nutrients like potassium & ammonium have positive charges. They are attracted to the negatively charged organic & mineral matter & this prevents them from being lost through leaching as water moves through the soil. Soils can be acid, alkaline or neutral. Soil pH influences nutrient absorption & plant growth.

(5) Soil Colour: Soil colours range from black to red to white. Sometimes it can even be blue. Soil colour mostly comes from organic matter and iron. Topsoil is often dark because of organic matter. An even, single colour indicates the soil is well drained. In contrast, rusty spots and grey patches indicate poor drainage.

Q.No(1) (5) pH meter of Soil

[Vidya. Jogur] vidyashree M Jogur

Q No (1)

(1) Soil is the loose surface material that covers most land. It consists of inorganic particles and organic matter.

2 → Nutrients present in soil are: Nitrogen, phosphorus, potassium, calcium, magnesium, iron, zinc, manganese, copper, boron, chlorine and molybdenum

(2) Soil is classified into four types:

i) sandy soil ii) salt soil iii) clay soil iv) loamy soil

(3) Soil analysis is a set of various chemical processes that determine the amount of available plant

2- nutrients in the soil, but also the chemical, physical & biological soil properties important for plant nutrition.

(4) Soil is a material composed of five ingredients:

1- * minerals * soil * organic matter
* living organisms * Gas & water.

Q. No(2)

(1) pH meter of soil - Soil pH meters are devices used by home gardners & agricultural professions to measure the acidity or alkalinity of a soil. Getting your soil pH right is a must if you want to produce healthy, vibrant plants, to get accurate measurements you need to know the right procedure for your soil pH meter.

-5-

→ The Soil pH meter consists of probe & an indicator. The probe must come into contact with the set to function. Indicator will give a pH reading & the result will provide an accurate idea of pH levels in set for most gardening tasks.

→ Soil pH metre are devices used to measure the acidity or Alkalinity of a soil. They work by measuring the hydrogen ion activity & this is expressed through the potential for hydrogen or 'pH'. The pH scale ranges from 0-14 with 0 being extremely acidic, 7 being natural & 14 being alkaline.

→ The ideal pH range for most plants falls b/w 5.5 & 7.5. Although, some plants are still able to thrive outside of this range.

→ Soil pH affects the uptake of key nutrients, so when pH is out of the ideal range there is a change your plants & crops are not having optimum nutrient uptake.

(3) All soils are composed of organic matter. organic, inorganic refer to the process & the chemicals used to maintain soil.

→ Bulk density is way smaller in organic soil compared to inorganic soil.

→ the colour of organic soil is usually dark

→ capacity for water retention is higher in organic soil.

→ cation exchange capacity is higher in organic than inorganic soil

→ lower pH in organic soils (typically 5.5 vs 7.5 for inorganic soils)

→ Exchangeable hydrogen is much higher in organic soil (50% vs 10% for inorganic)

(u) • Alkalinity : Refers to the Amount of alkali. An alkali is a chemical that can dissolve in water, combine with acids to form salts, & make acids less acidic.

• pH : Quantitative measure of the acidity or basicity of aqueous or other liquid solutions.

• Salinity : can be defined as the concentration of dissolved mineral salts present in water & soils on a unit volume or weight basis.

(1) Soil texture: it is made up of different sized particles. Soil texture refers to the size of the particles that make up the soil & depends on the proportion of sand, silt & clay-sized particles & organic matter in soil. Sand particles are quite big. Silt particles are too smaller for us to see with our eyes.

(2) Soil structure: it describes the way the sand, silt & clay particles are clumped together. organic matter & soil organisms, like earthworms & bacteria influence soil structure. Soil structure is important for plant growth, regulating the movement of air & water, influencing root development & effecting nutrient availability.

(3) Soil porosity: Refers to the pores within the soil. it influences the movement of air & water. Healthy soils have many pores between & within the aggregate. The way in which a soil is managed can affect its porosity. Poor quality soils have few visible pores, cracks or holes.

(4) Soil Chemistry: clays & organic matter in the soil carry negative charges. water in the soil dissolves nutrients & other chemicals. nutrients like potassium & ammonium have positive charged organic & mineral matter & this prevents them



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DEPARTMENT OF CHEMISTRY

Certificate Course-2022-23

"SOIL ANALYSIS"

Statement Of Marks -2022-23

SL.NO	REG.NO.	NAME OF THE STUDENTS	THEORY 50 M	PRACTICAL 50 M	TOTAL 100 M	REMARK
1.	U15NB22S0015	CHAITRA	40	44	84	Pass
2.	U15NB22S0017	VAISHNAVI.DARIKAR	40	41	81	Pass
3.	U15NB22S0018	RAKSHITA S H	41	41	82	Pass
4.	U15NB22S0020	SAHANA BADIGER	36	47	83	Pass
5.	U15NB22S0021	MEGHA DODDENAVAR	38	47	85	Pass
6.	U15NB22S0025	AMULKUMAR R.H.	35	41	76	Pass
7.	U15NB22S0031	PAVITRA ANGADI	36	36	72	Pass
8.	U15NB22S0037	KAVERI B BIRADAR	38	42	80	Pass
9.	U15NB22S0045	VIDYASHREE JOGUR	35	42	77	Pass
10.	U15NB22S0046	AKHASH RAJPUT	36	41	77	Pass
11.	U15NB22S0049	SATISH	38	42	80	Pass
12.	U15NB22S0054	UDAYAKUMAR PUJARI	33	37	70	Pass
13.	U15NB22S0056	MADINA HUNISYAL	42	39	81	Pass
14.	U15NB22S0078	SAVITRI DANNUR	38	40	78	Pass

15.	U15NB22S0081	BASSAMA	40	44	84	Pass
16.	U15NB22S0082	GOUSIYABEGUM	35	42	77	Pass
17.	U15NB22S0084	SANGEETA ALALA	40	43	83	Pass
18.	U15NB22S0086	SHIVANAND GUGGURI	36	44	80	Pass
19.	U15NB22S0096	AKSHATA CHOUHAN	38	46	84	Pass
20.	U15NB22S0100	LAXMI GUNARI	35	4	76	Pass
21.	U15NB22S0101	CHAITRA JAKKAPA	37	43	79	Pass
22.	U15NB22S0102	SUDHARSHAN POOJARI	34	39	73	Pass
23.	U15NB22S0104	VIKAS GADDAG	34	41	75	Pass
24.	U15NB22S0105	VISHVAS JOGUR	36	42	78	Pass
25.	U15NB22S0109	AYISHA BEGUM	38	42	80	Pass
26.	U15NB22S0110	RADHIKA PANDIT	32	37	69	Pass
27.	U15NB22S0114	ABDULSHAIKH	42	38	80	Pass

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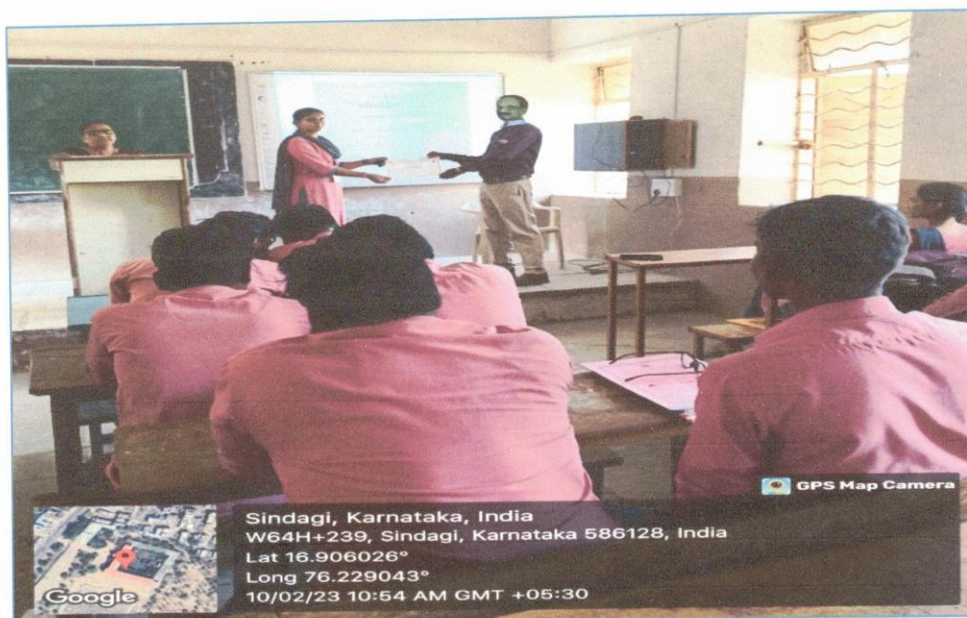
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SOIL ANALYSIS

VALEDICTORY OF CERTIFICATE COURSE: 2022-23



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State: Karnataka



(Affiliated to Rani Channamma University, Belagavi)



IQAC Initiative

DEPARTMENT OF CHEMISTRY

CERTIFICATE

This is to certify that Kumar/ Kumari.....

of B.Sc. has successfully completed Certificate Course on “**SOIL ANALYSIS**” during the
year.....

HOD

Coordinator IQAC

Principal