



**Gokak Education Society's**  
**J.S.S. Arts, Science and Commerce College, Gokak**  
NAAC Accredited with 'A' (Third Cycle)  
Affiliated to Rani Channamma University Belagavi since 2010  
(Previously Affiliated to Karnatak University Dharwad since Inception)  
Recognized by UGC Under Section 2(f) and 12 (B). Estd. In 1965.



Faculty Exchange programme 2021-22



Name of the Department	Chemistry					
Name of the Event Organized	Guest Lecture					
Title of the Event	Guest Lecture on the topic "Bio-inorganic chemistry"					
Date of the Event Organized	19/08/2023					
Place of the Event Organized	J.S.S. College, Tq.: Belagavi					
Name of the Conveners	Dr. P. P. Kattimani					
Total Participants	More than hundred participants					
Number of Participants	Total	135	Teachers	10	Students	125
Name of the Expert with Designation	Dr. Honnur Krishna., Assistant Professor in Chemistry					
Address and Contact of the Expert	S.D.V.S. Sangh's S.S. Art's College and T. P. Science Institute Sankeshwar- 591313					
Objectives of the Event	✓ Faculty exchange programme ✓ To understand the basics and applications of Bio-inorganic chemistry					
Outcome of the Event	About 135 students and teacher participants were benefited by the guest lecture.					

Photo Gallery



About 135 participants including student and teacher participants of J. S. S. College, Gokak, were benefited by the guest lecture delivered by **Dr. Honnur Krishna** described in detail.



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S. S. Arts College & T.P. Science Institute  
**SANKESHWAR**



Gokak Education Society's  
J.S.S. Arts, Science and Commerce College. Gokak

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DEPARTMENT OF CHEMISTRY

EVENT: GUEST LECTURE

Date: 19-08-2023.

TOIPC: "Bioinorganic chemistry"

Attendance sheet



Sl No.	Student Participant Name	Course	Signature
1	Rajeshwari M. Katti	B.Sc	Rkatti
2	Chaitra. M. Aiduddi	BSC	Chaitra
3	Kavita K Nidasosi	B.Sc	Kavita
4	Sunita R Hangandi	BSC	Sunita
5	Tulasa S. Tejada	Bsc.	Tulasa
6	Fatimabi A. Shaikh.	BSC	Fatimabi
7	Wasya I. Kumbhari	BSC.	Wasya
8	Vidyaashree N. Kattamani	BSC	Vidyaashree
9	Asha. N. Hadimani	Bsc	Asha
10	Kavita S. Pujeri	BSC	Kavita
11	Bhimambika M. Durgipujeri	BSC	Bhimambika
12	Bhavya R. Marinarik	Bsc	Bhavya
13	Deepa C. Pujeri	BSC	Deepa
14	Spoorti B. Kadakol	BSC	S.B. kadakol
15	Rohini L Bhandi	BSC	Rohini
16	Supriya K. Bondiwaddan	BSC	Supriya
17	Rohini R. Kamble	BSC	Rohini
18	Sarawati S. Malai	BSC	Sarawati
19	Deepa D. Scervi	Bsc	D.D. Scervi
20	Ranjita L. Antaragatti	B-SC	RAntaragatti
21	Vaishnavi M. Ganachari	B-SC	V.M. Ganachari
22	Amruta M. Kulkarni	BSC	Amruta
23	Devika B. Pujeri	B-SC	D.B. Pujeri
24	Deepa P. Jodangi	B SC	D.P. Jodangi
25	Anita Y. Jagannath	BSC	Anita
26	Parbatmubeen B. Rajagar	BSC v <sup>th</sup> sem	Parbatmubeen
27	Khuteja Y. Mulla	BSC	Khuteja
30	Kousar Nabila G. Shah	BSC	KShah

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CHEMISTRY  
J.S.S. College, Gokak

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**DEPARTMENT OF CHEMISTRY**

**EVENT: GUEST LECTURE**

Date: 19-08-20

**TOIPC: "Bioinorganic chemistry"**

Attendance sheet

Sl No.	Student Participant Name	Course	Signature
1	Sushma. S. Pujeri	BSc VI	S.S. Pujeri
2	Sushmita. T. Kamat	B.Sc VI	S.T. Kamat
3	Shilpa. S. Patagund	B.Sc VI	<del>S.Patagundi</del>
4	Komal B. Maledavari	B.Sc VI	K.Maledavari
5	Vijayalaxmi. B. Ndin	BSc VI	<del>V.Ndin</del>
6	Jyoti M. Patted	BSc VI	J.Patted
7	Shivani Barabi	BSc VI	S.Barabi
8	Sujeen N. Mixjannavar	BSc VI	<del>S.Mixjannavar</del>
9	Swati. Y. Nalk	BSc VI	<del>S.Nalk</del>
10	Priyanka N. Tallur.	BSc VI	P.Tallur
11	Padmashree. B. Belavi	BSc VI	P.Belavi
12	Vijayarani. S. Hulakund	BSc VI	V.Hulakund
13	Pabbavati. V. Madali	BSc VI	<del>P.Madali</del>
14	Nagaveni. C. Purnade	BSc VI	<del>N.Purnade</del>
15	Deepa. S. Hadaginal	BSc VI	D.Hadaginal
16	Mahesh. V. Kamble	BSc VI	M.Kamble
17	Ramesh. H. Hulakund	B.Sc VI	R.Hulakund
18	Pundalik H. Tataqi	BSc VI	P.Tataqi
19	Sudeep M. P	BSc VI	<del>S.P</del>
20	Kiran B. Khamppagal	BSc VI	K.Khamppagal
21	Nagaraj. R. Badiger	BSc VI	N.Badiger
22	Pradeep. L. Bandi	BSc VI	<del>P.Bandi</del>
23	Krishnaji. L. Gadadi.	BSc VI	K.Gadadi
24	Bharamappa. M. Singadi	B.Sc -VI	B.Singadi
25	Samer. K. Naduf	B.Sc -VI	<del>S.Naduf</del>
26	Prajwal L. Mayannavar.	B.Sc -VI	P.Mayannavar
27	Vishalo A. Somadi	B.Sc -VI	V.Somadi
30	Chidamb. S. Huchchamaver	B.Sc VI	<del>C.Huchchamaver</del>

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**DEPARTMENT OF CHEMISTRY**  
**EVENT: GUEST LECTURE**  
 TOIPC: "Bioinorganic chemistry"  
Attendance sheet

Date: 19-08-2020

Sl No.	Student Participant Name	Course	Signature
1	Mansunath B. Pattanashetti	BSC	M Bhatti
2	Ravi H. Pujarshetti	Bsc	Rambhadr
3	Laxman T. Malagi	BSC	hinsaldaj
4	Shivanand. G. Neginal	BSC	[Signature]
5	Bhimashappa. M. Adibatti	BSC.	[Signature]
6	Lagananna. K. Kamal	BSC-VI	[Signature]
7	Dundub. N. Kareppagol	B.SC-VI	[Signature]
8	Tranna. M. Kapsar	B.SC	[Signature]
9	Jyotibha. Vagmudi	BSC SI	[Signature]
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HEAD OF DEPARTMENT  
 CHEMISTRY  
 J.S.S. College, Gokak

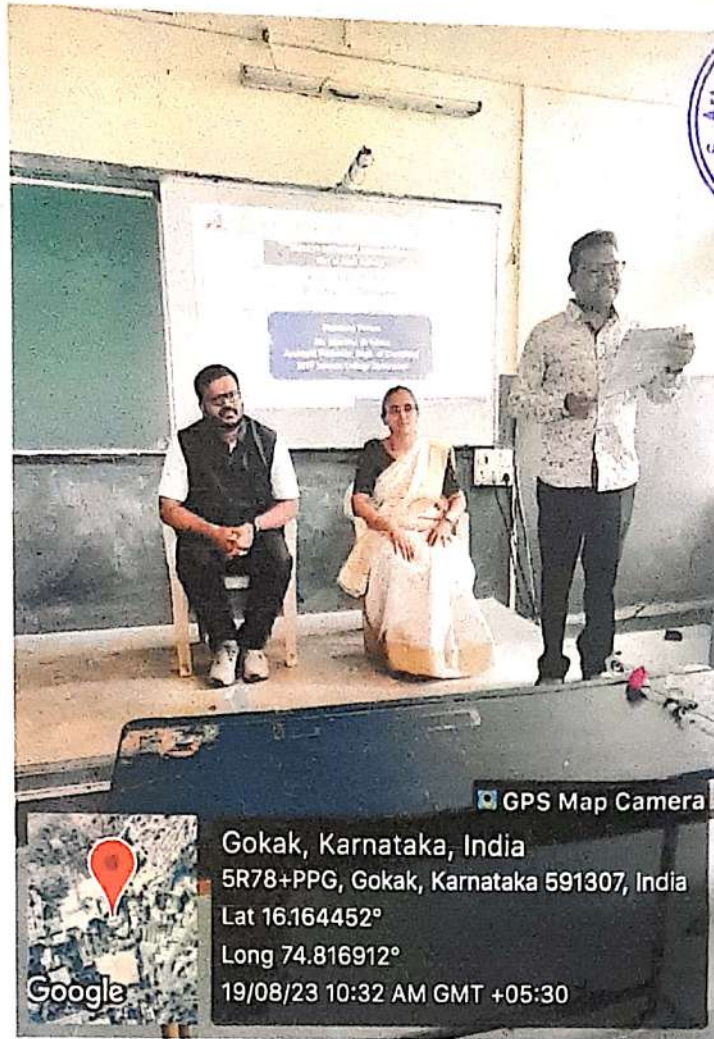
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 S. S. Arts College & T.P. Science Institute  
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Gokak, Karnataka, India  
5R78+PPG, Gokak, Karnataka 591307, India  
Lat 16.164452°  
Long 74.816912°  
19/08/23 10:32 AM GMT +05:30



Gokak, Karnataka, India  
5R78+PPG, Gokak, Karnataka 591307, India  
Lat 16.164436°  
Long 74.816956°  
19/08/23 10:42 AM GMT +05:30





S.D.V.S. Sangh's

**S. S. ARTS COLLEGE & T. P. SCIENCE INSTITUTE,  
SANKESHWAR - 591313.**

Tal. Hukkeri Dist. Belgaum (Karnataka)

Accredited at "B<sup>++</sup>" Level by NAAC

**DEPARTMENT OF CHEMISTRY**

**GUEST LECTURE**

on the topic entitled

**"STRUCTURE AND BONDING OF IONIC SOLIDS"**

As part of IQAC initiative

**FACULTY EXCHANGE PROGRAM**

Under MoU

05-02-2024




S.D.V.S. Sangh's  
S. S. Arts College & T. P. Science Institute, Sankeshwar.

A report on guest lecture on the topic entitled  
"Structure and Bonding of Ionic Solids - I" a Faculty Exchange Program under MoU

Date of the activity	03-02-2024
Organizing Department	Chemistry
Name of the resource person	Dr. Krishnamurthy M. S., Assistant Professor, Department of Chemistry, Gokak Education Society's, J. S. S. Arts, Science and Commerce College, Gokak.
No. of teachers participated	04
No. of students participated	16
Place of program	LH - 07
Impact of the activity	<ul style="list-style-type: none"><li>- Awareness about the basics of the structure and chemical bonding of the ionic solids- I.</li><li>- Understood the crystal structure of the molecules in the solid state.</li><li>- Different types of chemical bond present in the molecules.</li><li>- VSEPER theory and the prediction of the structure and the stability of the ionic solids.</li><li>- Students came to know about the importance of different theories for the explanation of the existence of the crystal structure.</li><li>- Students interacted with the resource persons and clarified their doubts.</li><li>- Overall the lecture session was fruitful and all the students get benefited by the event.</li></ul>



  
PRINCIPAL,  
S. S. Arts College & T.P. Science Institute,  
SANKESHWAR

☎: (08333)-273316

Fax : (08333) 274206

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ಶಿವರುದ್ರೇಶ್ವರ ಕಲಾ ಹಾಗೂ ವೈಜ್ಞಾನಿಕ  
ವಿಜ್ಞಾನ ಮಹಾವಿದ್ಯಾಲಯ.  
ಸಂಕೇಶ್ವರ.-591 313



S.D.V.S. SANGH'S  
S. S. ARTS COLLEGE & T. P.  
SCIENCE INSTITUTE,  
SANKESHWAR- 591 313

ತಾ. ಹುಕ್ಕೇರಿ ಜಿ. ಬೆಳಗಾವಿ (ಕರ್ನಾಟಕ)

Tal.: Hukkeri Dist.: Belagavi (Karnataka State)

Accredited at B++ Level by NAAC

E-Mail-aascskv@rediffmail.com

www.sstpsnk.edu.in

214/2023-24

Date : 01/02/2024

INVITATION LETTER



To,

Dr. Krishnamurthy M. S,  
Assistant Professor  
Department of Chemistry,  
Gokak Education Society's,  
JSS Art's, Science & Commerce College,  
Gokak - 591307.

Subject: Invitation to deliver a guest lecture on the topic of "Structure and Bonding of Ionic Solids - I" for BSc III semester students as a part of faculty exchange activity under MoU.

Dear Sir,

We are extremely privileged and delighted to invite you to deliver a guest lecture on the topic of "Structure and Bonding of Ionic Solids - I" for BSc III semester students on 3<sup>rd</sup> February, Saturday, 2024 in our college as part of faculty exchange activity under MoU. We request you to kindly accept our invitation.

Thanking you,

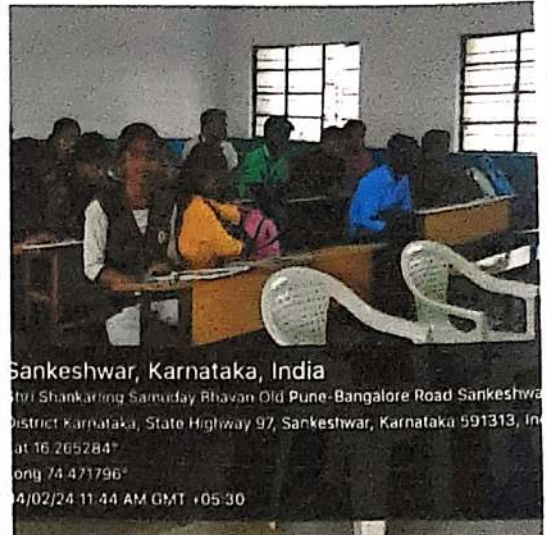
Yours faithfully,

PRINCIPAL  
S.S.Arts College & T.P Science Institute  
SANKESHWAR

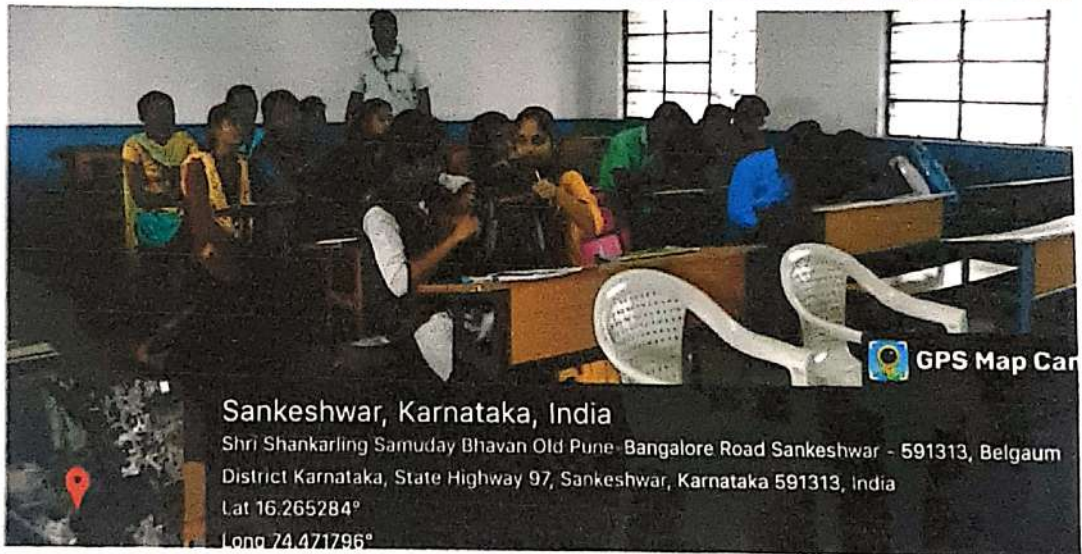




Belgaum, Karnataka, India  
7F7F+VJP, Belgaum, Sankeshwar, Karnataka 591313,  
Lat 16.264734°  
Long 74.473994°  
04/02/24 11:46 AM GMT +05:30



Sankeshwar, Karnataka, India  
Shri Shankarling Samuday Bhavan Old Pune-Bangalore Road Sankeshwar  
District Karnataka, State Highway 97, Sankeshwar, Karnataka 591313, India  
Lat 16.265284°  
Long 74.471796°  
04/02/24 11:44 AM GMT +05:30

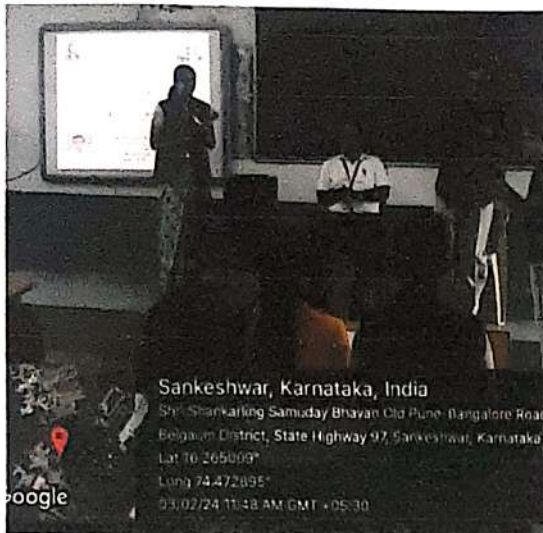


Sankeshwar, Karnataka, India  
Shri Shankarling Samuday Bhavan Old Pune-Bangalore Road Sankeshwar - 591313, Belgaum  
District Karnataka, State Highway 97, Sankeshwar, Karnataka 591313, India  
Lat 16.265284°  
Long 74.471796°

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*[Signature]*  
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S. S. Arts College & T.P. Science  
SANKESHWAR



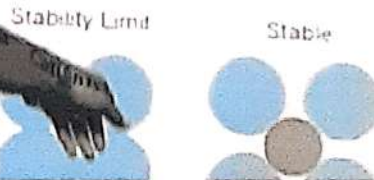
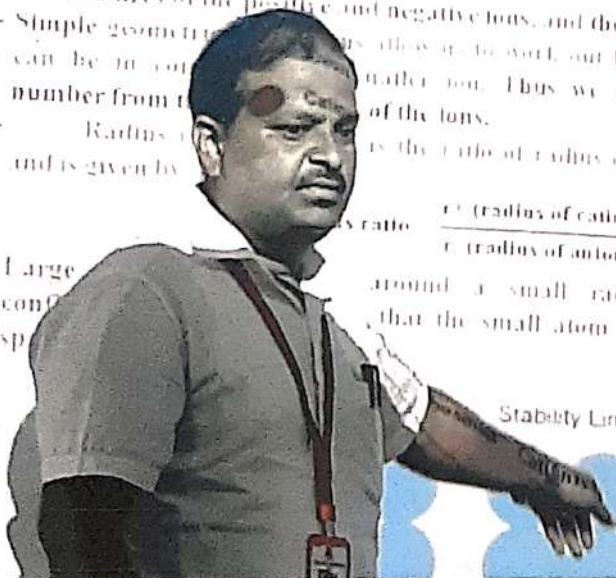
Sankeshwar, Karnataka, India  
 Shri. Shankaling Samuday Bhavan Old Pune-Bangalore Road  
 Belgaum District, State Highway 97, Sankeshwar, Karnataka  
 Lat 10.265099°  
 Long 74.472895°  
 03/02/24 11:48 AM GMT +05:30



Sankeshwar, Karnataka, India  
 Old. PB Rd, Sankeshwar, Karnataka 591313, India  
 Lat 10.264776°  
 Long 74.474737°  
 03/02/24 12:12 PM GMT +05:30

### Crystal Field Rules

- The structures of transition metal complexes can be accounted for by considering the relative sizes of the positive and negative ions, and their relative numbers.
- Simple geometries allow us to work out how many ions of a given size can be in contact with a central ion. Thus we can predict the coordination number from the relative sizes of the ions.
- Radius ratio is the ratio of radius of cation and radius of anion and is given by 
$$\text{radius ratio} = \frac{r^+ (\text{radius of cation})}{r^- (\text{radius of anion})}$$
- Large coordination numbers are possible around a small radius atom in as tight a space that the small atom never rattles around in the



District Karnataka, State Highway 97, Sankeshwar, Karnataka 591313, India  
 Lat 10.265284°  
 Long 74.471299°



*[Signature]*  
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 SANKESHWAR



### REPORT:

A guest lecture was arranged from the department of chemistry on the topic entitled "Structure and Chemical bonding of Ionic Solids- I" as part of the Faculty Exchange Program under MoU between SSTP College and Gokak Education Society's, JSS Arts, Science and Commerce College, Gokak. Dr. Krishnamurthy M. S. Assistant Professor, Department of Chemistry, Gokak Education Society's, JSS Arts, Science and Commerce College, Gokak. The motto of the guest lecture is to exchange and sharing of the knowledge among the students and teachers. The resource person explained the complete unit for BSc third semester on 03.02.2024 and 04.02.2024.

The guest lecture was very informative and fruitful session with fundamental principles governing the arrangement and bonding within ionic solids. The following is the key concepts discussed by the resource person.

#### ✓ **Ionic bonding**

He explained briefly about the basics of chemical bonding and reason why the chemical reaction takes place. Different types of chemical bond present in the molecules. Formation of positively charged cations and negatively charged anions, electrostatic attraction between ions and formation of bonds.

#### ✓ **Co-ordination number and its calculations.**

He also explained structure of ionic solids, Radius ratio rules, coordination number and calculation of limiting radius ratio for different coordination numbers and also illustrated the variation of coordination number based on specific arrangement of ions within the structure and stability of structures.

#### ✓ **Types of ionic compounds and their structures**



He explained the types of ionic solids with taking examples of various structures for example NaCl, ZnS, CsCl, Fluorite – Layer structure and rutile structure


✓ **Covalent bonding**

He discussed about significance of formation of covalent bond through octet rule and VSEPR theory. The stability factors such as presence of lone pairs of electrons, electronegativity and overlap of atomic orbitals to form the molecular orbitals and hybridization concepts etc. by suitable examples with three dimensional representations.

✓ **Conclusion**

Students came to know about the importance of different theories for the explanation of the existence of the crystal structure. Students interacted with the resource persons and clarified their doubts. Overall the lecture session was fruitful and all the students get benefited by the event.



  
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S. S. Arts College & T. P. Science Institute,  
Sankeshwar.

DEPARTMENT OF CHEMISTRY

Guest lecture on  
Unit - II "STRUCTURE AND BONDING IN IONIC SOLIDS - I"  
As part of Faculty Exchange Program under MoU.

by Resource Person-Dr. Krishnamurthy M. S.,  
Assistant Professor,  
Department of Chemistry,  
Gokak Education Society's,  
JSS Arts, Science & Commerce College,  
Gokak - 591307.

List of students

Sl no	Class	Register number	Name of the student	Signature
1.	BSC III Sem	U15CH2250002	Lakshi Nehgi Agam	
2	BSC III Sem	U15CH2250018	Priyanka. v. Gavari	
3.	BSC III Sem	U15CH2250029	Keerti. B. Kamode	
4.	"	U15CH2250004	Bhagyashree M. Mutnali	
5.	"	U15CH2250030	Atulpa. R. Ahtar	
6	"	U15CH2250012	Pooja. P. Hiremath	
7	"	U15CH2250025	Savitri. S. Kumbhar	
8	"	U15CH2250027	Misha M. Rabakavi	
9	"	U15CH2250005	Laxmi. G. Sulakude	
10	"	U15CH2250015	Sanjanya. N. Goravayal	
11	"	U15CH2250006	Priyanka. R. Badiger	
12	BSC IV	U15CH2250048	Suprit. S. Myggodiyawar	
13	BSc III <sup>rd</sup>	U15CH2250022	Rakul. M. Isaraji	
14	BSc III	U15CH2250023	Omkar -S. Shelar	
15	BSC III	U15CH2250001	Sagar. K. Patil	
16	BSC III	U15CH2250014	Dundappa R. Adarajog	

HOD  
Department of Chemistry  
S.S. Arts College & T.P. Science Institute  
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S. S. Arts College & T. P. Science Institute,  
Sankeshwar. - 591313  
Tal : Hukkeri Dist : Belgaum (Karnataka)



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One Day Workshop  
on

**CHEMISTRY OF SOAP  
PREPARATION**

"Motto of the workshop "Earn while learning"

under  
Internal Quality Assurance Cell initiative

Organized  
by

**PLACEMENT CELL**

in collaboration  
with

**DEPARTMENT OF CHEMISTRY**

14-08-2023



**S.D.V.S. Sangh's**  
**S. S. Arts College & T. P. Science Institute, Sankeshwar.**  
**One Day Workshop on**  
**“Chemistry of Soap Preparation”**

Date of the activity	14-08-2023
Organizing Department	DEPARTMENT OF CHEMISTRY
Name of the Resource persons	<b>Dr. Vijayalakshmi Edalli</b> Assistant Professor, Department of Chemistry, SDVS Sangh, SSTP College, Sankeshwar.
Name of the President	<b>Shri. P. B. Burji</b> , Principal, SSTP College, Sankeshwar.
No. of teachers participated	10
No. of students participated	30
Collaborating Agency	PLACEMENT CELL SSTP College, Sankeshwar.
Impact of the activity	<ul style="list-style-type: none"><li>➤ Motto of the workshop “<b>Earn while learning</b>”.</li><li>➤ Experiential learning of preparation of soap.</li><li>➤ The chemistry of soap solution preparation and the mechanism of formation.</li><li>➤ Types of soaps as solid soaps and liquid soap solutions.</li><li>➤ The fragrance of the materials added to the soap preparation.</li><li>➤ The practical skills required for the preparation of soap.</li><li>➤ Created awareness about the self-employment opportunities and practical skills through value added products.</li><li>➤ Some of the important practical outcomes of the this workshop are the following<ul style="list-style-type: none"><li>✓ The design and methodology of the soap preparation.</li><li>✓ The synthetic procedure of preparation of soaps.</li><li>✓ The art of preparing different colored soap solutions.</li><li>✓ The physico-chemical mechanism of action of soap in the dirt removal process.</li><li>✓ Preparation of the soap by plant derived extracts.</li></ul></li><li>➤ Role of these skills in self-economic growth and development.</li><li>➤ Students are very happy and excited to perform and prepare the soap by themselves.</li></ul>



  
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SANKESHWAR

Estd: 1967



S.D.V.S. Sangh's  
**S. S. Arts College & T. P. Science Institute**  
Sankeshwar – 591313, Dist. Belagavi (Karnataka)  
Accredited at "B<sup>++</sup>" Level by NAAC

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Fax: (08333): 274206

E-Mail: [aascskv@rediffmail.com](mailto:aascskv@rediffmail.com)


[www.sstpsnk.edu.in](http://www.sstpsnk.edu.in)

Date: 10.08.2023

**NOTICE:**

It is hereby informed to all the B.A and B.Sc final students that there will be one day workshop on the topic of "*Chemistry of Soap Preparation*" organized by the department of chemistry and placement cell under IQAC on 14-08-2023 at department of chemistry laboratory. Anyone who is interested may enroll their names to Dr. Honnur Krishna, Placement Cell Officer, Department of Chemistry, SSTP College on or before 12-08-2023.

  
Placement Cell  
Chairman

  
HOD  
(Chemistry)

  
Principal  
S. S. Arts College & T.P. Science Institute  
SANKESHVAR







GPS Map Camera

Sankeshwar, Karnataka, India  
7F7G+JH2, SH 97, Sankeshwar, Karnataka 591313, India  
Lat 16.264128°  
Long 74.475459°  
14/08/23 02:49 PM GMT +05:30

Google



GPS Map Camera

Sankeshwar, Karnataka, India  
7F7F+QWV, Sankeshwar, Karnataka 591313, India  
Lat 16.264432°  
Long 74.474728°  
14/08/23 04:32 PM GMT +05:30

Google

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## REPORT:

A one day workshop on "**Chemistry of soap preparation**" Motto of the workshop is "**Earn while learning**".

At the beginning of the inauguration of the workshop the inauguration was done by watering the plant from the resource person **Dr. Vijayalakshmi Edalli**, HOD, Assistant professor of Chemistry, SDVS Sangh, SSTP College, Sankeshwar. To encourage, acquire practical skills and create more excitement of science journey among the students a one day workshop was organized by the Placement Cell in collaboration with the department of Chemistry on 10.08.2023.

The key note address was given by the **Dr. Vijayalakshmi Edalli**, HOD, Assistant professor of Chemistry, SSTP College, Sankeshwar. She explained the chemistry of preparation of soaps and different types of soaps that exists in the market as both in the solid form and liquid soap solutions. Soap has been a fundamental cleansing agent for centuries, used to remove dirt, oils, and impurities from various surfaces, including human and animal skin. The synthesis process of soap is known as Saponification which is a chemical reaction involving fats or oils with an alkali to produce soap and **glycerin** during the reaction.

She said the design and methodology of the soap preparation is according to the requirement of each individual. The requirement could be in terms of size, color, design, fragrance and or the nature of antibacterial or antifungal or antimicrobial etc activities. She also explained the significance of the workshop and the self-employment opportunity and setting up of small scale industry for which central government and state government supports it. Further she asked all the students to make use of the workshop effectively and requested them to have interaction during the experiential learning of soap preparation. She asked the students to be active and can earn while learning process by acquiring some of the basic sets of **analytical skills** to produce the essential materials at home and can be transformed that in to a **value added product** in order to become self-sustainable as a part time business.

### **Chemical Ingredients required**

#### **Oils**

The primary ingredient in soap preparation is fats or oils. These can be derived from various sources such as vegetable oils (e.g., olive oil, coconut oil), animal fats, or a combination of both. The choice of fats or oils impacts the properties of the resulting soap, including its lathering ability, cleansing power, and moisturizing properties.





### Alkali

An alkali, commonly either sodium hydroxide (NaOH) for solid soap or potassium hydroxide (KOH) for liquid soap, is required for saponification. The alkali reacts with the fats or oils to break down triglycerides into fatty acids and glycerin.

### Water

Water is necessary to dissolve the alkali and facilitate its interaction with fats or oils. The right amount of water is crucial to ensure complete saponification without excess water remaining in the final product.

### Additives

Additional ingredients can be added to the soap mixture to impart specific properties. These may include fragrances, colors, exfoliants (e.g., oatmeal, herbs), and essential oils for aromatherapy benefits.

Apart from the above chemical requirements, the following materials such as parachute oil, Vitamin E tablets, fragrance liquids, liquid soap base, any plant extracts, neem leaves, or flower extracts, rose petals, are very essential.

The different types of soaps were prepared to name a few such as by using aloe vera extract, neem extract, jasmine fragrance extract and same can be attributed from the above steps. Some of the important parameters that has to be taken care of is that time, pH, temperature, chemical ingredients, fragrance, color, stability of the soap synthesized and such others.

### Steps involved in the Soap Preparation:

- ❖ **Safety Precautions:** Before beginning not only soap-making process but also any kind of chemical reactions, it's very essential and must take safety precautions should be adopted. This includes knowing the MSDS of the chemicals that should be used, wearing protective gear such as gloves and safety goggles, working in a well-ventilated area, and handling alkali with care due to its caustic nature.
- ❖ **Measuring and mixing of Fats/Oils and Alkali:** The fats or oils and alkali are measured according to a specific recipe. The proportions are crucial to achieving the desired characteristics in the final soap product. Then the alkali is slowly added to the fats or oils while stirring continuously. This process initiates the saponification reaction.
- ❖ **Heating and adding Additives:** The mixture is heated gently to promote the saponification process. The mixture thickens and goes through various stages until it reaches "trace," a point where the mixture leaves a faint trace when drizzled on the surface. At trace, additives like





fragrances, colors, and essential oils can be added to the mixture. This step allows customization of the soap's appearance and scent.

- ❖ **Molding and Curing:** The soap mixture is poured into molds that can be of various shapes and sizes. It is then left undisturbed for a while, allowing it to cool and solidify. Then the soap is removed from the molds and it needs to cure. Curing can take 1 to 2 months to allow excess water to evaporate, resulting in a harder and longer-lasting soap bar.
- ❖ **Packaging:** After curing, the soap bars can be packaged for use or sale. Proper packaging helps protect the soap from moisture and extends its shelf life.

#### **Perspective:**

Soap preparation is a small scale business and a time honored craft that involves carefully balancing the ingredients, following precise steps, and ensuring safety throughout the process. The art of soap-making allows for creativity in terms of ingredients, scents and appearances, while the chemical science of Saponification underpins the transformation of fats and alkali into a cleansing and nourishing product. She gave emphasis on the role of triglycerides, alkali and hydrolysis. Whether for personal use, cleansing agent or maintain hygiene or commercial production, understanding the soap preparation process is essential for achieving high-quality soap products.

The resource person said that any idea with creative innovations and research can bring novel technological designed products which could be used for the economic development as it is the era of startups century. She explained the role of chronological order for mixing the natural and other chemical ingredients that should be followed during its preparation. Further, the students interacted well with the resource person in clarifying their doubts.

Overall, the workshop was very interesting, highly motivational, and students involved very actively in the preparation of soap solution. Interestingly some of the students from BA course also joined the workshop and engaged in the soap preparation and enjoyed the journey of chemical science involved in soap preparation. **Miss Madhu Waghi** and **Miss Anusuya Mahalingpur** assisted the preparation of the soap along with the chemistry lab assistants.

Finally the presidential remarks were given by **Shri P. B. Burji**, Principal, SSTP College, Sankeshwar and concluded with vote of thanks by **Miss Madhu Waghi**, Lecturer, Department of Chemistry, SSTP College, Sankeshwar.



  
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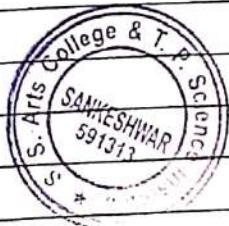
S.D.V.S. Sangha's


S.S.Arts College & T.P.Science Institute, Sankeshwar

Date - 14.08.2021

Name of the Activity:- Workshop on Chemistry OF Soap preparation

Sl.No.	Name of the Participants	Signature	
1)	Namrata. G. Hivemath	[Signature]	B.Sc-VII
2)	Jyoti Kilaragi	[Signature]	B.Sc-VI
3)	Kaveri Dasanati	[Signature]	B.Sc-VI
4)	Preeti Aminabhavi	[Signature]	B.Sc-VI
5)	Chitra Aminabhavi	[Signature]	B.Sc-VI
6)	Daneshwari Ghaligemavar	[Signature]	B.Sc-VI
7)	Shivnand M. Baidiger	[Signature]	BA VI
8)	Chetan. S. Naik	[Signature]	BA VI
9)	Jantogh. H. Badakar	[Signature]	BA VI
10)	Surabhi Nadig	[Signature]	B.Sc-VI
11)	Shivani S. Davankatti	[Signature]	B.Sc-VI
12)	Neha Mathapati	[Signature]	B.Sc-VI
13)	Snehal Mane	[Signature]	B.Sc-VI
14)	Amit. M. Khatadkar	[Signature]	B.Sc-VI
15)	Prathamesh Khade	[Signature]	B.Sc-VI
16)	Veena Muchandi	[Signature]	B.Sc-VI
17)	Sushma Hebbali	[Signature]	B.Sc-VI
18)	Nilesh & Manoj Kumar	[Signature]	BA VI



  
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C.S. TUBACHI EDUCATION SOCIETY'S  
S.S.N. ARTS AND COMMERCE COLLEGE, HUKKERI  
DISTRICT BELGAUM, KARNATAKA STATE

Accredited by NAAC at "B+" Level

Ref.No.SSN/HKR/2021

Date: 05.02.2021

## CERTIFICATE

This is to certify that **Shri.G.D.Kadalagi**, Lecturer in Sociology of SDVS Sangh's S S Arts College and T.P Science Institute, Sankeshwar. Under faculty exchange programme he delivered a lecture on "Causes of Changes in Caste system" to B.A-V<sup>th</sup> sem on 05 Feb 2021. His lecture was informative and helpful to our students.



  
Principal  
S.S.N. Arts and Commerce College





  
PRINCIPAL  
S.S.N. Arts & Commerce College  
HUKKERI





S.D.V.S. Sangh's

**S. S. Arts College & T. P. Science Institute,**

**Sankeshwar**

Taluk- Hukkeri

District- Belagavi

Accredited at "B<sup>++</sup>" Level by NAAC

**DEPARTMENT OF CHEMISTRY**

In association with

**PLACEMENT CELL**

*Self financed certificate course*

On

***SOAP MAKING, DETERGENT AND CANDLE  
PREPARATION***

Under MoU with JSS College, Gokak

**2023-24**

SDVS Sangh's  
S. S. Arts College and T. P. Science Institute, Sankeshwar  
**DEPARTMENT OF CHEMISTRY**  
In association with  
**PLACEMENT CELL**  
**Self-financed Certificate course on Soap making and Detergent preparation**

---

**Academic Year:** 2023-24

**No. of Hours:** 30 Hours

**Course Coordinator:** Dr. Vijayalakshmi A. Edalli.

**Medium of course:** English/ Kannada

**Assessment/ Evaluation process:** MCQ/Objective/ Short answer type exam

**Course Description:** This certificate course is designed to provide students with a comprehensive understanding of the principles and techniques involved in the preparation of soaps and detergents. The course will cover the chemical processes, raw materials, practical skills required to prepare soaps and detergents. Students will gain hands on training and necessary knowledge to engage in small scale soap and detergent production.

**Course objectives**

1. To understand basic concepts and techniques of soaps and detergents preparation.
2. Understanding importance of oils and fats in preparation of soaps and their sources.
3. Understand the importance of sustainability and quality control in manufacturing and analysis.
4. To study the chemistry behind the preparation of soaps and detergents and their action.

**Course outcome**

1. Skill development for detergent and soap making.
2. Students develop the knowledge of preparation and action of soaps and detergents.
3. To develop the entrepreneurship among the students.
4. An analytical and practical based technical skill to "Earn while learning".





S.D.V.S. SANGH'S

Estd : 1967

**S. S. ARTS COLLEGE & T. P. SCIENCE INSTITUTE,**

Tal.: Hukkeri

**SANKESHWAR- 591 313**

Dist.: Belagavi (Karnataka State)

Accredited at B\*\* Level by NAAC

Website : www.sstpsnk.edu.in

☎ : (08333)-295238

E-Mail-aascskv@rediffmail.com

Ref No. \_\_\_\_\_

Date : 10-05-2024**Certificate Course**

The Department of Chemistry, in association with Placement Cell, SSTP College, Sankeshwar, organizes certificate course in "Soap Making and Detergent Preparation" for BA and BSc students.

The following faculties are selected as BOS members:

Sl. No.	Name	Designation	Signature
1.	<b>Shri P. B. Burji</b> Principal, SSTP College, Sankeshwar.	Chairman	
2.	<b>Dr. Vijayalakshmi A. Edalli</b> Assistant Professor and HOD, Chemistry, SSTP College, Sankeshwar	Coordinator	
3.	<b>Shri M. R. Patil</b> Assistant Professor and HOD, Physics, SSTP College, Sankeshwar	Member/ IQAC Coordinator	
4.	<b>Dr. Honnur Krishna</b> Assistant Professor in Chemistry, SSTP College, Sankeshwar	Member/Chairman Placement Cell	
5.	<b>Miss Anusuya Mahalinpur</b> Assistant Professor in Chemistry (Guest Faculty), SSTP College, Sankeshwar	Member	
6.	<b>Miss Shivani Sutar</b> Assistant Professor in Chemistry (Guest Faculty), SSTP College, Sankeshwar	Member	



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## Self Financed Certificate Course

Date: 11.05.2023.

### Agenda

1. Course on Soap making and Detergent preparation
2. Framing the syllabus and duration of course
3. Students enrollment
4. Appointment of the staff and work distribution

### Proceedings of the meeting

The course coordinator welcomed all the members of the meeting,

The following points were discussed –

1. It was decided to conduct certificate course on Soap making and Detergent preparation for one semester and duration of the course will be 30 hours which includes both theory (10 hours) and practical (20 hours) classes.
2. The syllabus was finalized with lot of discussion.
3. The course has been organized with the following objectives
  - To train the students to start
  - To formulate innovative chemical products which are used in everyday life.
  - To promote "make in India Concept".
  - To develop entrepreneurial mind set among students.
4. The classes will be conducted by the internal staff and few classes by external expert.
5. It is resolved that the student attendance is made compulsory. The staff incharge asked to take attendance every day and absentees are reported.

Members of the BOS attended the meeting-

1. Shri P. B. Burji - Chairman
2. Dr. Vijayalakshmi A. Edalli- Coordinator
3. Shri M. R. Patil - Member
4. Dr. Honnur Krishna - Member
5. Miss A. C. Mahalingpur - Member
6. Miss Shivani Sutar - Member



*[Handwritten signatures]*  
Principal  
S. Arts College & T. P. Science Institute,  
SANKESHWAR.

### Outline of Curriculum and Test

Proposed Curricular of Certificate Course in "Soap Making and Detergent Preparation" during the academic year 2023-24 for BA and BSc students.

#### Outline of course structure

Paper	Title of the paper	Teaching hours/course	Duration of Exam	Marks
Theory	Soap making and Detergent preparation	10	1 hour	20
Practical	Soap making and Detergent preparation	20	2 hour	30
<b>Total marks</b>				<b>50</b>



Certificate course on  
**“Soap making and Detergent preparation”**

Syllabus

Theory: 10 hours

Unit-1:	<b>Introduction to oils and fats:</b> structure and sources of oils and fats, Saponification and Saponification value of oils and fats.	2 hours
Unit-2	<b>Manufacture of soaps:</b> Introduction to soaps, raw materials used and their selection, principles of soap making and chemistry of soap, methods of soap making- cold process, melt and pour process, industrial process.	3 hours
Unit-3	<b>Detergents:</b> Types of detergents, classification of detergents- anionic, cationic, nonionic, amphoteric, biodegradability, formulation, manufacturing process, anionic surfactants, non-ionic surfactants, builders addition of colors, perfumes, preservatives used in detergent preparation, different brands of detergents in India.	4 hours
Unit-4	<b>Packaging and safety:</b> Packaging of soaps and detergents, safety, pollution and effluents.	1 hours

Practical's: 20 hours

Sl. No.	Practical's	No. of hours
1	Introduction to the raw materials, molds used and safety measures	4
2	Determination of Saponification value of oils	4
3	Preparation of soaps by cold process	4
4	Preparation of soaps by melt and pour method	4
5	Preparation of detergents	4



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Self-financed Certificate course on Soap making and Detergent preparation

**STUDENTS ENROLLED FOR THE COURSE**

SL. NO.	REGISTER NUMBER	NAME OF THE STUDENT	CLASS
1	U15CH21S0002	DEEPA M DESAI	BSc VI Semester
2	U15CH21S0005	GANGA R PATIL	BSc VI Semester
3	U15CH21S0006	SHILPA S SHEKHANAVAR	BSc VI Semester
4	U15CH21S0010	ASHWINI P MADIG	BSc VI Semester
5	U15CH21S0011	BASAVARAJ VINOD GHABE	BSc VI Semester
6	U15CH21S0021	GANGADHAR SUBHAS NAIK	BSc VI Semester
7	U15CH21S0025	JAYALAXMI S KAKOLI	BSc VI Semester
8	U15CH21S0026	SOUMYA AVINASH PATIL	BSc VI Semester
9	U15CH21S0029	SHWETA S MUGALI	BSc VI Semester
10	U15CH21S0035	SUTEERTHA S HOLEPPAGOL	BSc VI Semester
11	U15CH21S0037	KAVERI N CHOUGALA	BSc VI Semester
12	U15CH21S0039	SUSHMEETA MADANNAVAR	BSc VI Semester
13	U15CH21S0041	SUDHA KADAPPA TODAL	BSc VI Semester
14	U15CH21S0043	SHRUTI SAGAR MUNNOLI	BSc VI Semester
15	U15CH21S0046	PRASHANT S BEDAKIHAL	BSc VI Semester
16	U15CH21S0047	YASH SUNIL MAHAJAN	BSc VI Semester
17	U15CH21S0048	SUPRIT S MYAGADEYAWAR	BSc VI Semester
18	U15CH21S0055	SARSWATI R KAMBLE	BSc VI Semester
19	U15CH21S0058	SUSHMITA S CHOUGALA	BSc VI Semester



20	U15CH21S0059	LAXMI R MUNNOLI	BSc VI Semester
21	U15CH21S0062	MAHALAXMI B DADDI	BSc VI Semester
22	U15CH21S0063	SHWETA S INAMDAR	BSc VI Semester
23	U15CH21S0069	VIDYASHREE CHOPADE	BSc VI Semester
24	U15CH21S0070	NASTAHEEN M ATHANI	BSc VI Semester
25	U15CH21S0075	SARATAJABI J INAMADAR	BSc VI Semester
26	U15CH21S0077	SAHANA DIWAKAR	BSc VI Semester
27	U15CH21S0078	SRUSTI B PATIL	BSc VI Semester
28	U15CH21S0081	PANKAJA SURESH JAIN	BSc VI Semester
29	U15CH21S0084	SACHIN SANJU JINARALI	BSc VI Semester
30	U15CH21S0088	PRATIKSHA R MAGADUM	BSc VI Semester
31	U15CH21S0100	ANUSUYA B KHANAPURI	BSc VI Semester
32	U15CH21S0102	ANKITA ARJUN MAGADUM	BSc VI Semester
33	U15CH21S0103	SHIVARANJINI BASALIGUNDI	BSc VI Semester
34	U15CH21S0104	VIDYARANI PATIL	BSc VI Semester
35	U15CH21S0020	SAKSHI KOKATNUR	BSc VI Semester
36	U15CH21S0028	PREMA KONKERI	BSc VI Semester
37	U15CH21S0057	OMKAR PRAKASH BHOVI	BSc VI Semester
38	U15CH21S0084	SACHIN JINARALI	BSc VI Semester



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DEPARTMENT OF CHEMISTRY

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Self-financed Certificate course on Soap making and Detergent preparation  
Test

Name of the student:

Total Marks-20

Register Number and Class:

Answer all the questions:

1. What is the primary raw material used in the saponification process for soap making?  
A) Glycerol B) Fat or oil C) Water D) Lye
2. Which of the following is a common alkali used in the saponification process?  
A) Sodium bicarbonate B) Potassium hydroxide  
C) Calcium carbonate D) Magnesium sulfate
3. What type of soap is produced when using animal fats in the saponification process?  
A) Glycerin soap B) Herbal soap C) Castile soap D) Tallow soap
4. Which of the following ingredients is commonly added to enhance the fragrance of herbal soaps?  
A) Essential oils B) Vinegar C) Sodium chloride D) Glycerin
5. What is the role of glycerin in soap making?  
A) To act as a preservative B) To increase lather  
C) To retain moisture D) To alter the pH
6. Which of the following is a common synthetic detergent?  
A) Castile soap B) Sodium lauryl sulfate C) Olive oil soap D) Coconut oil soap
7. What is the primary difference between soap and synthetic detergents?  
A) Detergents are more biodegradable. B) Soaps are made from animal fats only.  
C) Detergents can work in hard water. D) Soaps cannot be scented.
8. Which process involves the hydrolysis of fats or oils in an alkaline solution?  
A) Esterification B) Saponification C) Emulsification D) Fermentation
9. What is the purpose of adding a colorant to herbal soaps?  
A) To enhance cleansing properties B) To provide aesthetic appeal  
C) To alter the texture D) To improve lather
10. Which plant is commonly used for its antimicrobial properties in herbal soap?  
A) Aloe vera B) Lavender C) Tea tree D) Chamomile



11. Which of the following is NOT a characteristic of herbal soaps?  
A) They are often biodegradable. B) They usually contain synthetic fragrances.  
C) They can be gentle on the skin. D) They may include natural colorants.
12. What type of detergent is typically used for laundry purposes?  
A) Dishwashing detergent B) Hand soap  
C) Laundry detergent D) Shampoo
13. Which method is used to prepare liquid soap?  
A) Cold process B) Hot process C) Melt and pour D) Saponification in solution
14. What is the byproduct of the saponification reaction?  
A) Alcohol B) Glycerin C) Esters D) Acids
15. Which of the following is an advantage of using herbal soaps?  
A) Higher cost B) Potential for skin irritation C) Use of synthetic additives  
D) Natural ingredients
16. What type of fatty acid is commonly found in coconut oil, making it ideal for soap making?  
A) Oleic acid B) Stearic acid C) Lauric acid D) Palmitic acid
17. Which of the following processes can be used to make a herbal soap with exfoliating properties?  
A) Adding glycerin B) Incorporating oatmeal  
C) Using distilled water D) Increasing the lye content
18. What is a key environmental concern associated with synthetic detergents?  
A) They are too effective at cleaning. B) They can contribute to water pollution.  
C) They are too cheap to produce. D) They contain too many natural ingredients.
19. Which emulsifier is often used in the preparation of herbal soaps?  
A) Sodium stearate B) Glycerol monostearate  
C) Lecithin D) Sodium lauryl sulfate
20. Which characteristic makes palm oil a popular choice for soap making?  
A) High cost B) Produces a soft soap  
C) Creates a hard, long-lasting bar D) Limited availability



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Self-financed Certificate course on Soap making and Detergent preparation

Result

SL. NO.	REGISTER NUMBER	NAME OF THE STUDENT	Theory	Practical	Total
1	U15CH21S0002	DEEPA M DESAI	18	28	46
2	U15CH21S0005	GANGA R PATIL	15	26	41
3	U15CH21S0006	SHILPA S SHEKHANAVAR	18	27	45
4	U15CH21S0010	ASHWINI P MADIG	19	28	47
5	U15CH21S0011	BASAVARAJ VINOD GHABE	19	28	47
6	U15CH21S0021	GANGADHAR SUBHAS NAIK	17	26	43
7	U15CH21S0025	JAYALAXMI S KAKOLI	20	30	50
8	U15CH21S0026	SOUMYA AVINASH PATIL	16	25	41
9	U15CH21S0029	SHWETA S MUGALI	20	30	50
10	U15CH21S0035	SUTEERTHA S HOLEPPAGOL	19	30	49
11	U15CH21S0037	KAVERI N CHOUGALA	18	25	43
12	U15CH21S0039	SUSHMEETA MADANNAVAR	19	28	47
13	U15CH21S0041	SUDHA KADAPPA TODAL	20	30	50
14	U15CH21S0043	SHRUTI SAGAR MUNNOLI	20	30	50
15	U15CH21S0046	PRASHANT S BEDAKIHAL	15	25	40
16	U15CH21S0047	YASH SUNIL MAHAJAN	17	25	42
17	U15CH21S0048	SUPRIT S MYAGADEYAWAR	15	26	41
18	U15CH21S0055	SARSWATI R KAMBLE	15	25	40
19	U15CH21S0058	SUSHMITA S CHOUGALA	18	28	46



20	U15CH21S0059	LAXMI R MUNNOLI	20	30	50
21	U15CH21S0062	MAHALAXMI B DADDI	20	30	50
22	U15CH21S0063	SHWETA S INAMDAR	20	30	50
23	U15CH21S0069	VIDYASHREE CHOPADE	20	30	50
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35	U15CH21S0020	SAKSHI KOKATNUR	18	27	45
36	U15CH21S0028	PREMA KONKERI	17	27	44
37	U15CH21S0057	OMKAR PRAKASH BHOVI	16	26	42
38	U15CH21S0084	SACHIN JINARALI	15	26	41



*[Handwritten Signature]*  
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**DEPARTMENT OF CHEMISTRY**

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**Self-financed Certificate course on Soap making and Detergent preparation**

Student's feedback for the academic year 2023-24

Sl. No.	Feedback on	Excellent	Good	Satisfactory	Poor
1.	The course exposes you to new knowledge and experience				
2.	Skill based activities increased my level of learning				
3.	Course had good mixture of theory and practical				
4.	The content of the course was clear and easy to understand				
5.	Is the course helpful to you to apply knowledge gained in your daily life				
Suggestions to improve course					

Name and signature of the student

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S. S. Arts College and T. P. Science Institute, Sankeshwar  
**DEPARTMENT OF CHEMISTRY**

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Student's feedback for the academic year 2023-24

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Suggestions to improve course					

Name and signature of the student



SDVS Sangh's  
S. S. Arts College and T. P. Science Institute, Sankeshwar  
Department of Chemistry  
Certificate course on  
**Soap making and Detergent preparation**

---

**REPORT ON CERTIFICATE COURSE**

Course name: "Soap making and Detergent preparation"

Students Registered: 38

Duration: From 23 May to 22 June 2024

Department of chemistry in association with placement cell organized a certificate course on "Soap making and Detergent preparation" from 23 May to 22 June 2024. The certificate course was aimed to provide training and skill development in the production of soaps, detergent powder, and candles for hygienic purpose. This Certificate course was started with following objectives and scope

- To train the students to start their own small/large scale business.
- To prepare herbal soaps which are free from hazardous chemicals.
- To inculcate the idea of 'Earn while learn'.
- To promote "Make in India" concept.
- To formulate innovative chemical products that we use every day in our life.
- To practice lab to land.

The curriculum includes both theory and practical for 30 hours. Students learned deeply about herbal significance of the contents used in soap preparation. Students also skilled about packaging, sales and marketing of products prepared. The BOS was constituted for the proper implementation of certificate course. The course was started on 23 May 2024. Internal and external faculty members engaged both theory and practical classes. **Dr. Rajeshwari H. V.**, Assistant Professor, Department of Chemistry, JSS College, Gokak, conducted theory and practical classes for detergent preparation and candle making. **Dr. Vijayalakshmi Edalli** from Department of Chemistry, SSTP College, conducted theory classes for Soap preparation. **Dr. Honnur Krishna** and **Miss Anusuya Mahalingapur** guided the students for preparation of soaps and packing of products.

Students were enthusiastically involved in practical sessions. Students were able to understand the formation of chemical mechanism of preparation, skill of handling the ingredients to develop safe, avoiding of usage of hazardous chemical free and the desired products from using chemical knowledge and herbal significance. Final examination was conducted and student's feedback was collected to further improvement of the course.



  
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S. S. Arts College and T. P. Science Institute, Sankeshwar  
**DEPARTMENT OF CHEMISTRY**

In association with  
**PLACEMENT CELL**


Self-financed Certificate course on  
**Soap making and Detergent preparation**  
Student's feedback for the academic year 2023-24

Sl. No.	Feedback on	Excellent	Good	Satisfactory	Poor
1.	The course exposes you to new knowledge and experience	✓			
2	Skill based activities increased my level of learning	✓			
3.	Course had good mixture of theory and practical	✓			
4	The content of the course was clear and easy to understand		✓		
5	Is the course helpful to you to apply knowledge gained in your daily life		✓		

**Suggestions to improve course** You always tried to do some of extra curriculars like Soap, detergent, Candle and Vermicompost. You didn't had time but still somehow managed to arrange all of those  
Thank you for each and every person from the chemistry staff.

  
Name and signature of the student



  
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# Preparation of Soaps.



*[Signature]*  
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# Certificate Distribution



*[Signature]*  
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Soaps, Candles and Detergents Prepared by Students



  
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Sl. No	Reg.No	Name of the Students	23/5	24/5	30/5	31/5	2/6	3/6	5/6	6/6	7/6	8/6	15/6	14/6	22/6			
1	U15CH21S0002	DEEPA M DESAI	1	2	3	4	5	6	7	8	9	10	11	12	13			
2	U15CH21S0005	GANGA R PATIL	1	2	3	4	5	6	7	8	9	10	11	12	13			
3	U15CH21S0006	SHILPA S SHEKHANAVAR	1	2	3	4	5	6	7	8	9	10	11	12	13			
4	U15CH21S0010	ASHWINI P MADIG	1	2	3	4	5	6	7	8	9	10	11	12	13			
5	U15CH21S0011	BASAVARAJ VINOD GHABE	1	2	3	4	5	6	7	8	9	10	11	12	13			
6	U15CH21S0021	GANGADHAR SUBHAS NAIK	1	2	3	4	5	6	7	8	9	10	11	12	13			
7	U15CH21S0025	JAYALAXMI S KAKOLI	1	2	3	4	5	6	7	8	9	10	11	12	13			
8	U15CH21S0026	SOUMYA AVINASH PATIL	1	2	3	4	5	6	7	8	9	10	11	12	13			
9	U15CH21S0029	SHWETA S MUGALI	1	2	3	4	5	6	7	8	9	10	11	12	13			
10	U15CH21S0035	SUTEERTHA S HOLEPPAGOL	1	2	3	4	5	6	7	8	9	10	11	12	13			
11	U15CH21S0037	KAVERI N CHOUGALA	1	2	3	4	5	6	7	8	9	10	11	12	13			
12	U15CH21S0039	SUSHMEETA MADANNAVAR	1	2	3	4	5	6	7	8	9	10	11	12	13			
13	U15CH21S0041	SUDHA KADAPPA TODAL	1	2	3	4	5	6	7	8	9	10	11	12	13			
14	U15CH21S0043	SHRUTI SAGAR MUNNOLI	1	2	3	4	5	6	7	8	9	10	11	12	13			
15	U15CH21S0046	PRASHANT S BEDAKIHAL	1	2	3	4	5	6	7	8	9	10	11	12	13			
16	U15CH21S0047	YASH SUNIL MAHAJAN	1	2	3	4	5	6	7	7	8	9	10	11	12			
17	U15CH21S0048	SUPRIT S MYAGADEYAWAR	1	2	3	4	5	6	7	8	9	10	11	12	13			
18	U15CH21S0055	SARSWATI R KAMBLE	1	2	3	4	5	6	7	8	9	10	11	12	13			
19	U15CH21S0058	SUSHMITA S CHOUGALA	1	2	3	4	5	6	7	8	9	10	11	12	13			
20	U15CH21S0059	LAXMI R MUNNOLI	1	2	3	4	5	6	7	8	9	10	11	12	13			
21	U15CH21S0062	MAHALAXMI B DADDI	1	2	3	4	5	6	7	8	9	10	11	12	13			
22	U15CH21S0063	SHWETA S INAMDAR	1	2	3	4	5	6	7	8	9	10	11	12	13			
23	U15CH21S0069	VIDYASHREE CHOPADE	1	2	3	4	5	6	7	8	8	9	10	11	12			
24	U15CH21S0070	NASTAHEEN M ATHANI	1	2	3	4	5	6	7	8	9	10	10	11	12			
25	U15CH21S0075	SARATAJABI J INAMADAR	1	2	3	4	5	6	7	8	9	10	11	11	12			

26	U15CH21S0077	SAHANA DIWAKAR	1	2	3	4	5	6	7	8	9	9	10	10	11		
27	U15CH21S0078	SRUSTI B PATIL	1	2	3	4	5	6	7	8	9	9	10	11	12	13	
28	U15CH21S0081	PANKAJA SURESH JAIN	1	2	3	4	5	6	7	8	9	9	10	11	12	13	
29	U15CH21S0084	SACHIN SANJU JINARALI	1	2	3	4	5	6	7	8	9	9	10	11	12	13	
30	U15CH21S0088	PRATIKSHA R MAGADUM	1	2	3	4	5	6	7	8	9	9	10	11	12	13	
31	U15CH21S0100	ANUSUYA B KHANAPURI	1	2	3	4	5	6	7	8	9	9	10	11	12	13	
32	U15CH21S0102	ANKITA ARJUN MAGADUM	1	2	3	4	5	6	7	8	9	9	10	11	12	13	
33	U15CH21S0103	SHIVARANJINI BASALIGUNDI	1	2	3	4	5	6	7	8	9	9	10	11	12	13	
34	U15CH21S0104	VIDYARANI PATIL	1	2	3	4	5	6	7	8	9	9	10	11	12	13	
35	U15CH21S0020	SAKSHI KOKATNUR	1	2	3	4	5	6	7	8	9	9	10	11	12	13	
36	U15CH21S0028	PREMA KONKERI	1	2	3	4	5	6	7	8	9	9	10	11	12	13	
37	U15CH21S0057	OMIKAR PRAKASH BHOVI	1	2	3	4	5	6	7	8	9	9	10	11	12	13	
38	U15CH21S0084	SACHIN JINARALI	1	2	3	4	5	6	7	8	9	9	10	11	12	13	

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S. Arts College & T. P. Science Institute  
SANKESHVAR





**S. S. ARTS COLLEGE AND T. P. SCIENCE INSTITUTE,**  
**SANKESHWAR**

Tal. Hukkeri

Accredited at B<sup>\*\*</sup> Level by NAAC

Dist. Belagavi.

**DEPARTMENT OF CHEMISTRY**  
in collaboration with

**PLACEMENT CELL, under IQAC**

**Certificate of Completion**



This is to certify that Mr./Miss. \_\_\_\_\_ has  
successfully completed one month certificate course in 'Candle Preparation, Soap and  
Detergent manufacturing' from 23<sup>rd</sup> May to 22<sup>nd</sup> June 2024.

**IQAC**  
Co-ordinator

**HOD**  
Chemistry

**Chairman**  
Placement Cell

**Principal**

SDVS Sangh's  
S. S. Arts College and T. P. Science Institute, Sankeshwar  
Department of Chemistry in association with Placement Cell

A self financed certificate course on  
**VERMICOMPOST - A BIO TOOL FOR SOLID WASTE MANAGEMENT**

**Academic Year:** 2022-23

**No. of Hours:** 30 Hours

**Course Coordinator:** Dr. Honnur Krishna,

**Medium of course:** English/ Kannada

**Assessment/ Evaluation process:** MCQ/Objective/Short answer type exam

**Course objectives**

1. To understand basic techniques of vermicomposts preparation.
2. To assess the soil fertility and implement the organic based farming for environmental benefits
3. To develop as an business entrepreneurial in the agricultural science
4. To promote the sustainable practices for the soil health.
5. An analytical and practical based technical skill to "Earn while learning".

**Course outcome**

The students are able to

1. Produce good quality of Vermicompost and Vermiculture.
2. Students are able to analyze the chemistry of soil, water and other nutrients for the growth of suitable crops.
3. To develop skills and update the knowledge about value added product.
4. To develop the mindset among the students about self-employability.



A self financed certificate course on

**VERMICOMPOST - A BIO TOOL FOR SOLID WASTE MANAGEMENT**

Course Duration: 30 h

**THEORY**

**Introduction to solid waste management** **05 h**

- Overview of types of wastes, their collection, transport, treatment and disposal of waste.
- Need for Waste management and effect on the community.
- Waste treatment methods:
  - Physicochemical Treatment of Solid and Hazardous Waste,
  - Chemical treatment processes,
  - Biological Treatment of Solid and Hazardous Waste,
- Reuse Reduce and Recycle.

**Vermicomposting:** **10 h**

- Introduction, scope, and objectives of Vermicompost.
- Vermicompost Production:
  - Establishment of Vermicomposting and Vermiwash unit.
  - Methods of Vermicomposting: Small and large scale Bed method, Pit method
  - Harvesting the Compost, Storing and packing of vermicompost.
  - Precautions while Vermicomposting, Factors affecting vermicomposting (pH, moisture and temperature).
  - Physico- chemical analysis of vermicompost, influence of chemical inputs on earthworm activity. Nutrient contents of vermicompost and their role in agriculture.
  - Vermiculture for waste reduction, economic importance of earthworms.
  - Pests and diseases of Earthworms
  - Marketing of vermicomposting products and financial support by governments and NGOs for vermiculture.

**PRACTICAL** **15 h**

1. Vermicomposting unit Pit method
2. Establishment of vermicomposting unit bed method

3. Vermicompost production, harvesting and packaging.
4. Estimation of mineral content of biomass from vermicompost manure (pH, NPK, TDS, conductance, etc)
5. Field visit with demonstrations.

#### References

1. The Textbook of Vermicompost, Vermiwash and Biopesticides: Keshavsingh and et al. Publisher: Biotech Books
2. The Book Hand Book of Biofertilizers & Vermiculture. Publisher: Engineers India Research Institute
3. Handbook of Organic Farming and Organic Foods With Vermicomposting Neem Publisher: Engineers India Research Institute
4. Text Book of Applied Zoology: Vermiculture, Apiculture, Sericulture, Lac Culture, Agricultural Pests and their Controls: Pradip Jabde Publisher: Discovery Publishing House
5. The Worm Farmer's Handbook Mid- to Large-Scale Vermicomposting for Farms, Businesses, Municipalities, Schools, and Institutions: Rhonda Sherman Publisher: Chelsea Green Publishing
6. Vermiculture Technology: Earthworms, Organic Wastes, and Environmental Management: Clive A. Edwards, Norman Q. Arancon, Rhonda L. Sherman Publisher: CRC Press 2010
7. Commercial Vermiculture: How to Build a Thriving Business in Redworms: Peter Bogdanov
8. Applied Zoology: N Arumugam, T Murugan, R Ram Prabhu, and J. Johnson Rajeshwar. Publisher: Saras Publication
9. Worm Farming: Setup A Sustainable Vermiculture Earthworm Composting Ranch: Brian Grant. Publisher: Sparrow Publications.



### Outline of Curriculum and Test

Proposed curricular of Certificate Course in "Vermicompost - a bio tool for solid waste management" during the academic year 2022-23 for BA and BSc students.

#### Outline of course structure


Paper	Title of the paper	Teaching hours/course	Duration of Exam	Marks
Theory	Vermicompost - a bio tool for solid waste management	15	1 hour	25
Practical	Vermicompost - a bio tool for solid waste management	15	2 hour	25
<b>Total marks</b>				<b>50</b>

No. \_\_\_\_\_

Date : 06-06-2023**Self-financed Certificate Course**

The department of Chemistry in association with Placement Cell, SSTP College, Sankeshwar, organizes self financed certificate course on "VERMICOMPOST - A BIO TOOL FOR SOLID WASTE MANAGEMENT" for BA and BSc students.

The following faculties are selected as BOS members:

Sl. No.	Name	Designation	Signature
1.	Shri P. B. Burji Principal, SSTP College, Sankeshwar.	Chairman	
2.	Dr. Honnur Krishna Assistant Professor in Chemistry, SSTP College, Sankeshwar	Coordinator/ Placement Cell Officer	
3.	Shri M. R. Patil Assistant Professor and HOD, Physics, SSTP College, Sankeshwar	Member/ IQAC Coordinator	
4.	Dr. Vijayalakshmi A. Edalli Assistant Professor and HOD, Chemistry, SSTP College, Sankeshwar	Member	
5.	Miss Madhu Waghi Assistant Professor in Chemistry (Guest Faculty), SSTP College, Sankeshwar	Member	
6.	Miss Anusuya Mahalingpur Assistant Professor in Chemistry (Guest Faculty), SSTP College, Sankeshwar	Member	

  
Principal

SDVS Singh's  
S. S. Arts College and T. P. Science Institute, Sankeshwar  
**DEPARTMENT OF CHEMISTRY**  
In association with  
**PLACEMENT CELL**  
**Self Financed Certificate Course**

Date: 07.06.2023

**Agenda**

1. Course on "Vermicompost - A bio tool for solid waste management".
2. Framing the syllabus and duration of course.
3. Students' enrolment.
4. Appointment of the staff and work distribution.

**Proceedings of the meeting**

The course coordinator welcomed all the members of the meeting,

The following points were discussed –

1. It was decided to conduct certificate course on Vermicompost - A bio tool for solid waste management for one semester and duration of the course will be 30 hours which includes both theory (10 hours) and practical (20 hours) classes.
2. The syllabus was finalized with lot of discussion.
3. The course has been organized with the following objectives
  - ✓ To understand basic techniques of vermicomposts preparation.
  - ✓ To assess the soil fertility and implement the organic based farming for environmental benefits
  - ✓ To develop as an business entrepreneurial in the agricultural science
  - ✓ To promote the sustainable practices for the soil health.
  - ✓ An analytical and practical based technical skill to "Earn while learning".
4. The classes will be conducted by the internal staff and few classes by external expert or field visit studies.
5. It is resolved that the student attendance is made compulsory. The staff incharge asked to take attendance every time and absentees are reported.

Members of the BOS attended the meeting-

- |                                |               |
|--------------------------------|---------------|
| 1. Shri P. B. Burji            | - Chairman    |
| 2. Dr. Honnur Krishna          | - Coordinator |
| 3. Dr. Vijayalakshmi A. Edalli | - Member      |
| 4. Shri M. R. Patil            | - Member      |
| 5. Miss Madhu Waghi            | - Member      |
| 6. Miss A. C. Mahalingpur      | - Member      |







  
Principal

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S. S. Arts College and T. P. Science Institute, Sankeshwar  
**DEPARTMENT OF CHEMISTRY**  
In association with  
**PLACEMENT CELL**

**Self-financed Certificate course on Soap making and Detergent preparation**

**STUDENTS ENROLLED FOR THE COURSE**

SL. NO.	REGISTER NUMBER	NAME OF THE STUDENT	CLASS
1	U15CH21S0002	DEEPA M DESAI	BSc V Semester
2	U15CH21S0005	GANGA R PATIL	BSc V Semester
3	U15CH21S0006	SHILPA S SHEKHANAVAR	BSc V Semester
4	U15CH21S0010	ASHWINI P MADIG	BSc V Semester
5	U15CH21S0011	BASAVARAJ V GHABE	BSc V Semester
6	U15CH21S0012	VEENA M NARASANNAVAR	BSc V Semester
7	U15CH21S0021	GANGADHAR S NAIK	BSc V Semester
8	U15CH21S0025	JAYALAXMI S KAKOLI	BSc V Semester
9	U15CH21S0026	SOUMYA A PATIL	BSc V Semester
10	U15CH21S0029	SHWETA S MUGALI	BSc V Semester
11	U15CH21S0033	BASAVARAJ S CHOUGALA	BSc V Semester
12	U15CH21S0035	SUTEERTHA S HOLEPPAGOL	BSc V Semester
13	U15CH21S0037	KAVERI N CHOUGALA	BSc V Semester
14	U15CH21S0039	SUSHMEETA MADANNAVAR	BSc V Semester
15	U15CH21S0041	SUDHA K TODAL	BSc V Semester
16	U15CH21S0043	SHRUTI S MUNNOLI	BSc V Semester
17	U15CH21S0046	PRASHANT S BEDAKIHAL	BSc V Semester
18	U15CH21S0047	YASH S MAHAJAN	BSc V Semester
19	U15CH21S0048	SUPRIT S MYAGADEYAWAR	BSc V Semester
20	U15CH21S0054	NINGAPPA D MARADI	BSc V Semester
21	U15CH21S0055	SARSWATI R KAMBLE	BSc V Semester
22	U15CH21S0057	OMKAR P BHOVI	BSc V Semester
23	U15CH21S0058	SUSHMITA S CHOUGALA	BSc V Semester
24	U15CH21S0059	LAXMI R MUNNOLI	BSc V Semester

25	U15CH21S0062	MAHALAXMI B DADDI	BSc V Semester
26	U15CH21S0063	SHWETA S INAMDAR	BSc V Semester
27	U15CH21S0069	VIDYASHREE D CHOPADE	BSc V Semester
28	U15CH21S0070	NASTAHEEN M ATHANI	BSc V Semester
29	U15CH21S0071	RAHUL MAGADUM	BSc V Semester
30	U15CH21S0072	ABHISHEK J KAMMAR	BSc V Semester
31	U15CH21S0075	SARATAJABI J INAMADAR	BSc V Semester
32	U15CH21S0077	SAHANA DIWAKAR	BSc V Semester
33	U15CH21S0078	SRUSTI B PATIL	BSc V Semester
34	U15CH21S0079	ROHIT KHANASE	BSc V Semester
35	U15CH21S0081	PANKAJA S JAIN	BSc V Semester
36	U15CH21S0084	SACHIN S JINARALI	BSc V Semester
37	U15CH21S0085	SHEKHAR R MAGADUM	BSc V Semester
38	U15CH21S0088	PRATIKSHA R MAGADUM	BSc V Semester
39	U15CH21S0100	ANUSUYA B KHANAPURI	BSc V Semester
40	U15CH21S0101	AKSHATA R HIREMATH	BSc V Semester
41	U15CH21S0102	ANKITA A MAGADUM	BSc V Semester
42	U15CH21S0103	SHIVARANJINI BASALIGUNDI	BSc V Semester
43	U15CH21S0104	VIDYARANI PATIL	BSc V Semester

*V.Bh.*

*[Signature]*

Question paper

SDVS Sangh's

S. S. Arts College and T. P. Science Institute, Sankeshwar – 591313.

**A self financed certificate course on  
VERMICOMPOST - A BIO TOOL FOR SOLID WASTE MANAGEMENT**

Student Name:

Time: 1 h

Register Number:

Marks: 25

Class:

Answer all the questions. Each MCQ carries 2 marks. Put for correct answer (2 x 15 = 30)

1. Which species of worm is commonly used in vermicomposting?  
A) Lumbricus terrestris, B) Eisenia fetida, C) Helix aspersa & D) Lumbricus rubellus
2. What is the primary food source for worms in vermicomposting?  
A) Plastic, B) Metal scraps, C) Organic waste, D) Inorganic chemicals
3. At what temperature range do composting worms thrive?  
A) 0-10°C, B) 10-20°C, C) 15-25°C, D) 25-35°C
4. What is the ideal moisture content for vermicomposting?  
A) 10-20%, B) 30-40%, C) 50-60%, D) 70-80%
5. Which of the following is not suitable for vermicomposting?  
A) Fruit peels, B) Meat scraps, C) Vegetable waste, D) Coffee grounds
6. What should be the carbon to nitrogen ratio in vermicomposting?  
A) 10:1, B) 20:1, C) 30:1, D) 40:1
7. Which bedding material is preferred for vermicomposting?  
A) Newspaper, B) Sand, C) Plastic sheets, D) Rocks
8. How often should the vermicompost bin be turned or aerated?  
A) Daily, B) Weekly, C) Monthly, D) Never
9. What is a sign that the vermicompost bin is too wet?  
A) Dry bedding, B) Bad odor, C) Presence of ants, D) No worms
10. What should be done if the vermicompost bin develops a bad odor?  
A) Add water, B) Add more worms, C) Add dry bedding, D) Stop feeding
11. Which nutrient is not typically high in vermicompost?  
A) Nitrogen, B) Phosphorus, C) Potassium, D) Sodium
12. What is the main benefit of using vermicompost in soil?

A) Increases soil pH, B) Provides inorganic nutrients, C) Enhances soil structure and fertility, D) Acts as a pesticide

**13. How long does it typically take to produce vermicompost?**

A) 2-3 weeks B) 1-2 months, C) 3-6 months, D) 1 year

**14. What is the function of the aeration holes in a vermicompost bin?**

A) To let light in, B) To allow oxygen to enter, C) To add water, D) To remove compost

**15. Which of the following can lead to worm death in a vermicomposting system?**

A) Too much light, B) Too little food, C) High salt content, D) Low moisture content

**16. Which method is used to measure the pH of vermicompost?**

A) Titration, B) pH meter, C) Spectroscopy, D) Gravimetry

**17. What is the ideal pH range of vermicompost?**

A) 3-4, B) 5-6, C) 6-8, D) 9-10

**18. Which instrument is used to determine the nitrogen content in vermicompost?**

A) Atomic absorption spectrometer, B) Gas chromatograph, C) Kjeldahl apparatus, D) Mass spectrometer

**19. What chemical process is used to determine phosphorus content in vermicompost?**

A) Colorimetry, B) Chromatography, C) Titration, D) Electrolysis

**20. Which form of nitrogen is commonly measured in vermicompost?**

A) Nitrite, B) Nitrate, C) Ammonia, D) Urea

**21. What is the main component analyzed to determine the organic matter content in vermicompost?**

A) Carbon, B) Hydrogen, C) Oxygen, D) Nitrogen

**22. Which analytical technique is used to determine the potassium content in vermicompost?**

A) Flame photometry, B) NMR spectroscopy, C) X-ray diffraction, D) Mass spectrometry

**23. What is used to extract available nutrients from vermicompost for chemical analysis?**

A) Water, B) Acid solutions, C) Organic solvents, D) Alcohol

**24. Which element is typically not a focus in vermicompost analysis?**

A) Calcium, B) Magnesium, C) Lead, D) Sulfur

**25. Which method is used to measure the moisture content of vermicompost?**

A) Drying oven method, B) Gas chromatography, C) Atomic absorption, D) Spectrophotometry

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**DEPARTMENT OF CHEMISTRY**

In association with  
**PLACEMENT CELL**

**Self-financed Certificate course on Soap making and Detergent preparation**

**RESULT:**

SL. NO.	REGISTER NUMBER	NAME OF THE STUDENT	Theory	Practical	Total
1	U15CH21S0002	DEEPA M DESAI	25	25	50
2	U15CH21S0005	GANGA R PATIL	19	22	41
3	U15CH21S0006	SHILPA S SHEKHANAVAR	25	25	50
4	U15CH21S0010	ASHWINI P MADIG	25	25	50
5	U15CH21S0011	BASAVARAJ V GHABE	25	25	50
6	U15CH21S0012	VEENA M NARASANNAVAR	25	25	50
7	U15CH21S0021	GANGADHAR S NAIK	20	25	45
8	U15CH21S0025	JAYALAXMI S KAKOLI	25	25	50
9	U15CH21S0026	SOUMYA A PATIL	22	24	46
10	U15CH21S0029	SHWETA S MUGALI	25	25	50
11	U15CH21S0033	BASAVARAJ S CHOUGALA	25	25	50
12	U15CH21S0035	SUTEERTHA S HOLEPPAGOL	20	21	41
13	U15CH21S0037	KAVERI N CHOUGALA	25	25	50
14	U15CH21S0039	SUSHMEETA MADANNAVAR	25	25	50
15	U15CH21S0041	SUDHA K TODAL	25	25	50
16	U15CH21S0043	SHRUTI S MUNNOLI	25	25	50
17	U15CH21S0046	PRASHANT S BEDAKIHAL	25	25	50
18	U15CH21S0047	YASH S MAHAJAN	25	25	50
19	U15CH21S0048	SUPRIT S MYAGADEYAWAR	25	25	50
20	U15CH21S0054	NINGAPPA D MARADI	20	22	42



21	U15CH21S0055	SARSWATI R KAMBLE	25	25	50
22	U15CH21S0057	OMKAR P BHOVI	20	25	45
23	U15CH21S0058	SUSHMITA S CHOUGALA	25	25	50
24	U15CH21S0059	LAXMI R MUNNOLI	25	25	50
25	U15CH21S0062	MAHALAXMI B DADDI	25	25	50
26	U15CH21S0063	SHWETA S INAMDAR	25	25	50
27	U15CH21S0069	VIDYASHREE D CHOPADE	25	25	50
28	U15CH21S0070	NASTAHEEN M ATHANI	22	22	44
29	U15CH21S0071	RAHUL MAGADUM	18	18	36
30	U15CH21S0072	ABHISHEK J KAMMAR	20	21	41
31	U15CH21S0075	SARATAJABI J INAMADAR	18	22	40
32	U15CH21S0077	SAHANA DIWAKAR	20	20	40
33	U15CH21S0078	SRUSTI B PATIL	18	18	36
34	U15CH21S0079	ROHIT KHANASE	20	25	45
35	U15CH21S0081	PANKAJA S JAIN	25	25	50
36	U15CH21S0084	SACHIN S JINARALI	25	25	50
37	U15CH21S0085	SHEKHAR R MAGADUM	25	25	50
38	U15CH21S0088	PRATIKSHA R MAGADUM	23	25	48
39	U15CH21S0100	ANUSUYA B KHANAPURI	22	25	47
40	U15CH21S0101	AKSHATA R HIEMATH	18	20	38
41	U15CH21S0102	ANKITA A MAGADUM	25	25	50
42	U15CH21S0103	SHIVARANJINI BASALIGUNDI	25	25	50
43	U15CH21S0104	VIDYARANI PATIL	25	25	50

*V. Bhoji*

*MS*

*K. S. S.*

Placement cell  
Coordinator  
(Dr. Konnur Krishna)

### Report:

All the interested BA and BSc V sem students did the project report as a certificate course on the topic of "Vermicompost – A Bio tool for solid waste management" under the guidance of Faculties, Department of Chemistry, SSTP college, Sankeshwar. Prof. M. C. Hosur, Chairman, at SDVS Sangh's Raitha Mithra, Research laboratory, Sankeshwar guided the analysis of the vermicompost.

Vermicompost, also known as worm compost, is a nutrient-rich organic fertilizer produced through the breakdown of organic waste materials by earthworms. This report explores the process of vermicomposting, its benefits, applications, and its potential contribution to sustainable agriculture. As global concerns about environmental sustainability and food security rise, vermicompost emerges as a viable and eco-friendly solution for improving soil health and reducing the reliance on synthetic fertilizers.

The process of vermicomposting involves the interaction between organic waste, microorganisms, and earthworms. Earthworms consume organic materials, breaking them down into simpler compounds. This process enhances nutrient availability and microbial activity, resulting in highly fertile and humus-rich compost.

While vermicomposting offers numerous benefits, challenges include the need for proper management of moisture, temperature, and pH levels. Additionally, the initial investment in establishing a vermicomposting system may be a barrier for some.

Various parameters pertaining to the soils and vermicomposts were analyzed by different analytical methods. The students compared the nutrients of normal garden soil and the vermicomposts prepared in our college campus. The following are some of the nutrients analyzed at RMKAS research centre, Sankeshwar such as Na, K, Ca, Fe, Zn, Cu, Phosphorus and carbon content along with TDS and pH of the analyte samples. The target analytes include determination of available nitrogen by Kjeldahl's method, organic carbon content quantification by dichromate method, available phosphorous by phospho-molybdenum method, some of the soil micro nutrients such as Fe, Mn, Zn, Cu etc by atomic absorption spectrophotometer (AAS) at the micro gram level. Apart from these analyte analyses, the pH of the samples was also analyzed. The electrical conductivity of the soil samples was carried out by conductance measurement. Macro nutrient such as Na and K was also analyzed by using flame photometric techniques and compared with the standard methods.

It was found that the nutrients in the vermicomposts were five times more nutrient than normal garden soil.

### The future perspectives

The growing awareness of sustainable agricultural practices and the demand for organic produce position vermicompost as a key player in the future of farming. Research and innovation in vermicomposting technologies can further enhance its efficiency and scalability.

The students were taught the significance of vermicomposts over the normal soil and also the health of the soil which facilitates the growth of the plants. One can estimate and decide on the basis of analysis of the soil samples components like what type of crops can be grown, at what season depending upon the quality of the soil samples, soil health, and nutrients that are present in the samples, for maintaining the fertility of the soils throughout the year to get the maximum yield, after its careful understanding of soil compositions. Overall, the project was very insightful and informative for both the students and faculties and had thorough discussions with the subject experts.

In conclusion, Vermicompost stands as a sustainable and eco-friendly solution to address soil degradation, waste management, and the demand for organic produce. Its ability to improve soil fertility, enhance crop yield, and contribute to environmental conservation make it a valuable asset in the pursuit of sustainable agriculture.

A handwritten signature in black ink, appearing to be 'S. S. S.', is written diagonally across the right side of the page.

Photo gallery





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GPS Map Camera

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7F60+X6V, PB Rd, Sankeshwar, Karnataka  
591313, India  
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Google



GPS Map Camera

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Google



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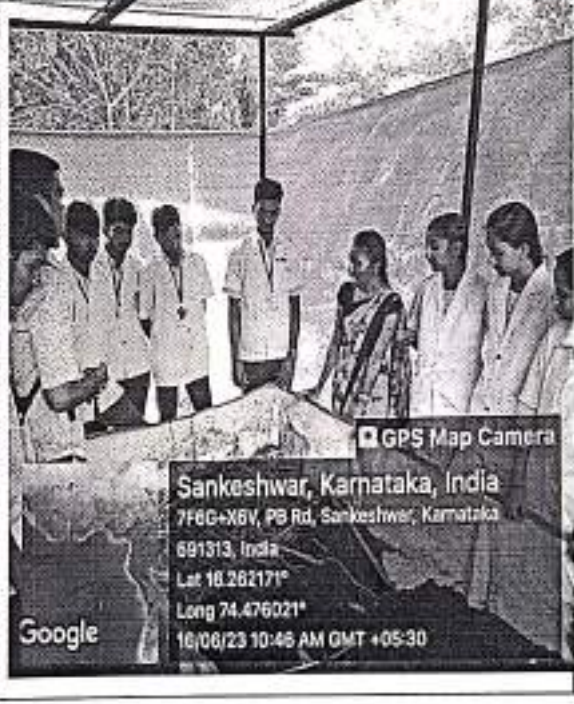
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GPS Map Camera

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 591313, India  
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 Long 74.476021°  
 15/06/23 11:30 AM GMT +05:30

Google



GPS Map Camera

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 591313, India  
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 Long 74.476021°  
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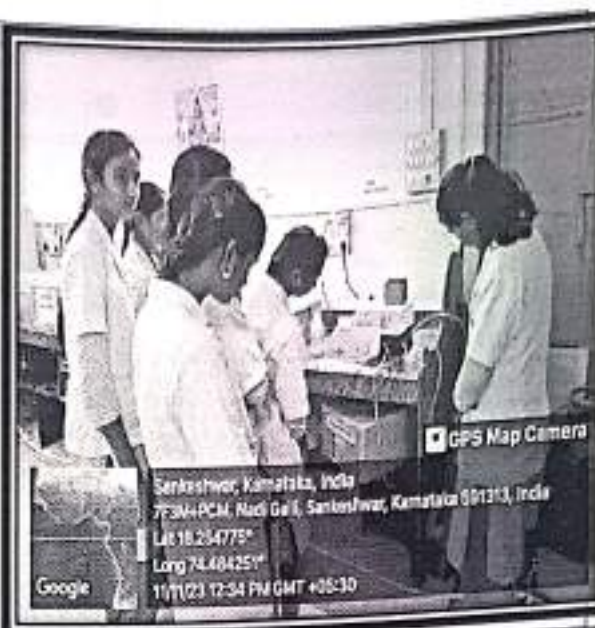


GPS Map Camera

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 591313, India  
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Google







BSc V sem students with Dr. M. C. Hosur, Scientific Advisor, RMKAS, Sankeshwar.





**S.D.V.S Sangh's  
S. S. ARTS COLLEGE AND T. P. SCIENCE INSTITUTE,  
SANKESHWAR**

Accredited at "B++" Level By NAAC

**CERTIFICATE OF COMPLETION**

**DEPARTMENT OF CHEMISTRY**

in collaboration with  
**PLACEMENT CELL, under IQAC.**

This is to certify that Mr./Miss. \_\_\_\_\_ has successfully completed self-financed certificate course on "*Vermicompost – A Bio Tool for Solid Waste management*" held from June 2023 to November 2023.

**IQAC  
Co-ordinator**

**HOD  
Chemistry**

**Chairman  
Placement Cell**

**Principal**

Sl. No	Reg.No	Name of the Students	15/6	26/6	25/6	27/6	30/6	5/7	6/7	13/7	20/7	28/7	10/8	24/8	12/9	9/11	10/11	11/11
1	U15CH21S0002	DEEPA M DESAI	1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
2	U15CH21S0005	GANGA R PATIL	1	2	3	4	5	6	7	8	9	10	11	12	13	13	14	15
3	U15CH21S0006	SHILPA S SHEKHANAVAR	1	2	3	4	5	6	7	8	9	10	12	12	13	14	15	16
4	U15CH21S0010	ASHVINI P MADIG	1	2	3	4	5	6	7	8	9	10	10	11	12	13	14	15
5	U15CH21S0011	BASA VARAJ V GHABE	1	2	3	4	5	6	7	8	9	10	10	11	12	13	14	15
6	U15CH21S0012	VEENA M NARASANNAVAR	1	2	3	4	5	6	7	8	9	10	10	11	12	13	14	15
7	U15CH21S0021	GANGADHAR S NAIK	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
8	U15CH21S0025	JAYALAXMI S KAKOLI	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
9	U15CH21S0026	SOURYA A PATIL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	15
10	U15CH21S0029	SHWETA S MUGALI	1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
11	U15CH21S0033	BASA VARAJ S CHOUGALA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
12	U15CH21S0035	SUTERTHA S HOLEPPAGOL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
13	U15CH21S0037	KAVERI N CHOUGALA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
14	U15CH21S0039	SUSHMEETA MADANNAVAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
15	U15CH21S0041	SUDHA K TODAL	1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	16
16	U15CH21S0043	SHRUTI S MUNNOLI	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	U15CH21S0046	PRASEANT S BEDAKIHAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
18	U15CH21S0047	YASH S MAHAJAN	1	2	3	4	5	6	7	8	9	10	10	11	12	13	14	16
19	U15CH21S0048	SUPRIY S MYAGADEYAWAR	1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	16
20	U15CH21S0054	NINGAPPA D MARADI	1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	16
21	U15CH21S0055	SARSWATI R KAMBLE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
22	U15CH21S0057	OMKAR P BHOVI	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
23	U15CH21S0058	SUSHMITA S CHOUGALA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
24	U15CH21S0059	LAXMI R MUNNOLI	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
25	U15CH21S0062	MAHALAXMI B DADDI	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16



at RMRAR  
for analysis.

26	U15CH2150063	SIVUJA S INAMDAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
27	U15CH2150069	VIDYASHREE D CHOPATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
28	U15CH2150070	NASTIHEEN M ATHANI	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
29	U15CH2150071	RAMUL MAGADUM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
30	U15CH2150072	ABHISHEK J KAMMAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
31	U15CH2150075	SARAJAABI J INAMDAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
32	U15CH2150077	SAHANA DEWAKAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
33	U15CH2150078	SRUJINI B PATIL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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38	U15CH2150088	PRATIKSHA R MAGADUM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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43	U15CH2150104	VIDYARANI PATIL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

*Hk*

Placement cell  
coordinator  
(Dr. Honnur Krishna)

*B. Sai*

Head of The  
Chemistry Department



*[Signature]*

PRINCIPAL  
S. S. Arts College & P. Science Institute  
SANGLI, MAHARASHTRA