

JANATA SHIKSHAN SANSTHA'S
KISAN VEER MAHAVIDYALAYA WAI
DEPARTMENT OF CHEMISTRY

Number of students undertaking project work 2021-22

B.Sc. III

Core Course Practical in Chemistry-VI

SR.NO	NAME OF STUDENTS	NAME OF PROJECT
1	KARADE SONALI RAVINDRA	ANALYSIS OF MAPRO PRODUTS
2	KHADASARE SIDDHI NITIN	
3	KHADASARE RIDDHI NITIN	
4	JAMDADE SNEHAL SANJAY	
5	GANGAVANE PRANITA RAVINDRA	
6	SOLASKAR HARSHADA HANMAN	
7	SOLASKAR ADITI TARACHAND	
8	SOLASKAR AMRUITA DEVIDAS	
9	CHAVAN NISHA TANAJI	
10	BHISE VAISHNAVI SANJAY	
11	BHOSALE ANIKET SAMPAT	DETERMINATION OF CaCO ₃ , K, C AND ELECTRICAL COUNDUCTIVITY OF SOIL
12	BHOSALE SUYOG AJIT	
13	DHUMAL RAJDEEP SANJAY	
14	SAPKAL PRATIK SURYAKANT	
15	AGA SAHIL GULAB	
16	SHINDE ANIKET HANMANT	
17	SHINDE ADESH DADASO	
18	SHINDE PRASHANT SANJAY	
19	GADHAVE SAURABH PRALHAD	
20	SALUNKHE JAYESH SATISH	
21	DHAGE SHAMBHURAJ NANDKUMAR	DETERMINATION OF FOAMING CAPACITY OF VARIOUS SOAPS
22	CHIKANE PRIYANKA SANJAY	
23	CHIKANE SAKSHI SANDIP	
24	CHAVAN VAISHAVI VIJAY	
25	WAGHMARE PRIYANKA SURYAKANT	
26	MANE RUPALI SANTOSH	
27	GHARGE ANKITA RAJENDRA	
28	PARAMANE GAURI SUNIL	
29	PAWAR RADHIKA LAXMAN	
30	SALUNKHE DIVYA TANAJI	
31	SHINDE SHIVANI SAYALI	

32	JADHAV PRATIKSHA SANJIV	ANALYSIS OF FACE POWDER
33	PAWAR SAKSHI YOGENDRA	
24	JADHAVRAO SHIVANI ATUL	
35	MORE DISHA RAHUL	
36	DHUMAL PRANALI DHANANJAY	
37	BHOITE DIPAK VAIBHAVI	
38	GHADAGE YASHASHRIPRAMOD	
39	SHIGANTE AKANKSHA BABASO	
40	ANPAT AISHWARYA ARUN	
41	SHINGTE ARATI SANJAY	
42	JADHAV KOMAL DADA	TO COMPARE NEUTRALINING POWER OF DIFFERENT COMMERCIAL ANTACIDS
43	MADAVI GANESH SHANKAR	
44	JADHAV PRASHANT RAMACHANDRA	
45	NAWADKAR OMKAR UMESH	
46	NANAWARE HIMANSHU AVINASH	
47	PISAL AKASH RAMDAS	
48	MOHITE ROHIT DILIP	
49	WAGH AGAMYA SHANKAR	
50	MORE ADITYA VILAS	
51	SHELAR OMKAR DNYANESHWAR	
52	SHENDKAR DIPRAJ PRAKASH	PREPARATION OF PIGMENT AND POSTER PAINTS
53	GAIKAWAD VIKRANT JALINDAR	
54	NAIKWADI PRAVIN SANJAY	
55	MAHAMUNI SHANTANU VIJAY	
56	MENBUDALE JAYANT RAMCHANDRA	
57	RAUT GAURAV JIVAN	
58	JAGTAP VIVEK SUJIT	
59	SALUNKHE ASHUTOSH SATISH	
60	DHUMAL SUMIT BALKRISHNA	
61	SHINDE SAURABH MOHAN	
62	GAIKWAD SANKET RAJENDRA	PREPARATION OF SOAP
63	SAWANT KUNAL SANDIP	
64	ZANJURNE HARSH SANJAY	
65	PAWAR PRATHEMESH RAJENDRA	
66	MANDHARE ABHISHEK SANJAY	
67	DHAGE OMKAR VIJAY	
68	VARE SUMIT JAYWANT	
69	SANAS RUSHIKESH SHANKAR	
70	CHAVAN RUTUJA RAJENDRA	
71	GAIKWAD SAKSHI SANJAY	
72	TUPE PRATIKSHA SURYAKANT	
73	VARE SHIVANI MAHADEV	
74	GAIKWAD ANKITA MADHUKAR	
75	SHINDE PRATIK PRATAPSIKH	
76	SHIVTHARE SANKET SOPAN	
77	CHAVAN DHIRAJ APPASAHEB	

78	NIKAM RUTURAJ SANJAY	ANALYSIS OF THUMSUP SPRITRE AND LIMCA
79	SHINDE ADITYA LALASO	
80	KUMBHAR SAURABH RAMESH	
81	LANDAGE SAURABH RAVINDRA	
82	BORATE KAUSHIK VIJAY	
83	GOLE SWAPNIL ANANDRAO	
84	ITHAPE SURAJ SATISH	
85	DAREKAR SANDESH CHANDRAKANT	
86	KADAM JAY DIPAK	DETERMINATION OF HARDNESS OF WATER
87	WAGHAMBARE MAYUR MOHAN	
88	MULIK GANESH KIRAN	
89	DHUMAL PRATIK SANJAY	
90	BHOITE SHUBHAM SANDIP	
91	BHOITE PRATHMESH SAMBHAJI	
92	BHOITE SAHIL DEVIDAS	
93	RAJE SHUBHAM RAJENDRA	
94	GADHAVE GAURAV VIJAY	STERILIZATION OF WATER USING BLEACHING POWDER
95	GADHAVE TEJAS KALIDAS	
96	GAIKWAD SUSHANT NARAYAN	
97	NAWADKAR SHUBHAM RAOSAHEB	
98	GHADGE ANIKET DNYANESHWAR	
99	KHANDE SIDDHI SANJAY	
100	KUMBHAR PRATHMESH ANKUSH	
101	PISAL SNEHAL RAJENDRA	
102	KAMBALE MAYURI MEGHNATH	ETHANOL AS FUEL
103	THORAVE PRIYANKA DINESH	
104	BAGAL AISHWARYA SOMESHWAR	
105	DABHADE SHARVARI MILIND	
106	TARATE VAISHNAVI ANIL	
107	PISAL AKANKASHA MILIND	
108	MARATHE VAISHNAVI TUKARAM	
109	KADAM SAKSHI SANDIP	
110	BELOSHE NIKITA JAYWANT	DETERMINATION OF LACTIC ACID IN MILK
111	MOMIN UMER SHADAB	
112	BAGWAN HEENA SADIK	
113	KADAM DIVYA ANIL	
114	CHORGE SAKSHI SANTOSH	
115	DHOKALE AISHWARYA SHIVAJI	
116	YEWALE SATVASHILA SURESH	
117	KHAMKAR RUCHIKA SUNIL	
118	BHOSALE SUCHITRA MADANRAO	
119	GANDHALE ANKITA VIJAY	DETERMINATION OF LACTIC ACID IN MILK
120	WADKAR AKASH VIJAY	
121	SHIRKE KUNAL MANOHAR	
122	SONAWANE ADINATH SURESH	
123	KOKARE VAISHNAVI VINAYAK	

124	GAIKWAD PRATHAM CHADAN	ANALYSIS OF SUGARCANE JUICE
125	JOSHI ATHARV RAVINDRA	
126	PAWAR OMKAR DILIP	
127	RAUT ADITYA LAXMAN	
128	MANDHARE ABHISHEK MOHAN	
129	JADHAV PRASAD NAMDEV	
130	SHINDE ABHISHEK MOHAN	
131	CHAVAN TEJAS DATTATRAY	
132	JADHAV YASH VIKAS	
133	CHIKANE MANDAR ANKUSH	
134	CHAVAN ANISHA SATISH	
135	NANAWARE ANIKET VIJAY	
136	JADHAV ROHAN RAJENDRA	
137	JAGTAP AMEYA SANJAY	
138	BHOSALE SHUBHAM BALKRISHA	
139	JADHAV OMKAR MANSING	
140	PISAL KETAN KISHOR	
141	SALUNKHE DATTATRAY VIKAS	
142	GAVALI TEJAS RAMESH	
143	PATANKAR SUMIT SURESH	
144	NIKAM OMKAR YUVRAJ	
145	YADAV SONU DEVNARAYAN	



D. S. Patankar

Head
Department Of Chemistry
Kisan Veer Mahavidyalaya, Wat

CERTIFICATE OF THE SUPER VISOR

This is to certificate that **shri. Jagtap Akshay Anil** of
B.sc.III class has completed the report of fieldwork on
Determination Percentage of Cane Sugar
of the chemistry subject satisfactory under the guidance
of **R.R.Kamble** taking during the year **2021-2022** as
prescribed by the
shivaji university,kholhapur.

Ramble

Miss. **Shri. R.R.Kamble**

Department of chemistry

Shri.H.V.Jadhav

Head of Dept.of chemistry

Head

Department Of Chemistry
Kisan Veer Mahavidyalaya, Warananagar

[Signature]

Extrenal Examinar

Shivaji university,

kolhapur

JANATA SHIKSHAN SANSTHAS

KISAN VEER MAHAVIDYALAY, WAI



CERTIFICATE

This is to certify that, *Karande Sonali Ravindra, Khadsare Riddhi Nitin, Khadsare Siddhi Nitin, Jamdade Snehal Sanjay, Gangawane Pranita Ravindra, Solaskar Harsada Hanmant, Solaskar Aditi Tarachand, Solaskar Amruta Devidas, Bhise Vaishnavi Sanjay, Chavan Nisha Tanaji* Has Completed the report of the field work on “*Analysis of Mapro Product*” which is being submitted here with as a partial fulfillment for the award of *B.Sc.III* in Chemistry Shivaji University, Kolhapur. This project is the result of 2021-2022 Original work completed under Dr.P.H. Bhoite guidance. This project is the result of the data information collected from the respective information media and we have successfully verified the result obtained. All the resulting aspects are found to be correct and appropriate in the view of this project and the best of our knowledge.

c
reshali
12/5/2022
Guide

Dr. P.H. Bhoite

[Signature]
Head

Department of Chemistry
Head
Department Of Chemistry
Kisan Veer Mahavidyalaya, Wai



JANATA SHIKSHAN SANSTHA'S
KISAN VEER MAHAVIDYALAYA, WAI
(DIST-SATARA)



CERTIFICATE

This is certify that Mr. V. S. Jagtap, Mr. S. B. Dhumal, Mr. S. M. Shinde, Mr. S. R. Gaikwad, Mr. S. V. Mahamuni, Mr. H. S. Zanjurne, Mr. G. J. Raut, Mr. P. S. Naikawadi, Mr. J. R. Menbudale, Mr. T. R. Jadhav, Mr. K. S. Sawant, Mr. A. S. Salunkhe has successfully completed the project work on "Preparation of Pigments and Poster Paints" which is being submitted here with as partial fulfillment for the of Degree of Bachelor of Science in Chemistry Shivaji University Kolhapur.

This project is the result of data information collected from the respective information media and we have successfully verified the result obtained. All the resulting aspects are found to be correct and appropriate in the view of this project and the best of our knowledge.

P. S. Jaigude
20/05/22
Miss. P.S. Jaigude
Under Guidance



H. V. Jadhav
Dr. H. V. Jadhav

Head of Department
Head
Department Of Chemistry
Kisan Veer Mahavidyalaya, Wai

External Examiner.
Shivaji University, Kolhapur.

- 1)
- 2) *[Signature]*
- 3)

JANATA SHIKSHAN SANSTHA'S
KISAN VEER MAHAVIDYAL, WAI



CERTIFICATE

DEPARTMENT OF CHEMISTRY

This is to certify that, Mr. Bhosale A. S., Mr. Dhumal R. S., Mr. Sapkal P. S., Mr. Aga S. G., Mr. Shinde A. H., Mr. Shinde A. D., Mr. Shinde P. S., Mr. Gadhave S. P., Mr. Salukhe J. S., Mr. Dhage S. N. Of B.Sc. III (Chemistry) has successfully completed the project work on

“Determination of CaCO_3 , K, C, & Electrical Conductivity of Soil”.

Which is being submitted herewith as partial fulfillment for the award of the degree of Bachelor of Science in chemistry. Shivaji University Kolhapur

This project is the result of data information collected from the respective information media and we have successfully verified the result obtained.

All the resulting aspects are found to be correct and appropriate in the view of this project and the best of our knowledge.

P.S. Jaigude
19/05/22

Miss. P.S. Jaigude

Department Of Chemistry



[Signature]

External Examiner

Shivaji University Kolhapur

[Signature]

Prof.Dr..H.V.Jadhav

Head Of Department

Head

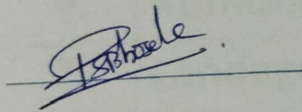
Department Of Chemistry
Kisan Veer Mahavidyalaya, Wai

Janta Shikshan Sanstha's
Kisan Veer Mahavidyalaya Wai

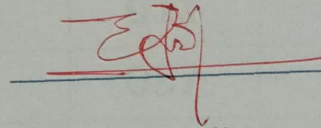
CERTIFICATE

This is to certify that, Mr. Shinde P.P, Shivthare S.S, Chavan D.A, Nikam R.S, Shinde A.L, Kumbhar S.R, Landage S.R, Borate K.V, Gole S.A, Ithape S.S, Darekar S.C, Kadam J.D, has the following student of B.Sc. – III Chemistry have satisfactory completed the project work entitled "**ANALYSIS OF THUMSUP, SPRITE & LIMCA**" as per curriculum of B.Sc. Part III Chemistry, Shivaji University, Kolhapur. Under the guidance of **Miss. P.S. Bhosale** in the year 2021-2022

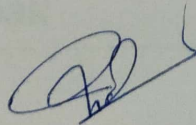
This project is the result of data information collected from the respective information media and we have successfully verified the result obtained. All the resulting aspects are found to be correct and appropriate in the view of this project and the best of our knowledge.



Miss: P.S.Bhosale
Name of Guide



Dr. H.V. Jadhav
Head of Department in Chemistry
Kisan Veer Mahavidyalaya, Wai



EXTERNAL EXAMINAR

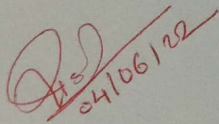
Janata Shikshan Sanstha's
Kisan veer Mahavidyalaya, Wai
(Institute, Affiliated to Shivaji University, Kolhapur)
Department of Chemistry

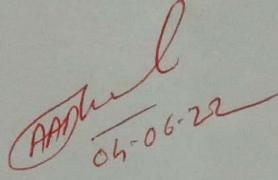
CERTIFICATE

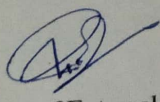
This is to certify that, **Mr. Salunkhe Rushikesh Gajanan** and **Mr. Patil Amit Vitthal** has successfully completed the project work and submitted project report on "Synthesis and Characterization of Some Heterocyclic Compounds by using Schiff Bases" for the partial fulfillment of the requirement for the degree of Master of Science in **Organic Chemistry** from the Department of **Chemistry**, as per the rules and regulations of Kisan Veer Mahavidyalaya, Wai, Dist: Satara.

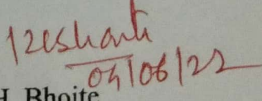
Date: 04-06-2022

Place: KVM, Wai


Mrs. D. S. Patil
Name and Sign of Supervisor


Mr A. A. Dhanawade
Name and Sign of Supervisor


Name:
Name and Sign of External Examiner


Dr P. H. Bhoite
Name and Sign of Head of Department
Head
Department Of Chemistry
Kisan Veer Mahavidyalaya, Wai

Janta Shikshan Sanstha's
Kisan Veer Mahavidyalaya Wai

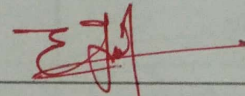
CERTIFICATE

This is to certify that, **Mr. Pharande Shubham Sudhir, Mr. Pisal Satyajeeet Madhukar, Mr. Nikam Omkar Yuvraj.** has the following student of **B.Sc. - III Chemistry** have satisfactorily completed the project work entitled "**HARDNESS OF WATER**" as per curriculum of B.Sc. Part III Chemistry, Shivaji University, Kolhapur. Under the guidance of **Miss. P.S. Bhosale** in the year 2021-2022

This project is the result of data information collected from the respective information media and we have successfully verified the result obtained. All the resulting aspects are found to be correct and appropriate in the view of this project and the best of our knowledge.

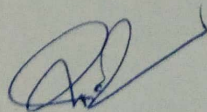


Miss: P.S. Bhosale
Name of Guide



Head
Dr. H.V. Jadhav
Department of Chemistry
Kisan Veer Mahavidyalaya Wai
Head of Department in Chemistry

Head
Department Of Chemistry
Kisan Veer Mahavidyalaya, Wai



EXTERNAL
EXAMINAR

JANATA SHIKSHAN SANSTHA'S
KISAN VEER MAHAVIDYALAYA, WAI



CERTIFICATE

This is to certify that *Mr.S.K.Pisal, Mr.R.R.Jadhav, Mr.O.M.Jadhav, Mr.S.B.Bhosale, Mr.A.M.Shinde, Mr.S.D.Yadav, Mr.T.R.Gavali, Mr.D.V.Salunkhe, Mr.A.S.Jagtap, Mr.S.S.Patankar, Mr.O.U.Ithape, Mr.A.V.Nanaware* has successfully completed the project work on "*The Scientist Awarded Nobel Prize*" which is being submitted here with as partial fulfillment for the award of Degree of Science in Chemistry, Shivaji University, Kolhapur.

This project is the result of data information collected from the respective information media and we have successfully verified the result obtained. All the resulting aspects are found to be correct and appropriate in the view of this project and the best of our knowledge.

Prof. Mr. B. M. Bhosale

Under Guidance

External Examiner.



Dr. H. V. Jadhav

Head
Department of Chemistry
Kisan Veer Mahavidyalaya, Wai

JANATA SHIKSHAN SANSTHA'S
KISAN VEER MAHAVIDYALAYA, WAI

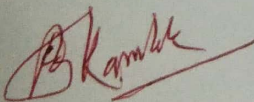


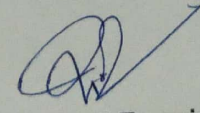
CERTIFICATE
DEPARTMENT OF CHEMISTRY

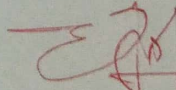
This is to certify that Miss Chikane Priyanka Sanjay, Miss. Chikane Sakshi Sandip, Shinde Shivani Sayaji, Miss. Chavan Vaishnavi Vijay, Miss. Waghmare Priyanka Suryakant, Miss. Mane Rupali Santosh, Miss. Jadhav Pratiksha Sanjiv, Miss. Gharge Ankita Rajendra, Miss. Paramane Gauri Sunil, Miss. Pawar Radhika Laxman, and Miss. Salunkhe Divya Tanaji has successfully completed the project on "**foaming capacity of soap**" which is being submitted here with as partial fulfillment for the award of degree of bachelor of science in chemistry Shivaji University Kolhapur.

This project is the result of data information collected from the respective information media and we have successfully verified the result obtained.

All the resulting aspects are found to be correct and appropriate in the view of this project and the best of our knowledge.


Under guidance
Prof. U.B. Kamble


External Examiner
Shivani University Kolhapur


Head of department
Dr. H.V. Jadhav
Head
Department Of Chemistry
Kisan Veer Mahavidyalaya, Wai

CERTIFICATE OF THE SUPER VISOR

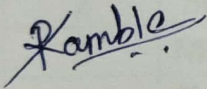
This is to certificate that Shri.chikane M.A. , Shri.bhosale R.A. Shri.more
C.M Shri.shinde .A.M Shri.pisal.K.K Shri.mahangade.R Shri.pisal P.P
Shri.jagtap A.A. Shri.fhalke. G.M. Shri.ithape.R.S. Shri.chavan.T.D. of B.sc.III
class has completed the report of fieldwork on **Determination**

Percentage of Cane Sugar

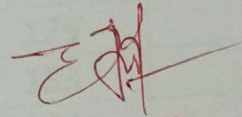
of the chemistry subject satisfactory under the guidance
of R.R.Kamble taking during the year 2021-2022 as prescribed by

the

shivaji university,kolhapur.

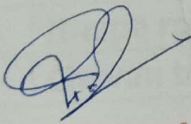


Miss **Shri. R.R.Kamble**
Department of chemistry



Shri.H.V.Jadhav
Head of Dept.of chemistry

Head
Department Of Chemistry
Kisan Veer Mahavidyalaya,Wai



Extrenal Examinar

Shivaji university,
kolhapur

JANATA SHIKSHAN SANSTHA'S
KISAN VEER
MAHAVIDHYALAYA, WAI



CERTIFICATE

This is certify that *Mr. Pawar Prathamesh, Mr. Mandhare Abhishek, Mr. Dhage Omkar, Mr. Vare Sumit, Mr. Sanas Rushikesh, Miss. Chavan Rutuja, Miss. Gaikwad Sakshi, Miss. Tupe Pratiksha, Miss. Vare Shivani, Miss. Gaikwad Ankita.* has successfully completed the project work on "PREPERATION OF SOAP" which is being submitted here with as partial fulfillment for the award of *Degree of Bachelor of Science in Chemistry*, Shivaji University Kolhapur.

This project is the result of data information collected from the respective information media and we have successfully verified the result obtained. All the resulting aspects are found to be correct and appropriate in the view of this project and the best of our knowledge.

Bhosale
18/05/2022
Miss. R. M. Bhosale

AAA
Name Of Guide

H.V. Jadhav
Prof. H.V. Jadhav
Head
Department Of Chemistry
Kisan Veer Mahavidyalaya, Wai

H.V. Jadhav
Head Of Department In
Chemistry
Head
Department Of Chemistry
Kisan Veer Mahavidyalaya, Wai

[Signature]
External Examiner.

Janata Shikshan Sanstha's
KisanveerMahavidyalaya, Wai



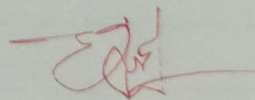
Certificate

This is to certify that, Mr.Waghambare Mayur Mohan, Mr.Mulik Ganesh Kiran, Mr.Dhumal Pratik Sanjay, Mr. Bhoite Shubham Sandip, Mr.Bhoite Prathmesh Sambhaji, Mr.Bhoite Sahil Devidas, Mr.Raje Shubham Rajendra, Mr.Gadhawe Gaurav Vijay Mr.Gadhawe TejasKalidas, Mr Gaikwad Sushant Narayan, Mr.Nawadkar Shubham Raosaheb, Mr.Ghadge Aniket Dnyeshwar has the following student of B.Sc. – III Chemistry Have satisfactorily completed the project work entitled “ TO DETERMINATION OF HARDNESS OF WATER” as per curriculum of B.Sc.Part III Chemistry, Shivaji University, Kolhapur. Under the guidance of Prof. DR. S.D Kumbhar 2021-2022

This project is the result of data information collected from the respective information mediaand we have successfully verified the result obtained. All the resulting aspects are found to be correct and appropriate in the view of this project and best of our knowledge.

For
reshanti
20/11/2022

Dr.S.D. kumbhar
Project Guide


Dr.H.V.Jadhav
Head of Depatment in Chemistry
Head
Department Of Chemistry
Kisan Veer Mahavidyalaya,Wai



EXTERNAL EXAMINER

JANATA SHIKSHAN SANSTHA'S
KISAN VEER MAHAVIDYALAYA, WAI



CERTIFICATE

This is to certify that Mr. Ganesh Madavi, Mr. Ganesh chavan, Mr. Prashant Jadhav, Mr. Omkar Nawadkar, Mr. Himanshu Nanaware, Mr. Akash Pisal, Mr. Rohit Mohite, Mr. Agamyia Wagh, Mr. Aditya More, Mr. Omkar Shelar, Mr. Dipraj Shendkar, Mr. Vikrant Gaikwad has performed the Project work on "To Compare Neutralizing Powers of Different Commercial Antacids" for the partial fulfillment of the requirement of the B.Sc. degree course in chemistry for the academic year ~~2021-2022~~ Satisfactorily.

2023 - 2024

(Signature)
18/05/24

Mr. A. A. Dhanawade

Project Guide

Miss A. B. Gadhave

(Signature)

Dr. H. V. Jadhav

Head
Department of Chemistry

Kisan Veer Mahavidyalaya, Wai

pro *(Signature)* Dr. D. N. Zambre

Janta Shikshan Sanstha's

KISAN VEER MAHAVIDYALAYA WAI



CERTIFICATE

This is to certify that, Mr.Raut A.L., Mr.Petkar S.S., Mr.Shirke K.M., Mr.Pawar G.B., Mr. Sonavne A.S., Mr.Kokare V.V., Mr.Joshi A.R., Mr.Mandhare A.M., Mr.Wadkar A.V., Mr.Tambe T.S., Mr.Mohite A.V., Mr.Gaikwad P.C., Mr. Pawar O.D. has the following student of B.Sc.- III Chemistry have satisfactorily completed the project work entitled "**DETERMINATION OF LACTIC ACID IN SAMPLE OF MILK**" as per curriculum of B.Sc. Part III Chemistry, Shivaji University, Kolhapur. Under the guidance of Miss R.J. Bhoite in the year 2021-2022

This project is the result of data information collected from the respective information media and we have successfully verified the result obtained. All the resulting aspects are found to be correct and appropriate in the view of this project and the best of our knowledge.

Miss R.J. Bhoite.

Name of Guide



Dr. H.V. Jadhav

Head of Department in Chemistry

Head

Department Of Chemistry
Kisan Veer Mahavidyalaya, Wai



Mapró

**Analysis of
Mapro Product**

JANATA SHIKSHAN SANSTHA'S

KISAN VEER MAHAVIDYALAY, WAI



TITLE OF PROJECT

Analysis of Mapro Product

A Project Submitted to

Department of Chemistry

Submitted by

Class – B.Sc. - III

Sr.No.	Name of student	Seat No.
1	Karande Sonali Ravindra	
2	Khadsare Riddhi Nitin	
3	Khadsare Siddhi Nitin	
4	Jamdade Snehal Sanjay	
5	Gangawane Pranita Ravindra	
6	Solaskar Harsada Hanmant	
7	Solaskar Aditi Tarachand	
8	Solaskar Amruta Devidas	
9	Bhise Vaishnavi Sanjay	
10	Chavan Nisha Tanaji	

Under the guidance of

Dr. P. H. Bhoite

2021 – 2022

JANATA SHIKSHAN SANSTHAS

KISAN VEER MAHAVIDYALAY, WAI



CERTIFICATE

This is to certify that, *Karande Sonali Ravindra, Khadsare Riddhi Nitin, Khadsare Siddhi Nitin, Jamdade Snehal Sanjay, Gangawane Pranita Ravindra, Solaskar Harsada Hanmant, Solaskar Aditi Tarachand, Solaskar Amruta Devidas, Bhise Vaishnavi Sanjay, Chavan Nisha Tanaji* Has Completed the report of the field work on “*Analysis of Mapro Product*” which is being submitted here with as a partial fulfillment for the award of *B.Sc.III* in Chemistry Shivaji University, Kolhapur. This project is the result of 2021-2022 Original work completed under Dr.P.H. Bhoite guidance. This project is the result of the data information collected from the respective information media and we have successfully verified the result obtained. All the resulting aspects are found to be correct and appropriate in the view of this project and the best of our knowledge.

P. H. Bhoite
12/5/2022
Guide

Dr. P.H. Bhoite

[Signature]
Head

Department of Chemistry
Head
Department Of Chemistry
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Declaration of the Student

I hereby declare that the project work entitled "*Analysis of Mapro Product*" is the original work carried out by me at the department of Chemistry of Kisan Veer Mahavidyalaya, Wai. This project has not been carried out previously by any agency/ person so I have selected this project for the fieldwork.

Place :- Wai

Date :- 12/5/2022

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Place : Wai

Date : 12 / 5 /2022

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Introduction

Today MAPRO is a well know name synonymous with quality and trust but it all started over 40 years ago, in small town of Panchgani, near Mahableshwar, a businessman named Kishor Vora, decided to make Strawberry, Jam, Today his 'Hobby' has born fruit in shape of mapro one of the most modern, hygienic, quality conscious am and Fruit products manufacturing concerns in Western India.

Mr. Vora could have rested easily on success his fruit recipe. But he wanted to on develop inoveltive ideas such as vegetariam Jelly sweets fruit cubes, fruit juice and Rose syrups with Rose petals, Mapro naturally grew on its founders philosophy of good wholesome hutritious value for-money and above all a touch of imagination. Ungredients that have made it a market leader today.

Mapro is today India's largest processor of fresh strawberry in the form of Jams, crushes, Syrups, Squashes and Toppings, strawberry jam with whole fruit is an exclusive specialty.

Gingerale and Kokum syrups made from the fruit extract not only prepare a soft drink but are known as appetizers and have antiacid proparties khus syrups are made from vetiver roots and Rose syrup is made using natural Rose Petals.

Barley water, squash and cordial are made using Lemon Juice contain vitamin 'C'.

Strawberry squash and orange squash are made from very nutritious fruits kesar (salfron) from Kashmir the worlds costliest spice. Thandai syrup is made with almost and spices including saffron from traditional North Indian recipes.

Mapro sweets are made from fruit juice and liquid glucose is known to be pioneer vegetation soft sweet's in India. Recently we have introduced Dessert Toppings. Today Mapro is leading supplier of trusty as well as nutritious fruit product to the International Market. Mapro is known to care for its employees.

Mapro. is a home where there is mutual understanding bet employee and employer work members in the family. It features a blend of hard work and dedication it is now ISO 9001:2000 certified and is in the process of ISO 2000: 2005 certification.

ACIDITY

Aim:-

Determination of titratable acidity in the given Mapro food products using supplied NaOH Solution.

C standard oxalic acid solution to be prepared to standardize the given sodium Hydroxide Solution.

Chemical:-

H₂SO₄ Crystal 0.1 N NaOH Phenolphthalein, sample of food product

Procedure:-

A) Preparation of standard solution of Sodium Hydroxide

To determine the Equivalent weight of NaOH

$$N = \frac{\text{Weight: } 1000}{V \text{ (ml)} \times \text{Fa. wt}}$$

$$\begin{aligned} \text{Wt.} &= \frac{NEV}{1000} \\ &= \frac{0.1 \times 40 \times 1000}{1000} \\ &= 4 \text{ gm.} \end{aligned}$$

Where,

N = Normality, E = Equivalent Weight, V = Volume.

1) Weight exactly 4 gm of NaOH crystal on watch glass and transfer in a beaker dissolve it in minimum distilled water and transfer this solution to 1000 ml volumetric flask. Dilute the contents up to the mark with distilled water and shake well. It gives 0.1 N NaOH solution.

2) Take 10 ml 0.1 Oxalic acid in conical flask. Add two drops of Phenolphthalein indicator and titrate this solution against 0.1 N NaOH solution from the burette.

3) Take three readings and constant burette reading. 4) From this calculate the exact normality of NaOH using $N_1V_1 = N_2V_2$ relation.

B) To determine the acidity of food product:

Acidity:-

10 gm of sample i.e. puree, ketchup etc was weighed and diluted with 100 ml of distilled water. 10 ml of diluted sample was taken and titrated with 0.1 N NaOH by adding phenolphthalein as an indicator. Reddish colour was developed which may mark as the end point.

But for juices 10 ml of sample was taken and titrated against 0.1 N NaOH using phenolphthalein indicators. Pinkish colour was developed which may mark the end point. Its citric acid percentage was found to be less than desired value, citric acid was added in the charge by calculation.

Formula :

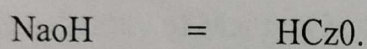
$$\% \text{ Total Acidity} = \frac{\text{Titrate Reading} \times 0.70}{\text{Weight to sample in gms 1 lit.}}$$

To determine the exact normality of NaOH solution:

A) Observation Table:

Reading	Reading in cm ¹			Constant burette reading in cm (21)
	1	2	3	
Final	10.0	10.1	10.0	10.0
Initial	0.0	0.0	0.0	
Difference	10.0	10.1	10.0	

A) To determine the exact normality of NaOH solution :



$$N_1 V_1 = N_2 V_2$$

$$N_1 \times 10 = 0.1 \times 10.10$$

$$N_1 = \frac{0.1 \times 10}{10}$$

$$= 0.1 \text{N NaOH}$$

B) To determine the acidity of Mango Crush :

Reading	Reading in cm ¹			Constant burette reading in cm (21)
	1	2	3	
Final	11.1	11.2	11.1	11.1
Initial	0.0	0.0	0.0	
Difference	11.1	11.2	11.1	

Calculation: - For Mango Crush

Formula:

$$\% \text{ Total Acidity} = \frac{\text{Titrate Reading} \times 0.70}{\text{Weight to sample in gms 1 lit.}}$$

$$= \frac{11.1 \times 0.70}{10}$$

$$= 0.777 \%$$

Result: - Acidity of Mango Crush = 0.777 %

Sample		Titration Reading			Constant Reading	Acidity
		1	2	3		
Sweet						
1)	Fruity Sweet	15.6	15.5	15.5	15.5	1.085%
2)	Jelly Cube	14.5	14.4	14.4	14.4	1.008%
3)	Falchaos	14.3	14.3	14.2	14.3	1.001%
Jam						
1)	Mix Fruit Jam	11.6	11.5	11.6	11.6	0.81%
2)	Strawberry Jam	11.4	11.5	11.5	11.5	0.805%
Crush						
1)	Mango Crush	11.1	11.2	11.1	11.1	0.77%
2)	Guava Crush	13.5	13.6	13.5	13.5	0.945%
3)	Lichi Crush	11.1	11.1	11.1	11.1	0.777%
4)	Citras Blue	14.4	14.4	14.5	14.4	0.08%
5)	Kokum Crush	12.5	12.5	12.4	12.5	0.868%
Squashes						
1)	Limboo-Timboo	15.5	15.6	15.5	15.5	1.085%
2)	Strawberry Crush	14.5	14.4	14.4	14.4	1.008%

Brix Analytical Products

Total soluble Solid / Brix reading.

The TSS Value can be defined as the amount of sugar and solute mineral presenting fruits and vegetables.

The hand refract metre was used for the determination of total soluble solids It was based on principle of total refraction for determining of TSS Drop of sample (Juice, Syrup etc.) was placed on the prism and the percentage of dry substance in it read directly.

Product	Standard Brix Range
Sharbat	69-70
Syrup	69-70
Squash	57-58
Crush	57-58
Cardial	32-33

Using Brix Meter for Reading Observation Table

Sample		Reading
Jam		
1)	Strawberry Jam	67
2)	Pinepeapple Jam	70
3)	Mix Fruit Jam	70
Crush		
1)	Guava Crush	58
2)	Strawberry Crush	58
3)	Mango Crush	58
4)	Lichi Crush	57
5)	Kokum Crush	66
Sweet		
1)	Falero Strawberry	79
2)	Falero Guava	79
3)	Falero Mango	79
4)	Falero Orange	79
5)	Falero Kachikairi	79
Squashes		
1)	Limboo-Timboo	57.5
2)	Leman Gingeral	44.5
3)	Pinacolada	57.5
4)	Santra - Mantra	57.5
5)	Strawberry	44.5
Sharbat		
1)	Keshar Sharbat	69.5

Viscosity:-

Viscosity is one of the properties of liquids and is associated with flow of liquids some liquids flow more readily which some liquids move very slowly. This property of liquid which determines their rate of flow is exhibited by liquids as well as gases. For example ether will move over a glass plate much more quickly than glycerine. The rate flow depends on the nature of liquid and the force which produces the flow.

Coefficient of Viscosity:-

The coefficient of viscosity of viscosity or in brief the viscosity can be defined as "the force per unit area required to maintain unit difference of velocity between two parallel layers in the liquid, unit distance apart."

SI unit of viscosity is Nm^2S or Pas or $\text{Kg m}^2 \text{s}^{-1}$

Instrument - Viscometer.

Sr. No.	Sample	Temperature	Observed
1)	Mango Crush	24.1	1988
2)	Litch Crush	23.5	1004
3)	Black Current Crush	23.7	831
4)	Green Apple Crush	24.1	2519
5)	Guava Crush	23.4	1860
6)	Alphanso Mango	24.3	1200
7)	Cilrar Blue	25.0	200
8)	Orange Crush	25.0	1900
9)	Pinapple Crush	25.6	1460
10)	Stroawberry Crush	24.6	1600
11)	Apple Crush	24.3	2300

Estimation of Preservatives

Estimation of SO₂ Content:

Sulphur dioxide (SO₂) added to food product as a preservative may exist as undissociated sulphurous acid, as free bisulphate ion, as free sulphite ion and or combined SO₂ in the form of hydroxyl sulphonates. The available methods for analysis are either designed to measure the total SO₂. The combined SO₂ is liberated by:

- Treatment with excess alkali at room temperature, subsequent acidification to prevent recombination and titration with iodine.
- By distillation from acid solution and titration..

Estimation by Ripper Titration

Principle:

Ripper titration is a rapid analysis of the SO₂ present in food product, added essentially in the form of NaMS or KMS as class II Preservatives. Permitted by the PFA. The procedure analyses the dissociation and liberation of free SO₂. Acidification prevents the recombination of the SO₂ with its sodium or potassium salts. Further the sample is titrated against 0.01 N. Iodine solution using starch indicator 1ml of 0.01 N I₂ corresponds to 0.32 mg of SO₂.

The PFA has set the upper limit for sulphur dioxide in crushes, squashes, fruit syrups, sharbats and barley water. Accordingly the limit cannot exceed 350 ppm (PFA 1954).

Procedure:

- Weigh 10 gm / 10 ml sample and dissolve in water.
- Add 5ml of 5N NaOH.
- Add 7 ml of 5N Hdl and shake well..
- Titrate rapidly against 0.01N Iodine solution using starch indicator to a dark blue end point 1ml of 0.01 N $I_2 = 0.34$ mg SO_2 .

Observation Table for Guara Crush

Reading	Reading in cm ³			Constant Burette Reading in Cm ³
	1	2	3	
Final	6.7	6.6	6.7	6.7
Initial	0.0	0.0	0.0	
Difference	6.7	6.6	6.7	

Calculation:

$$\text{Formula} = \frac{\text{Titration reading} \times 10}{\text{Weight of sample}}$$

$$= \frac{6.7 \times 10 \times 32}{10}$$

$$= 214.4 \text{ ppm}$$

Result: - The SO_2 content in guara crush = 214.4 ppm

Standard Sample	Titration reading			Mean	Observed SO ₂ Contained
	1	2	3		
Rose Sharbat	0.6	0.7	0.7	0.7	0.22.4 ppm
Kokum Crush	1.0	1.1	1.0	1.0	32 ppm
Guava Crush	6.7	6.6	6.7	6.7	214.4 ppm
Limboo-Timboo	10.3	10.2	10.3	10.3	329.6 ppm
Mango Crush	8.8	8.7	8.8	8.8	281.6 ppm
Gingeral Squash	0.8	0.8	0.9	0.8	25.6 ppm
Citrus Blue	8.8	8.7	8.8	8.8	281.6 ppm
Lime Juice Cardial	7.8	7.9	7.8	7.8	249.6 ppm
Green Apple Crush	3.0	3.1	3.4	3.6	101.33 ppm
Lemon Barley Water	4.3	4.2	4.2	4.4	140.8 ppm

Conclusion

Analysis of Mapro Food Product i.e. Acidity, Brix are check by in Mapro Quality Control Department.

	Sample	Brix	Acidity
Sweet	Fruit Sweet	79	1.0-1.45
Jam	Mix fruit Jam	69.5	0.82
Crush	Alphanso Mango	57.50	0070-0.77
Squashes	Limboo-Timbboo Crush	57.5	1.15+0.05