V. V. Sangha's

SHREE KHASGATESH COLLEGE OF ARTS, COMMERCE AND SCIENCE, TALIKOTI

DEPARTMENT OF BOTANY

FIELD VISIT- 2020-2021

HORTICULTURE DEPARTMENT AT NARAYANPUR

B.Sc FIFTH SEMESTER STUDENTS

RK Chowda
HEAD
Department of Botony
S.K. Arts, Commerce & Science College, Taliko - 586214, Dt-Vijayapur

IQAC Co-ordinator,
S. K. College of Arts, Comm. & Science, Talikoti. Dist:Vijayapur

PRINCIPAL
S. K. College of Arts, Comm, & Science
TALIKOTI-586214, Dist-Vijayapur

Veerashaiva Vidyavardhak Sangha's

SHREE KHASGATESH COLLEGE OF ARTS, COMMERCE & SCIENCE
TALIKOTI - 586214

Dist : Vijayapur (NAAC 'B' Grade) State : Karnataka

☎ : 08356 - 266310 (Off), Cell : 9740220318

email- skcprince@rediffmail.com , & skcprince310@gmail.com

Principal email- mahadevagoudasp@gmail.com Website : www.skctalikoti.org

Ref. No. SKC/562/2020-21 Date : 19/02/2021

To,
The Horticulture Officer,
Narayanpur Dam Site
Narayanpur

Subject : Requesting to give permission to visit Nursery regarding.

Sir,

With reference to above subject we would like to visit your Nursery along with B.Sc Vth semester students on 23-02-2021 for study purpose. As a part of practical syllabus in Botany subject recommended by Rani Channamma University Belagavi. We would like to visit along with 27 students.

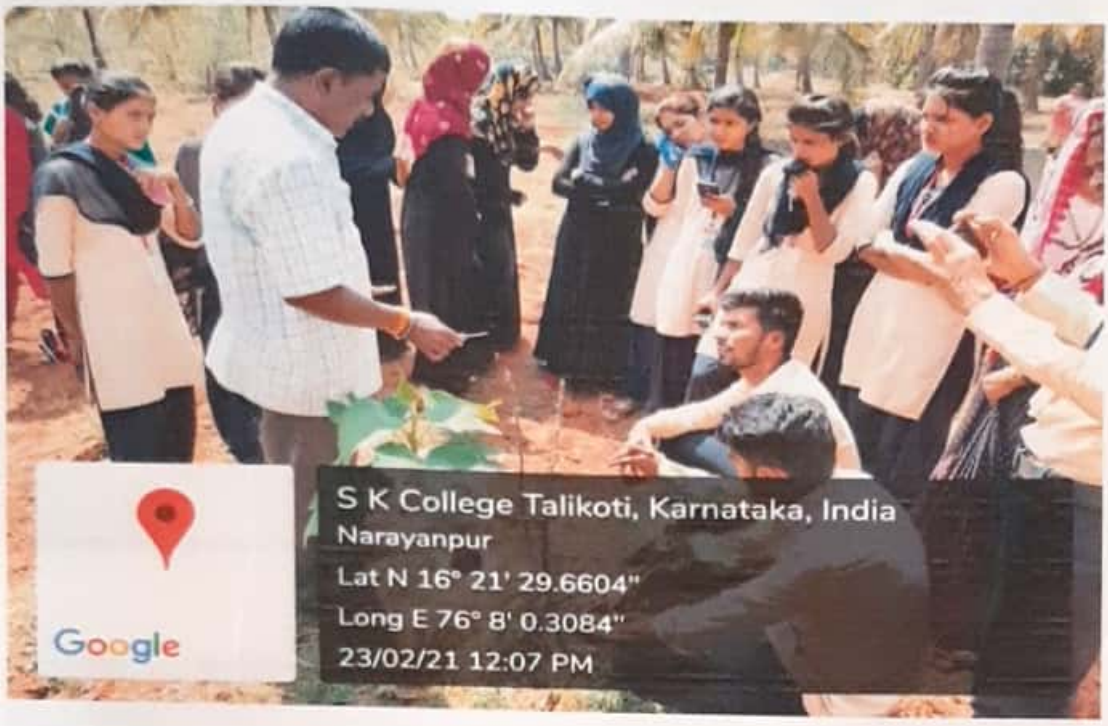
Kindly give permission to visit and provide information about Nursery techniques.

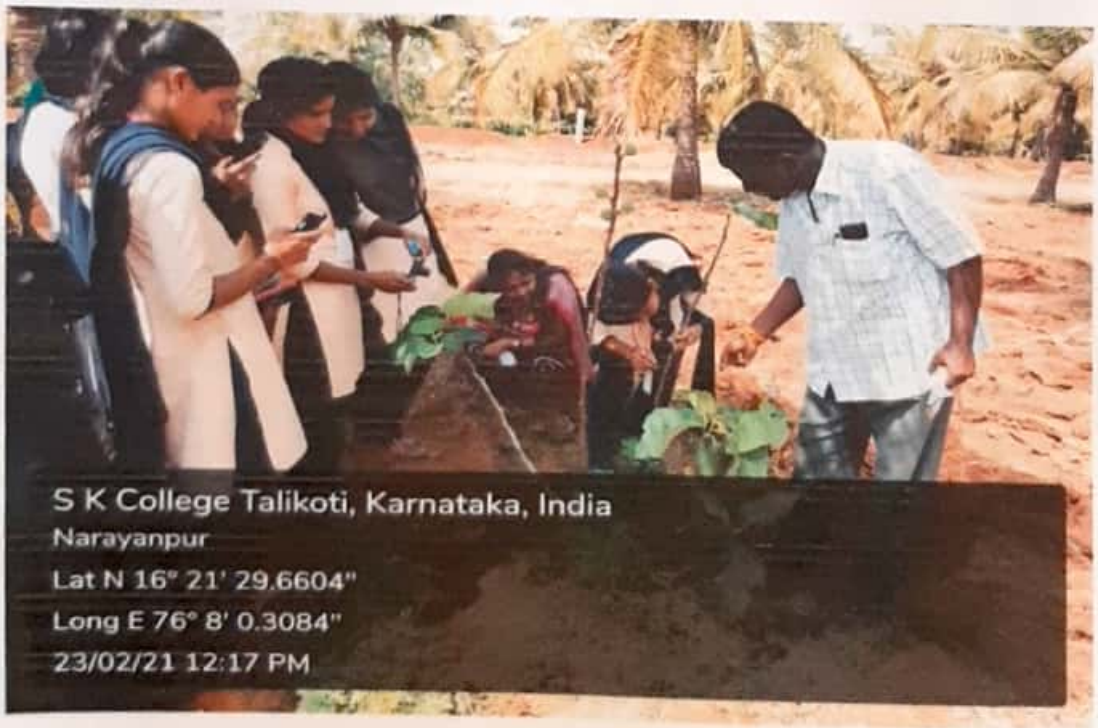
Thanking You.

Yours faithfully

PRINCIPAL,
S.K.College of Arts, Comm. & Science,
TALIKOTI. Dist: Vijayapur.

GALLERY OF FIELD VISIT





RKelwadi
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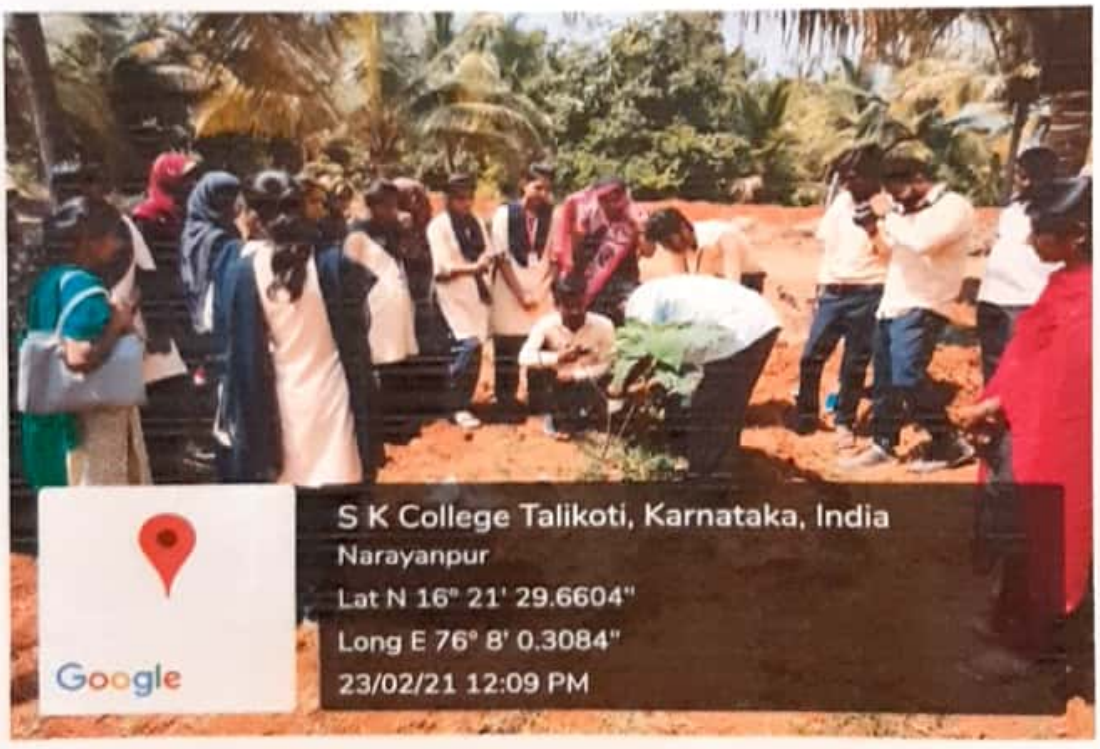

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V.V.SANGHA'S

S.K.C. Of Arts, Commerce and Science College. Talikoti

FIELD VISIT

DEPARTMENT OF BOTANY

CLASS: B.Sc VSemester **DATE:** 23/02/2021

REPORT

As per syllabi of Ranni Chanamma University Belgavi. Department of Botany organized Field visit for

B.Sc V Semester students on 25.01.2021 at Horticulture Department Narayanpur. Horticulture officers demonstrated about nursery techniques.

IQAC Co-ordinator,
S. K. College of Arts, Comm. & Science, Talikoti. Dist:Vijayapur

Head Department of Botany
HEAD
Department of Botony
S.K. Arts. Commerce & Science College, Talikoti - 586214, Dist. Vijayapur

PRINCIPAL,
Principal
S.K.College of Arts, Comm. & Science
TALIKOTI. Dist: Vijayapur.

Field Visit - 2021

V.V.SANGHA'S

SHREE KHASGATESH COLLEGE OF ARTS, COMMERCE & SCIENCE

TALIKOTI

Class : B.Sc. V Semester Date : 23-02-2021

: Student Attendence List

Sl.No.	Reg. No.	Name	Sign
1	S1829201	AISHWARYA SAJJAN	
2	S1829202	AKSHATA B HAVARAGI	
3	S1928206	AMEER AFZAL BAGEWADI	
4	S1829208	AZHARUDDIN DALAYAT	
5	S1829211	BHEEMANAGOUDA S BIRADAR	
6	S1829212	BIBIAAYESHA MANSUR	
7	S1829213	BISMILLA MOULASAB PINJAR	
8	S1829221	KEERTI GOUDAGERI	
9	S1829222	KEERTIKUMARI BEVINAMATTI	
10	S1829226	MEENAJKOUSAR NADAF	
11	S1829227	MOUSIN MALLED	
12	S1829228	MUTTAPPA TALAGERI	
13	S1829230	PHOYUJIYA KODEKALL	
14	S1829233	PRASHANTA HIREMATH	
15	S1829236	RAMAPPA MASARKALL	
16	S1829242	SANGANAGOUDA MALIPATIL	
17	S1829245	SANIYA MANIYAR	
18	S1829246	SHANTA JATTEPPAGOL	
19	S1829247	SHANTAMMA N GANACHARI	
20	S1829250	SHIVALEELA DESAI	
21	S1829258	VIKAS BUDIHAL	
22	S1829259	VISHAL HIREMATH	
23	S1829260	YASEERA AWATI	
24	S1833295	VISHWA M MUGULI	
25	S1829231	POOJA GHATAGE	
26	S1829235	RAJESH A MUKIHAL	
27	S1829257	VASIMAKRAM ANEHOSUR	

HEAD
Department of Botony
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IQAC Co-ordinator,
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Talikoti. Dist:Vijayapur

PRINCIPAL
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TALIKOTI-586214, Dist-Vijayapur

V. V. Snangha's

S. K. College of Arts, Commerce and Science, Talikoti

Department of Chemistry

Field Visit Report 2020-21

The Department of Chemistry Organized a One Day Field Visit to Water Treatment Plant in Talikoti on 20 th August 2021.

The Field Visit as per Syllabi of Rani Channamma University, Belagavi for B. Sc. VI Sem Chemistrty Students under the Subject of Chemistry Practical Paper- II.

Total 15 Students were participated accompanying 04 faculty members Prof. S. S. Mane, Prof. I. V. Rodagi, Prof. U. R. Hiremath and Prof. K. B. Desai.

The Students visited different Sections of Water Treatment Plant that is Flash Mixing, Clarifloculator and Sand filtration bed etc. Mr. Shankargouda Biradar Technician Shown and Explained the various processes and working of Water Treatment Plant Units.

By this field Visit, Students learned many things related to the Water Treatment and Purification. We enhance Practical knowledge and various technical concepts which are applied in the field of chemistry. Students were instructed to prepare brief report of field visit as a part of their submission work.

HOD
Department of Chemistry

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PRINCIPAL
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TALIKOTI-586214. Dist-Vijayapur

I Q A C Co-ordinator,
S. K. College of Arts, Comm. &
Science, Talikoti. Dist:Vijayapur

ವೀರಶೈವ ವಿದ್ಯಾವರ್ಧಕ ಸಂಘದ,
ಶ್ರೀ ಖಾಸ್ಗತೇಶ ಕಲಾ, ವಾಣಿಜ್ಯ ಹಾಗೂ ವಿಜ್ಞಾನ ಮಹಾವಿದ್ಯಾಲಯ
ತಾಳಿಕೋಟಿ - 586214. ಜಿ|| ವಿಜಯಪುರ

Veerashaiva Vidyavardhak Sangha's
S.K. COLLEGE OF ARTS, COMMERCE & SCIENCE, TALIKOTI - 586214
Dist : Vijayapur NAAC Accredited at "B" Grade State : Karnataka
(Affiliated to Rani Channamma University, Belagavi)

☎ : 08356 - 266310 / 9448776611 College Code : 5239
E-Mail: skcprince310@gmail.com / skcprince@rediffmail.com Web: www.skctalikoti.org

Ref. No.: SKC\ 6441\ \2021-22 Date : 16\08\2021

To,
Chief Officer, TMC
Talikoti-586214

Subject : Requesting to give permission to visit 'Water Treatment Plant'

Sir,

With reference to above subject We would like to visit 'Water Treatment Plant' along with B.Sc VI semester students on 20 August for study purpose . As a part of practical syllabus in Chemistry subject recommended by Rani Channamma University Belagavi. We would like to visit along with 25 students.

Kindly give permission to visit and provide information about Water treatment .

Thanking you.

16/8/21
PRINCIPAL
S. K. College of Arts, Comm. & Science,
TALIKOTI - 586214, Dist: Vijayapur

IQAC Co-ordinator,
S. K. College of Arts, Comm. & Science, Talikoti. Dist:Vijayapur

PRINCIPAL
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V.V.SANGHA'S

SHREE KHASGATESH COLLEGE OF ARTS, COMMERCE & SCIENCE, TALIKOTI

DEPARTMENT OF CHEMISTRY

VISIT TO WATER PURIFICATION PLANT, TALIKOTI

B. Sc- VI Sem Students **Date: / /2021**

Sl. No.	Reg. No	Name of the Student	Mob. no	Signature
1	S1829234	PUSHPA		
2	S1829235	RAJESH MUKIHAL	7338214774	
3	S1829236	RAMAPPA MASARKALL	9591381959	
4	S1829238	RIJWAN KEMBHAVI	8050250478	
5	S1829240	SAHADEV NAGANUR	7619357636	
6	S1829241	SAHANA KASABEGOUDAR	9606582400	
7	S1829242	SANGANGOUDA MALIPATIL	8197338099	
8	S1829244	SANGEETA HEMMDAGI	9591875206	
9	S1829245	SANIYA MANIYAR		
10	S1829246	SHANTAMMA JATTEPPAGOL		
11	S1829247	SHANTAMMA GANACHARI		
12	S1829248	SHASHIGOUDA PATIL	8748837767	
13	S1829249	SHIRINKOUSAR	7019657427	
14	S1829250	SHIVALEELA DESAI		
15	S1829251	SHIVARANJANI GADDIGIUDAR	9731840805	
16	S1829252	SHREEKANTH DODAMANI	8217360137	
17	S1829253	SOUMYA BYKOD	6361713703	
18	S1829254	SWALEHA MAMDAPUR		
19	S1829255	TEJASWINI BADIGER	8050713097	
20	S1829256	VARSHA VIJAPUR	9353780049	
21	S1829257	VASIMAKRAM ANEHOSUR		
22	S1829258	VIKAS BUDIHAL		
23	S1829259	VISHAL HIREMATHA		
24	S1829260	YASEERA AWATI		

Sl. No	Name of the Staff	
1	Prof. I. V. Rodagi	
2	Prof. U. R. Hiremath	
3	Vinod Sarshetti (Lab Attender)	

HOD of Chemistry

HEAD
Department of Chemistry
S K. Arts, Commerce & Science
College, Talikoti-586214, Dt-Vijayapur

Principal

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TALIKOTI-586214, Dist-Vijayapur

IQAC Co-ordinator
S. K. College of Arts, Comm. & Science, Talikoti, Dist:Vijayapur

V.V. SANGHA'S

Shree Khasgatesh College of Arts, Commerce & Science, Talikoti- 586214

VIJAYAPUR KARNATAKA

(NAAC ACCREDITED 'B' Grade)
(Affiliated to Rani channamma University, Belagavi)

DEPARTMENT OF CHEMISTRY

FIELD VISIT REPORT 2020-2021

Place: Water Treatment Plant in Talikoti

Submitted by: Rajesh Mukihal **Reg. No.** S1829235
B. Sc VI[th] Sem

Submitted to: Prof. I. V. Rodagi

Prof. S. S. Mane
HEAD
HOD of Chemistry
Department of Chemistry
S.K. Arts, Commerce & Science
College, Talikoti-586214, Dt-Vijayapur

Prof. R. V. Jalawadi
PRINCIPAL
Principal
S. K. College of Arts, Comm, & Science,
TALIKOTI-586214, Dist-Vijayapur

IQAC Co-ordinator,
S. K. College of Arts, Comm. &
Science, Talikoti. Dist:Vijayapur

Acknowledgment

It is my great pleasure to have a chance to express my gratitude to all those concerned in organizing this Field Visit. It would have been impossible for me to bring out the following report without such a venture. Infact it was a great experience from my part to participate in this Field Visit. It is also my great pleasure to convey my deep sense of gratitude to Chemistry department without whose valuable guidance, advice and personal help.

I also express my sincere thanks to my classmates for their cooperation rendered to me in the preparation of the field visit dairy.

Lastly, but not the least, I would like to thank the principal of Our Collegefor giving permission to attend the field visit.

CERTIFICATE

This is to Certify that **Rajesh Mukihal** B.Sc VI[th] Semester whose Register number **SI829235** had duly participated the FIELD VISIT conducted by Department of Chemistry, S.K. College of Arts, Commerce And Science, Talikoti, on 20[th] August 2021, in part of the completion of the semester Examination as per the syllabus of the B.Sc. VI[th] Semester, Rani Channamma University, Belagavi.

Shri I. V. Rodagi
Teacher In-Charge

Mrs. S. S. Mane
HOD of Chemistry

Shri. R. V. Jalawadi
Principal

HEAD
Department of Chemistry
S.K. Arts, Commerce & Science College, Talikoti-586214, Dt-Vijayapur

PRINCIPAL
S. K. College of Arts, Comm. & Science,
TALIKOTI-586214, Dist-Vijayapur

Water plays a very important role in human life, whether for daily routine purpose or human health.

2. OBJECTIVE

The objectives of visiting the water treatment plant are:-

- To study the types of water treatment plant used.
- To study the process of water treatment

WATER TREATMENT

i. COLLECTION:- The raw water which is supplied to the water treatment plant comes from Krishna river.

ii. COAGULATION:- The raw water is first treated with chemical coagulant alum. The dose of alum varies depending upon the turbidity, color, temperature & pH of the water.

iii. FLASH MIXING:- Treated water is then subjected to violent agitation in a mixing chamber for a few minutes. This allows quick and rapid dissemination of alum throughout the bulk of the water.

FLASH MIXING

iv. FLOCCULATION:- This phase involves a slow and gentle stirring of the treated water in a flocculation chamber. The mechanized type of rotor is used. This causes the formation of thick copious white flocculent precipitate. The thicker the precipitate is, the higher is the settling velocity.

Clariflocculator

v. SEDIMENTATION:- The coagulated water is now lead into sedimentation tank where it is detained for 2 hrs when the flocculent precipitate together with impurities and bacteria settle down in the tank. At least 90-95% of the flocculent precipitate needs to be removed from the water before it is admitted to the rapid filters.

vi. FILTERATION:- Each filter unit has 6 sand beds – coarse pebble, fine pebble, coarse gravel, fine gravel, coarse sand, fine sand. The sand bed is length 12 feet, width 10 feet and height 10 feet. The under drains at the bottom of the filter bed collects the filter water.

Sand filtration bed

vii. BACKWASHING:- As filter proceeds, the suspended impurities and bacteria clog the filters. The filter soon becomes dirty and begin to lose their efficiency and are subjected to backwashing. This is done by reversing the flow of water through the sand bed. Washing is stopped when clear sand is visible and the wash water is sufficiently clean.

viii. DISINFECTION:- This is the last step before storage and distribution of this water. The process used is chlorination. The chlorine gas is used for effective disinfection.

ix. RESERVOIR:- We have visited the reservoir where the purified water was stored. From there it was supplied to various parts of Talikoti

4. CONCLUSION

This field visit gave us live experience to study the knowledge about the purification of water on large scale and made us aware about the quality of water. Also the field visit made us realized that it is not easy to supply the water directly from the main supply to the people. We came to Know about the importance of water Purification, which was carried out under various processes the steps are Coagulation, Rapid mixing, Flocculation, Sedimentation, filtration, Backwashing, Disinfection, Reservoir. Thus, thanks to the responsible party and the workers who invested in this project to ensure the health and convenience of the people in Talikoti and the faculties for planning this event smoothly.

PHOTO GALLARY OF FIELD VISIT

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Department of Chemistry
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PRINCIPAL
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TALIKOTI-586214, Dist-Vijayapur

04. Determination and saponification value of groundnut/coconut oil.

05. Determination of Iodine value of groundnut/coconut oil.

06. Estimation of glucose by Benedict's reagent.

B. **Physical Chemistry Experiments**

01. Determination of concentration of given acids mixture ($HCl+CH_3COOH$) conductometrically using standard NaOH.
02. Verification of Beer-Lambert's Law by colorimetric method and calculation of molar extension coefficient of $FeCl_3$.
03. Verification of Beer-Lamberts Law by colorimetric method and calculation of molar extension coefficient of copper sulphate.
04. Determination of concentration of strong acid HCl by potentiometric titration against strong solution of NaOH.
05. Potentiometric titration of $FeSO_4$ against $K_2Cr_2O_7$.
06. Determination of the solubility and solubility product of sparingly soluble salts (Silver halides) by potentiometrically.
07. Determination of heat of neutralization of strong acid by strong base by water equivalent calorimetric method.
08. Determination of dissociation constant of weak acid (acetic acid) Potentiometrically.

Note: For examination:

50% students will perform organic estimation and 50% students will perform Physical.

CHEMISTRY PRACTICALS

SIXTH SEMESTER B.Sc. COURSE

Chemistry Practical

Paper-II

Code : 14BSCCHEP62

Total number of hours per week: 04
Internal Assessment=10 Marks
Total No. of hours per Semester: 52
Practicals: 40 Marks

A. **Gravimetric experiments: Internal assessment-10 Marks and Experiment-30 Marks**

01. Estimation of barium as barium sulphate.
02. Estimation of aluminium as aluminium oxide.
03. Estimation of iron as ferric oxide.
04. Estimation of lead as lead sulphate.

B. **Dissertation/Tour report: 10 marks**

The Dissertation/Tour report should be submitted at the time of **Chemistry Practical-VIb.**
Student shall be assigned either dissertation or Tour report. The topics for dissertation shall be selected either from the V and VI semester theory syllabi or general topics related to chemistry. For Tour report, student shall visit an Industry or Academic/Research institutions like BARC, IISC etc.

Note: For examination:

Gravimetric experiments and Dissertation/Tour report are Compulsory.

4. ELECTRONICS (OPTIONAL)

B. Sc. SEMESTER – VI

Electronics (Optional) PAPER – I

Total Teaching hours: 50, Teaching hours per week: 4 hours

ELE- 6.1: DIGITAL COMMUNICATION, SATELLITE COMMUNICATION & TELEVISION

UNIT - 1 : **PULSE AND DIGITAL COMMUNICATION:**

Introduction – sampling theorem, types- PAM, PWM, PPM, PCM – quantization. Digital communication systems – introduction, Digital modulations (FSK, PSK, and ASK). Advantage and disadvantages of digital transmission, Applications. Characteristics of data transmission circuits – Shannon limit for information capacity, Bandwidth requirements, Data transmission speed, Noise, Cross talk, Echo Suppressors, Distortion and Equalizer.

8Hrs.+2Hrs.Problems =10hrs

V V Sangha's

Shree Khasgatesh College of Arts, Commerce & Science. Talikoti

Department of chemistry

Report on water analysis project 2020-21

The department of chemistry conducted a project on Physic-Chemical water analysis of Talikoti region as per syllabi of B.Sc. VI sem chemistry paper-II of Rani Channamma University, Belagavi.

For this project work 25 students were selected. The students were guided under the in charge of Prof. U.R.Hiremath. As per the guidance students collerted samples from four different regions of Talikoti.

In this project students were analyzed water by using physical analysis i.e. i)Taste ii) Odour iii) Instrument method conductivity and chemical analysis i.e.) Evaporation of water ii) Total hardness of water.

From this physical and chemical analysis of water students were reported as water is useful for domestic or non-domestic water.

By this project students learnet many things related to the water analysis. We are enhancing practical knowledge and various technical concepts of chemistry.

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I Q A C Co-ordinator,
S. K. College of Arts, Comm, & Science, Talikoti, Dist:Vijayapur

NOTICE

It is here by informed to the students of B.Sc.VI semester that the Department of Chemistry is going to organize project on PHYSICO-CHEMICAL WATER ANALYSIS OF TALIKOTI REGION as mentioned in your syllabus. It is mandatory for the mentioned students.

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V.V.SANGHA'S

SHREE KHASGATESH COLLEGE OF ARTS, COMMERCE & SCII

TALIKOTI

DEPARTMENT OF CHEMISTRY

DISSERTATION

PHYSICO-CHEMICAL WATER ANALYSIS OF TALIKOTI

B. Sc- VI Sem Students Date 22/ 09 / 2021

Sl. No.	Reg. No	Name of the Student
1	S1827702	NITEESH T CHAVAN
2	S1829201	AISHWARYA SAJJAN
3	S1829202	AKSHATA B HAVARAGI
4	S1829203	AKSHATA D PATIL
5	S1829204	AKSHATHA HIREMATH
6	S1829205	AKSHATA SAJJAN
7	S1829206	AMEER AFZAL BAGEWADI
8	S1829207	ANJUAMARA S BHAGAWAN
9	S1829210	BHAVANI SHREEPAD KULKARNI
10	S1829211	BHEEMANAGOUDA S BIRADAR
11	S1829213	BISMILLA MOULASAB PINJAR
12	S1829215	GEETA DHAVALAGI
13	S1829216	GEETA BARADEVANAL
14	S1829218	JYOTI T BUDIHAL
15	S1829219	KASHIBAI M HANDIGANUR
16	S1829220	KAVERI SASANUR
17	S1829221	KEERTI GOUDAGERI
18	S1829222	KEERTIKUMARI BEVINAMATTI
19	S1829223	MAHANTESH KUMBAR
20	S1829224	MAHESH B MOPGAR
21	S1829228	MUTTAPPA THALAGERI
22	S1829259	VISHAL HIREMATH
23	S1829231	POOJA GHATAGE
24	S1829232	PRANESH BAKALI
25	S1829233	PRASHANT HIREMATH

HEAD
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V.V.SANGHA'S

SHREE KHASGATESH COLLEGE OF ARTS, COMMERCE & SCIENCE, TALIKOTI

DEPARTMENT OF CHEMISTRY

DISSERTATION

PHYSICO-CHEMICAL WATER ANALYSIS OF TALIKOTI

B. Sc- VI Sem Students **Date: 5 / 09 / 2021**

Sl. No.	Reg. No	Name of the Student	Signature
1	S1827702	NITEESH T CHAVAN	
2	S1829201	AISHWARYA SAJJAN	
3	S1829202	AKSHATA B HAVARAGI	
4	S1829203	AKSHATA D PATIL	
5	S1829204	AKSHATHA HIREMATH	
6	S1829205	AKSHATA SAJJAN	
7	S1829206	AMEER AFZAL BAGEWADI	
8	S1829207	ANJUAMARA S BHAGAWAN	
9	S1829210	BHAVANI SHREEPAD KULKARNI	
10	S1829211	BHEEMANAGOUDA S BIRADAR	
11	S1829213	BISMILLA MOULASAB PINJAR	
12	S1829215	GEETA DHAVALAGI	
13	S1829216	GEETA BARADEVANAL	
14	S1829218	JYOTI T BUDIHAL	
15	S1829219	KASHIBAI M HANDIGANUR	
16	S1829220	KAVERI SASANUR	
17	S1829221	KEERTI GOUDAGERI	
18	S1829222	KEERTIKUMARI BEVINAMATTI	
19	S1829223	MAHANTESH KUMBAR	
20	S1829224	MAHESH B MOPGAR	
21	S1829226	MEENAJKOUSAR NADAF	
22	S1829228	MUTTAPPA THALAGERI	
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24	S1829231	POOJA GHATAGE	
25	S1829232	PRANESH BAKALI	
26	S1829233	PRASHANT HIREMATH	

Sl. No	Name of the Staff	
1	Prof. U. R. Hiremath	
2	Vinod Sarshetti (Lab Attender)	

HOD of Chemistry

HEAD
Department of Chemistry
S.K. Arts, Commerce & Science
College, Talikoti-586214, Dt-Vijayapur

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PHYSICO-CHEMICAL WATER ANALYSIS OF TALIKOTI

Dissertation submitted to

Chemistry Department for the fulfilment of the degree

Submitted by:

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CERTIFICATE

This is to certify that dissertation entitled "PHYSICO-CHEMICAL WATER ANALYSIS OF TALIKOTI" submitted by Anjum S Bagawan for the fulfilment of the UG in Chemistry is based on the results of literature survey carried out by his/her under my supervision.

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1.INTRODUCTION:

Life & Water are the two sides of the same coin. Water is an essential ingredient inside and outside the human body. In these hi-tech years man's quest for quality has been his thirst. Water has been the heaven and hell in his livelihood.

Many diseases are water borne. A few are likely to be drinking at well as using water of manageable quality. However, there are millions who are derived of such water. The quality of water is found to vary from locality to locality leave a side basin to basin.

The source of water toady for a common man is mainly a tap and to some extent the outlet of bore well, the government has taken all necessary care to supply pure water. What happens within the pipes and around the pipes through which the water flows could be a different story.

Just as water undergoes many modifications underground as well as in contact with atmosphere, which can be formulated into reversible chemical reactions leading to setting up of chemical equilibrium which in turn provides the basis for measurement of Physiochemical properties out of which several thermodynamics properties could be evaluated. In general these properties are the key factors in determining the utility of water as consumable.

The aim of this project work for B.Sc students is to review the several properties of water. Hence the collected samples are as follows, Corporation water, Bore well water, College tap water and Drainage water from different area of Talikoti.

Essential contents of water are determined by standard method and the data is presented. Based on the data the literature is perused to

understand the Physiochemical properties and contribution of these to major measure and minor contents.

Everyone is very familiar with water we observe it as rain and snow and can see it in the oceans, lakes, rivers and streams. Although the water in our bodies is not as apparent, recognize that most of our weight is made up of water. In fact, the normal adult is made up of approximately 60% water. This water is essential for life.

Chemical Composition:

The quality of water could be chemical, biological, physical, bacteriological, viral, sanitary, drinking water and so on based on its utility. It is very difficult to give a universal definition for water quality. In view of the aim of the present work the chemical constituents of water will be considered. The chemical constituents could be present in dissolved or undissolved form. There could be different phases. The constituents could be major or minor. The quantity below or beyond the expected standards. Could be an assist or liability. Those are Total Dissolved Solids, Chloride, Chlorine, Barium, Calcium, Magnesium etc.

WATER SAMPLING AND STORAGE:

The representative sample of water that is taken should be the one that truly reflects the composition of water sample to be analysed. Due to varying period of time that may lapse between sample collection and analysis, storage conditions must be such as to avoid undesirable loses, contamination pr other changes that could affect the results of the analysis.

In our project we have analysed four samples from different areas of Talikoti.

Sample A: Tap water collected from S K Arts, Commerce& Science College, Talikoti.

Sample B: Corporation water from Talikoti.

Sample C: Bore well water collected from S K Nagar, Talikoti.

Sample D: Drainage water collected from Talikoti.

2. MATERIALS AND METHODS:

2.1 Physical analysis:

i. Taste: (Date:23/08/2021)

Frequency of sample once:

Although tastes are not parameters of health concern, they are perhaps the most important characteristics of drinking water from the point of view of the user.

RESULTS:

Sample A: I do not think that i could accept this water as my everyday drinking water.

Sample B: I would be happy to accept this water as my everyday drinking water.

Sample C: May be i could accept this water as my everyday drinking water.

Sample D: I cannot stand this water in my mouth and i could never drink it.

ii) **Odour:**

Frequency of sample: Every 4 hourly

Although Odour are not parameters of health concern, they are perhaps the most important characteristics of drinking water from the point of view of the user. It is next to impossible to convince people that water is safe to drink off it smell bad. Bad odour may cause people to reject the water in favour of another.

Method:

Clean the wide mouth glass bottle with a stopper of 1 litre capacity rinse them completely with HCl and render them completely odourless by repeated washing with odour free distilled water. Fill the sample as soon as possible after collection in a half full and insert the stopper shake for 2-3 minutes and quickly observe the odour.

Result:

1. Date: 23/08/2021 Time: 10:00 AM

Sample	Odour
A	Agreeable
B	Agreeable
C	Agreeable
D	Disagreeable

2. Date: 23/08/2021 Time: 02:00 PM

Sample	Odour
A	Agreeable
B	Agreeable
C	Agreeable
D	Disagreeable

Conductivity:

Date:24/08/2021

Frequency of sampling once:

Conductivity of a substance is defined as the ability or power to conduct or transmit heat, electricity or sound.

When as electrical potential difference is placed across a conductor its movable charges flow giving rise to an electric current. This property is called conductivity.

Material:

1.Laboratory glass ware

2. Conductivity meter with electrode

3.Reagents

Chemicals:

1. Potassium chloride solution(0.1N):
   Dissolve 0.7456g of potassium chloride in 100ml distilled water.

2.Distilled water

Methods:

In a clean beaker about 25ml of 0.1N KCl solution is taken and the cell is kept in the solution pour the distilled water until the cell gets dipped completely. Then measure the conductivity then calculate the cell constant. Now similarly take 25ml of sample and treated in the same way as above the specific conductance is obtained by multiplying the conductance with cell constant.

Calculations:

Specific conductance=observed conductance × cell constant

Tabulation:

Sample	Temperature (°C)	Observed Conductance	Conductivity (µmho)
A	25 °C	2.1ms	2184
B	25 °C	0.1ms	104
C	25 °C	2.1ms	2184
D	25°C	2.6ms	2704

Result:

The conductivity of the given sample-A= 2184 µmho

The conductivity of the given sample-B= 104µmho

The conductivity of the given sample-C= 2184 µmho

The conductivity of the given sample-D= 2704 µmho

2.2 CHEMICAL ANALYSIS:

i). Total dissolved solids:

Frequency of sample: Every 4 hourly

Total dissolved solid is defined analytically either by total filterable residue or by conductivity technique. Usually the analytical procedure yield a gram indication of the dissolved cationic, anionic and neutral constitutions. Excess quantity of dissolved solid are objectionable. They give rise to physiological effects, unbearable, mineral taste, corrosion and incrustation of metallic surfaces aquatic life etc. The US survey gives a maximum content as per WHO is <500mg/l however no specific water quantity standard in established for total dissolved solids.

METHOD:

About 50ml of the water sample is taken in a previously weighed 100ml beaker and it is heated gently over burner and when all the water is get evaporated cool the beaker and weigh the beaker. The difference in the weight gives amount of total dissolved salts.

Calculation:

$$\text{Residue mg/l} = \frac{M \times 1000}{V}$$

Where M= mass in mg of filterable residue

V= volume in ml of the sample

Tabulation:

1.Date: 25/08/2021 Time: 10.00am

Sample	Wt. of empty beaker(gm)	Wt. of empty beaker +residue(gm)	Residue (gm)	Total dissolved solids mg/l
A	50.95gm	51.00gm	0.05gm	1mg/l
B	43.35gm	43.35gm	0.0gm	0mg/l
C	42.35gm	42.45gm	0.1gm	2mg/l
D	43,35gm	43.40gm	0.05gm	1mg/l

Result:

Total dissolved solids present in given sample –A=1mg/l

Total dissolved solids present in given sample –B=0mg/l

Total dissolved solids present in given sample –C=2mg/l

Total dissolved solids present in given sample –D=1mg/l

2.Date :25/08/2021 Time: 02.00pm

Sample	Wt. of empty beaker(gm)	Wt. of empty beaker +residue(gm)	Residue (gm)	Total dissolved solids mg/l
A	43.20gm	43.25gm	0.05gm	1mg/l
B	48.50gm	48.50gm	0.0gm	0mg/l
C	50.75gm	50.85gm	0.1gm	2mg/l
D	42.35gm	42.40gm	0.05gm	1mg/l

Result:

Total dissolved solids present in given sample –A=1mg/l
Total dissolved solids present in given sample –B=0mg/l
Total dissolved solids present in given sample –C=2mg/l
Total dissolved solids present in given sample –D=1mg/l

ii) Total hardness:

Frequency of sampling – once

Water that has mineral content is known as hard water. Hard water contains bicarbonate chlorides and sulphates of calcium and magnesium. When treated hard water with soap, it gets precipitated in the form of insoluble salts of calcium and magnesium ions expressed as calcium carbonate. The total hardness of the water sample chosen

is 400mg/l. The WHO gives the highest desirable value of 100mg/l and the maximum permissible of 500mg/l.

Material:

EBT indicator: Mix 0.25g of EBT with 50gm of NaCl

Buffer solution: Dissolve 16g of Ammonium chloride in 143 ml of ammonium hydroxide and dilute this upto 250ml with distilled water.

0.02 N SDTA solution: Dissolve 0.9306 gm of EDTA salt in 250 ml of distilled water.

Method: [EDTA titration method]

Measure 50 ml of sample into flask. Add 0.5g of EBT indicator, mix well and add 5ml of buffer solution and mix. Titrate immediately with 0.02N EDTA solution, until the colour changes from red to blue.

Calculation:

$$\text{Total Hardness } (CaCO_3)\ mg/l = \frac{\text{Burette reading X 0.02X 50X1000}}{\text{Volume of the sample taken}}$$

Tabulation:

Sample	Burette reading	Total hardness
A	15.65ml	313mg/l
B	1.95ml	39mg/l
C	15.65ml	313mg/l
D	28.4ml	568mg/l

Result:

Total hardness present in sample – A=313mg/l

Total hardness present in sample – B=39mg/l
Total hardness present in sample – C=313mg/l
Total hardness present in sample – D=568mg/l

3.RESULT AND DISCUSSION:

Sample A: (Tap water collected from S K Arts, Commerce& Science College, Talikoti.)

It has good taste. Presence of total dissolved solids indicate it is hard water.

Results: Thus the sample A is categorized as hard water and good for washing etc.

Sample B:(Corporation water,Talikoti)

It is good in taste, the absence of total dissolved solids says that the salts like sodium chloride, calcium, etc are absent.

Results: The sample B is soft and sweet water.

Sample C: (Bore well water S.K.Nagar)

It is good to taste total hardness as the hardness is more than 180mg/litre. i.e 313mg/litre we can say this is hard water.

Result: The samples is categorised as hard water is used for domestic purpose

Sample D: (Drainage water, Talikoti)

Not able to taste the presence of total dissolved solid indicates these hard water.

Result: Sample D is categorised as waste water and not used for any other purpose.

CONCLUSION:

Sample A	Sample B	Sample C	Sample D
Useful for domestic purpose	Useful for Drinking and domestic purpose	Useful for domestic purpose	Not useful for drinking and any other purpose

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04. Determination and saponification value of groundnut/coconut oil.

05. Determination of Iodine value of groundnut/coconut oil.

06. Estimation of glucose by Benedict's reagent.

B. Physical Chemistry Experiments

01. Determination of concentration of given acids mixture ($HCl+CH_3COOH$) conductometrically using standard NaOH.
02. Verification of Beer-Lambert's Law by colorimetric method and calculation of molar extension coefficient of $FeCl_3$.
03. Verification of Beer-Lamberts Law by colorimetric method and calculation of molar extension coefficient of copper sulphate.
04. Determination of concentration of strong acid HCl by potentiometric titration against strong solution of NaOH.
05. Potentiometric titration of $FeSO_4$ against $K_2Cr_2O_7$.
06. Determination of the solubility and solubility product of sparingly soluble salts (Silver halides) by potentiometrically.
07. Determination of heat of neutralization of strong acid by strong base by water equivalent calorimetric method.
08. Determination of dissociation constant of weak acid (acetic acid) Potentiometrically.

Note: For examination:

50% students will perform organic estimation and 50% students will perform Physical.

CHEMISTRY PRACTICALS

SIXTH SEMESTER B.Sc. COURSE

Chemistry Practical

Paper-II

Code : 14BSCCHEP62

Total number of hours per week: 04
Internal Assessment=10 Marks
Total No. of hours per Semester: 52
Practicals: 40 Marks

A. Gravimetric experiments: Internal assessment-10 Marks and Experiment-30 Marks

01. Estimation of barium as Barium sulphate.
02. Estimation of aluminium as aluminium oxide.
03. Estimation of Iron as ferric oxide.
04. Estimation of led as led sulphate.

B. **Dissertation/Tour report: 10 marks**

The Dissertation/Tour report should be submitted at the time of **Chemistry Practical-VIb**.
Student shall be assigned either dissertation or Tour report. The topics for dissertation shall be selected either from the V and VI semester theory syllabi or general topics related to chemistry. For Tour report, student shall visit an Industry or Academic/Research institutions like BARC, IISC etc.

Note: For examination:

Gravimetric experiments and Dissertation/Tour report are Compulsory.

4. ELECTRONICS (OPTIONAL)

B. Sc. SEMESTER – VI

Electronics (Optional) PAPER – I

Total Teaching hours: 50, Teaching hours per week: 4 hours

ELE- 6.1: DIGITAL COMMUNICATION, SATELLITE COMMUNICATION & TELEVISION

UNIT - 1 : **PULSE AND DIGITAL COMMUNICATION:**

Introduction – sampling theorem, types- PAM, PWM, PPM, PCM – quantization. Digital communication systems – introduction, Digital modulations (FSK, PSK, and ASK). Advantage and disadvantages of digital transmission, Applications. Characteristics of data transmission circuits – Shannon limit for information capacity, Bandwidth requirements, Data transmission speed, Noise, Cross talk, Echo Suppressors, Distortion and Equalizer.

8Hrs.+2Hrs.Problems =10hrs