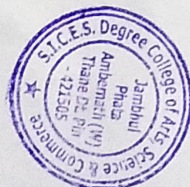


3.2.1. Peer Reviewed Research Publication

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PHYSICOCHEMICAL PARAMETERS OF POND WATER FROM KALYAN, AMBERNATH AND BADLAPUR CITY

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ABSTRACT

The surface water quality of some stagnant water bodies like ponds in Kalyan, Ambernath and Badlapur have been investigated experimentally by analyzing the physicochemical parameters. Pond water has been analyzed to find the suitability for drinking and irrigation purpose. The physicochemical parameter of water such as pH, temperature, alkalinity, TDS, TSS, total hardness, phosphate, nitrate, chloride, DO and BOD have been studied. By observing the result it can be concluded that the parameters which were taken to study are above the permissible limit of drinking and irrigation standards (BIS, IS-10500, FAO). The results reveal that overall water quality was found unfit for drinking and irrigation purpose. Among all

the three ponds Badlapur pond shows maximum values of TSS, TDS, DO and BOD.

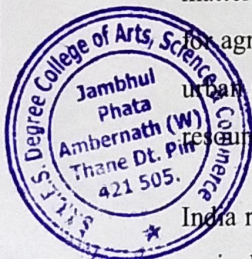
KEYWORDS: Pond, physicochemical parameter, DO, BOD, alkalinity.

INTRODUCTION

Water is universal solvent dissolving a number of substances that it comes in contact with. However water for human consumption and other domestic purposes should be free from disease causing organisms, poisonous substances, excessive amount of minerals and organic matter. It should also be free from color, turbidity, taste and odour.^[1] Fresh water is essential

for agriculture, industry and human existence. It is a finite resource of earth. Rapid growth of urban areas directly or indirectly affected existence of the pond such as over exploitation of resources and improper waste disposal practice.^[13]

India receives about 1400-1800mm of rainfall annually. About 96% of this water is used for agriculture, 3% of domestic use and 1% for industrial activity. An analysis revealed that



Shweta Humbarwadi
13/03/2021

RESEARCH ARTICLE

Survey in relation to Ethnobotany of Ambernath Taluka of Thane district in Maharashtra state, India

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Article Info	Abstract
<p>Available online on http://www.ijlsci.in</p> <p>ISSN: 2320-964X (Online) ISSN: 2320-7817 (Print)</p>	<p>Ambernath taluka is situated in Thane district and falls under the plains at the foot of the slopes of the Sahayadri, and has a small part of Matheran ranges descending as small hills. This area has heavy vegetation includes many Medicinal plants; many people use the plants for satisfying their needs. They have knowledge of Traditional Medicines also. The present work is carried out for the ethno medicinal plants, which were used for curing various health disorders like dysentery, diarrhea, wounds, poison bites etc. Ethnobotany, as a research field of science, has been widely used for the documentation of indigenous knowledge on the use of plants and for providing an inventory of useful plants from local flora & ethnobotanical studies have been used for the discovery of new drugs. This paper discusses ethnobotanical approach of traditional medicinal studies.</p> <p>Keyword: Medicinal plants, Ethnobotany, health disorders, indigenous, Ambernath</p>
<p>Editor: Dr. Arvind Chavhan</p> <p>Cite this article as: Patel Alpa K and Yeragi SS (2015) Survey in relation to Ethnobotany of Ambernath Taluka of Thane district in Maharashtra state, India, <i>Int. J. of Life Sciences</i>, Special Issue, A4: 65-68.</p>	<p>INTRODUCTION</p> <p>Since the beginning of civilization, people have used plants as medicine. Ancient people use to stay nearby river and learned first how to make agriculture and studied more forest for their food and to maintain the good health, they learned the use of plants as medicine for curing the diseases (Martin, 1995). Medicinal plants, since times immemorial, have been used in virtually all cultures as a source of medicine. The use of traditional medicine and medicinal plants in most developing countries, as a normative basis for the maintenance of good health, has been widely observed (UNESCO, 1996). Medicine, in several developing countries, using local traditions and beliefs, is still the mainstay of health care. Ethnobotany is the study of how people of particular culture and</p>
<p>Acknowledgement: Authors are thankful to the villagers for the valuable information and Dr. Dhuri for the identification of plants for the preparation of the paper.</p> <p>Copyright: © Author, This is an open access article under the terms of the Creative Commons Attribution-Non-Commercial - No Derives License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.</p>	





**ISOLATION & IDENTIFICATION OF PIGMENT PRODUCING
BACTERIAL ISOLATES FROM DIFFERENT TERRESTRIAL
HABITATS IN THANE DISTRICT, M.S, INDIA.**

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ABSTRACT

Safety of Food has and will always remain a matter of great concern worldwide. In this regard, stringent guidelines have been put forth by FDA in manufacture of consumer goods. Microbial pigments, owing to its nature of colour, nutritive value & medicinal properties very aptly has provided an alternative over its chemical counterparts. Natural Ecosystems viz soil, water will always remain a never-ending source of micro-organisms; with huge potential in many sectors. In the present study, isolation of pigment providing bacterial isolates from different terrestrial habitats was carried out. Identification was carried out as mentioned in Bergey's manual of Systematic Bacteriology, 9th Edition.

KEYWORDS: FDA, Microbial pigments, Natural Ecosystems, Bergey's manual.

INTRODUCTION

Biological pigments are substances produced by living organisms that have a colour resulting from selective colour absorption. Both natural pigments and synthetic dyes have been extensively used in various fields of everyday life such as foods, feeds, textile, paper, printing inks, cosmetics, pharmaceuticals etc. (Tiber 2007). As rightly said, "We inevitably eat with our eyes". (Stitch et al 2002). Colour is an important attribute that determines the consumer's acceptance of foods, colour additives are essential in food industry. As a result, various synthetic food colours have been manufactured but many of them compromise various hazardous effects (Faber et al 1993). There is an increasing demand for natural colours from

RESEARCH ARTICLE**State of plant biodiversity of different locations of Ambernath taluka, Thane, Maharashtra, India**

Anthony Kayden*, Vishwakarma Arti and Patel Alpa

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*Corresponding author Email: kaydenanthony00@gmail.com , alpap25@gmail.com**Article Info**Available online on
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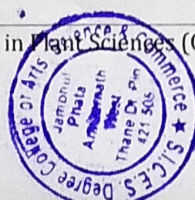
Authors are thankful to the local people for the guidance.

Copyright: © Author, This is an open access article under the terms of the Creative Commons Attribution-Non-Commercial - No Derives License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.**Abstract**

Ambernath taluka is situated in Thane district and has a varied geographical structure. It has hills which descend from Matheran ranges. Ambernath has wide range of Plant Biodiversity & few water bodies like lakes and Ulnas River flowing through it. Apart from that Ambernath also has semi urban and well developed residential areas, as well as heavily polluted industrial areas. As the locality concern environmental factors, pollution, topography and other essential factors affect the vegetation and further the flora and fauna of the area. In the present paper we have divided the taluka into four zones on basis of their type and environmental factors and studied the plant diversity of different locations of Ambernath. The zones are as follows 1) Hilly vegetated area 2) Semi urban area 3) Urban area 4) Industrial polluted area. Taking the surrounding factors in consideration plants have been recorded and classified and the characters have been noted.

Keywords: Plant biodiversity, geographical structure, environmental factors, pollution, Ambernath, Matheran**INTRODUCTION**

Ambernath falls under the plains at the foot of the slopes of the Sahayadri, and has a small part of Matheran ranges Coordinates: 19.209°N 73.186°E, having area of 38km² and Elevation 115ft form sea level. Ambernath descending as small hills having vegetated patches extending a few a few kilometres harbouring some wild animals. Winter is from December to February, followed by summer from March to June. The southwest monsoon season is from June to September. October and November moist deciduous type vegetation is found here. Climate in Ambernath is comparatively less humid as compared to the western part of the thane district. The temperature variation is more in the eastern part of the district comparing to the



Ethics in Research

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Abstract: A research is the systematic investigation, an attempt to find out something in a systematic and scientific manner; a systematic investigation designed to develop Knowledge a focused systematic study undertaken to increase new knowledge and understanding; a systematic study directed toward fuller scientific knowledge, the collection of information about a particular subject an inquiry that involves seeking evidence to increase knowledge. Why it is important to adhere to ethical norms in research to promote the aims of research, such as knowledge, truth, and avoidance of error. since research often involves a great deal of cooperation and coordination among many different people in different disciplines and institutions, ethical standards promote the values that are very much essential collaborative work, such as trust, accountability, mutual respect. Many ethical norms in research, such as guidelines for authorship, data sharing policies, and confidentiality rules in peer review, are designed to protect intellectual property interests while encouraging collaboration, ethical norms in research also help to build public support for research. People are more likely to fund a research project if they can trust the quality and integrity of research. Finally, many of the norms of research promote a variety of other important moral and social values.

Keywords: Scientific, Knowledge, Ethic, Moral

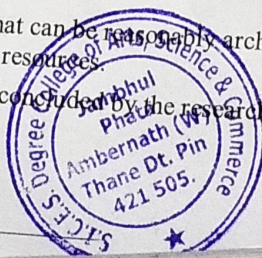
Introduction: The systematic investigation into and study of materials, sources, etc, in order to establish facts and reach new conclusions and to discover new or collate old facts etc by the scientific study. Research has brought a better quality of life and increased welfare. The research that has made it possible – huge improvements in eco-nomic efficiency, health care and wellbeing only exist because of research. Ethics in research are very important when we are going to conduct an experiment. Ethics should be applied on all stages of research, such as planning, conducting and evaluating a research project. The first thing to do before designing a study is to consider the benefits of the research and potential cost. Competition is an important factor in research. What research is and why we might think it is valuable. People are likely to fund a research project if they can trust the quality and integrity of research. Finally, many of the norms of research promote a variety of other important moral and social values, such as social responsibility, human rights, compliance with the law, and health and safety. Ethical lapses in research can significantly harm human and animal subjects, students, and the public. Basically, research must follow all the rules and regulations given, and also anticipate possible ethical problems in their research.

Objectives of Research:

- Research objectives is a concrete statement describe what the research is trying to achieve.
- A well worded objective will be **SMART**, that is Specific and can be, Measurable, Attainable, Realistic and Time bound.
- Research objective is a purpose that can be reasonably archived within the expected time frame and with the available resources.
- Research objective are the results concluded by the researcher at the end of research process.

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WINE PRODUCTION FROM OVER RIPENED BANANA

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ABSTRACT

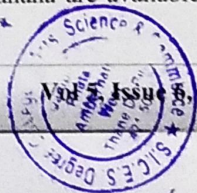
Banana wine comes loaded with potassium, vitamin C, B6, fiber and manganese. It provides the best cardiovascular protection, soothes the stomach and is good for eye sight. The wine is made from fermentation of banana. It has its origin in East Africa, but has gained popularity around the globe for its healthful properties with lower alcohol content. Banana wine has a whopping amount of potassium, which is directly linked to lowering the blood pressure. In present study Banana juice was prepared from over ripened banana by addition of 5% sugar. Fermentation was carried out with the help of yeast at 28°C. Daywise analysis of wine was done with respect to pH, temperature, acidity, alcohol content and specific gravity. It was observed that 4 day fermentation showed wine production with desirable results.

KEYWORDS: Banana juice, yeast, alcohol content, sugar.

INTRODUCTION

Fermentations of fruit juice is a relative and simple avenue for reducing post-harvest wastage of mainly perishable fruits, hence perishable fruits can be used for production of wine.^[1] Wine is an alcoholic beverage typically made from fermented fruit juice. Any fruit with a good proportion of sugar may be used for wine production and the resulting wines are normally named after the fruit involves banana, apple, orange, pineapple, strawberry and coconut may be used to produce wine.^[2] Banana is fruit common in a tropic and nonseasonal. It is readily available in India.

The starch in the banana converts into sugar only upon ripening. Usually once Banana starts ripening it may have a sugar content about 20% while an unripe banana may have sugar content of only 2%. Ripened banana are available in market at lower prize.^[6] Use of over





EVALUATION OF WATER QUALITY: PHYSICO-CHEMICAL CHARACTERIZATION OF FRESH AND MARINE WATER ECOSYSTEMS IN THANE DISTRICT, M.S, INDIA

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ABSTRACT

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In the current decade, with Industrialization, Urbanization and Economic growth on one side, we still have two major limitations in front of us i.e. Population & Pollution. Rightly said, "Correct diagnosis is half Cure". On Similar lines in order to rectify Pollution problem we first need to understand, assess its nature and devise solutions within our reach. Natural Ecosystems have always served as an inexhaustible source of micro-organisms with varied potential in all walks of life. The Present investigation deals with the study of Physico- chemical parameters of fresh and marine water ecosystems in remote areas of Thane district, M.S, India. Monthly variation in Colour, Temperature, pH, salinity, Electrical conductivity, COD, BOD, DO, TDS, Chloride content, Hardness content is noted. The study indicates that even

though these ecosystems are remotely located, increasing human population in the area has led to over-utilization of natural resources viz; water, soil & fuels which are already limited. Anthropogenic activities have drastically increased the pollution levels in these ecosystems. Data obtained during Physico-chemical analysis is interpreted with the aid of statistical tools. Statistical analysis confirm the status of these ecosystems as polluted. Once the status is assessed, the curative measures can be planned and implemented.

KEYWORDS: Economic growth, Natural Ecosystems, Anthropogenic activities, Physico-chemical Analysis.



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RESEARCH ARTICLE

ETHNOBOTANY, PHYTOCHEMISTRY AND PHARMACOLOGICAL EVALUATION OF *VERNONIA ANTHELMINTICA* (L.) WILLD.: AN OVERVIEW

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ABSTRACT

Medicinal plants are the nature's gift to human being to have disease free healthy life. It plays a vital role to preserve our health. *Vernonia anthelmintica* (L.) Willd. is a potential medicinal plant and the seeds were used for many human ailments. In the Ayurveda, an Indian system of medicine, the seeds were used to cure helminthes parasites, skin diseases, leucoderma and fevers, while in Unani system seeds were used to controlling asthma, renal disorders, itching of eyes and inflammations. Seeds decoction used in dysentery, gonorrhea, gastric troubles and seed paste applied externally to scorpion sting and decoction given orally to control helminthes parasites.

INTRODUCTION

The *Vernonia* genus has about one thousand species and the members of the genus are widely used as food and medicine. A total of 109 *Vernonia* species were reported in the literature to have medicinal properties. The genus *Vernonia* is named after William Veron, an English Botanist who collected and identified this genus. *Vernonia anthelmintica* Willd. (Syn. *Centratherum anthelminticum* Kuntze or *Ascaradia indica* or *Conyza ascaradia* or *Serratula anthelmintica*) belongs to family Asteraceae, is an annual herb distributed throughout India. (Nandkarni, 1982; Mashelkar, 2008)

Taxonomic Classification

- Kingdom : Plantae
- Division : Angiosperms
- Class : Eudicots
- Subclass : Asterids
- Order : Asterales
- Family : Asteraceae

- Subfamily : Cichorioideae
- Tribe : Vernonieae
- Genus : *Vernonia*
- Species : *Vernonia anthelmintica*

Vernacular Names (Kirtikar and Basu, 2003)

- Sanskrit : Somaraja, Vakuchi, Agnibija, Aranyajiraka, Putiphali, Krishnaphala, Kananajiraka, Tiktajiraka
- Hindi : Bakshi, Kaljihiri, Somraj, Vapchi, Buckshi
- Gujarati : Kalijiri, Kadvojiri
- English : Purple Fleabane
- Marathi : Kalajira, Kalenjiri, Kalijiri, Ranachajire
- Bengali : Babchi, Bukshie, Hakuch, Kaliziri, Somraj
- Punjabi : Bukoki, kakshma, Kaliziri
- Malayalam : Kattujirakam, Puvankuruntala
- Telugu : Nelavavili, Garitikamma, Vishakantakamula
- Urdu : Janglijiri
- French : Herbe aux mouches
- Arabic : Atarilal, Itrilal, Kamunebari

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SYNTHESIS AND CHARACTERIZATION OF SPRAY DEPOSITED CdIn₂S₄ THIN FILMS

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ABSTRACT : CdIn₂S₄ thin films have been deposited onto amorphous glass substrates using spray pyrolysis technique. The aqueous solution containing precursors of Cd, In and S have been used to obtain good quality deposits at optimized substrate temperature. The preparative parameters such as substrate temperature, concentration etc have been optimized by photo-electrochemical (PEC) technique. The films were characterized by techniques such as X- ray diffraction and Scanning electron microscopy (SEM). The photo-electrochemical characterization shows that both short-circuit current (I_{sc}) and open circuit voltage (V_{oc}) are at their optimum values at the optimized substrate temperature of 360 °C and concentration (0.05 M). The XRD pattern shows that the films are nanocrystalline with spinel cubic structure. The films at optimized temperature have well formed grains as evidenced from SEM.

Keywords : Spray pyrolysis ; Thin films; CdIn₂S₄; PEC Characterization; XRD ; SEM techniques.

INTRODUCTION:

Cadmium indium sulphide (CdIn₂S₄) is a photoconductive semiconductor material for photoelectrochemical solar cells [9]. Many binary and ternary chalcogenide semiconductors on various substrates have been prepared by the spray pyrolysis technique [1,6,10-11] that is CdTe, CdS, CdIn₂Se₄, CdIn₂S₄, Bi₂CdS₄ etc. The advantage of the spray pyrolysis technique (SPT) is that by varying concentration of precursor and substrate temperature, it is possible to control stoichiometry of the deposits. The cadmium indium sulphide reveal variety of physical properties reported by several authors [4,7,12]. The ternary semiconductor materials have been studied for the development of photoelectrochemical solar cells, semiconducting devices, laser materials, photovoltaic devices, thermoelectric devices, radition detectors and solar energy converters etc. [3,5,8,13].

MATERIALS AND METHODS :

Deposition of CdIn₂S₄ thin films

In order to find optimized preparative parameters for deposition of CdIn₂S₄ thin films, initially the deposition was carried out by varying substrate temperature from 340 °C, at the interval of 20 °C to 400 °C. and keeping other parameter at fixed value, for optimization of solution concentration, deposition was carried out by varying the solution concentration and keeping substrate temperature, quantity of solution at fixed values. In this way deposition parameter were optimized.

Characterization of CdIn₂S₄ thin films

Photoelectrochemical (PEC) solar cells was fabricated using a two electrode configuration, comprising CdIn₂S₄ thin film as photoanode, graphite as a counter electrode and SCE as a reference electrode. The redox electrolyte was 1M polysulphide (NaOH- Na₂S- S). The cell was illuminated with 500 W tungsten filament lamp for the measurement of short circuit current (I_{sc}) and open circuit voltage (V_{oc}). The structural characterization of CdIn₂S₄ thin films was carried out by analyzing the X-ray diffraction patterns obtained using Philips X-diffractometer Model PW-3710 ($\lambda = 2.28970 \text{ \AA}$ for Cr-K α radiation). The XRD patterns obtained for the films grown on bare micro slides glass plates were studied in 2 θ range of 10 -

100°. The surface morphology of the spray deposited CdIn₂S₄ thin films on glass substrate were carried out by SEM model JEOL JSM 6360, Japan.

RESULTS AND DISCUSSION :

Effect of substrate temperature on CdIn₂S₄ thin films

The deposition of CdIn₂S₄ thin films were carried out by varying substrate temperature 340 °C 400 °C using 50 mM solution concentration. It was observed that lower substrate temperatures (< 360 °C) favor non- uniform and easily detachable film formation. The temperature may be insufficient to decompose sprayed droplets of spraying solution. For higher substrate temperature (> 360 °C) films resulted with non-stoichiometric with pinholes.

Photoelectrochemical (PEC) studies.

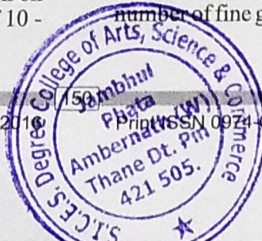
The quantities such as short circuit current (I_{sc}) and open circuit voltage (V_{oc}) of the PEC cell obtained with each spray deposited CdIn₂S₄ thin film are shown in Fig 1 seen that I_{sc} and V_{oc} increase with increase in substrate temperature attain the maximum value at temperature 360 °C and solution concentration 50 mM respectively and decreases with further increase in substrate temperature. The relatively higher values of I_{sc} (900 μ A) and V_{oc} (360 mV) at optimum value due to the nearly right stoichiometric of the material

X-ray diffraction (XRD)

The x-ray diffractometer having Cr-K α radiation ($\lambda = 2.28970 \text{ \AA}$) source has been used. The crystallographic structure were studied in 2 range of 10-100°. Fig 2 shows the x-ray diffraction patterns for CdIn₂S₄ thin films deposited at substrate temperatures 340, 360, 380 and 400 °C in each of these deposition the solution concentration was constant at 50 mM. The XRD pattern shows the films are polycrystalline. A matching of observed and standard'd' confirm the CdIn₂S₄ deposited films are of spinel cubic structure [2]. The relatively higher peak intensity for (4 0 0) plane is observed for the films deposited at substrate temperature 360 °C

Scanning electron microscopy (SEM)

Surface morphology of the CdIn₂S₄ thin film deposited at various substrate temperatures 340, 360, 380 and 400 °C respectively are shown in Fig.3. It is observed that the film prepared at optimized substrate temperature of 360 °C with solution concentration of 50 mM is well covered with large number of fine grains and film surface is uniform.





ISOLATION AND CHARACTERIZATION OF PIGMENT PRODUCING BACTERIA ISOLATED FROM FRESH & MARINE WATER HABITATS IN THANE DISTRICT, M.S, INDIA

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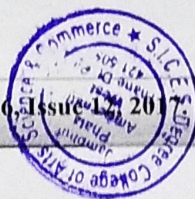
ABSTRACT

In the decade of stringent guidelines put forth by FDA in manufacture of consumer goods, microbial pigments, owing to its nature of colour, nutritive value & medicinal Properties; very aptly has provided an alternative over its chemical counterparts. Natural Habitats viz soil, water will always remain a never-ending source of micro-organisms; with huge potential in many sectors. In the present study, isolation of pigment providing bacterial isolates from fresh & marine water habitats was carried out. Identification was carried out as mentioned in Bergey's manual of Determinative Bacteriology, 9th Edition. Extraction and Optimization studies of growth conditions for maximum pigment production are carried out.

KEYWORDS: FDA, Microbial pigments, Natural Habitats, Bergey's manual.

INTRODUCTION

A pigment is a material that changes the colour of reflected or transmitted light as a result of wavelength – selective absorption. Materials that humans choose and develop for use as pigments usually have special properties that make them ideal for colouring other materials. Biological pigments are substances produced by living organisms that have a colour resulting from selective colour absorption. Both natural pigments and synthetic dyes have been extensively used in various fields of everyday life such as foods, feeds, textile, paper, printing inks, cosmetics, pharmaceuticals etc. (Tiber 2007).



STUDY OF BIO-DIVERSITY AMONG THE PLANTS AROUND THE SICES DEGREE COLLEGE, AMBARNATH TALUKA, DISTRICT THANE (M.S.)

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Abstract:

Ambarnath has wide range of Plant Biodiversity & few water bodies like lakes and Ulhas River flowing through it. As College is situated at hilly region, area around the college is floristically rich, where plants of various categories are growing spontaneously in their natural habitat. This area has heavy vegetation includes many Medicinal plants; many people use the plants for satisfying their needs, many people have knowledge of Traditional Medicines also. The present work is carried out to find out various medicinal plants from the surrounding area of College, which are used to cure various health disorders like dysentery, diarrhea, wounds, poison bites, bronchitis, cough, snake-bite, inflammation, skin diseases etc. These studies can be used for the discovery of new drugs.

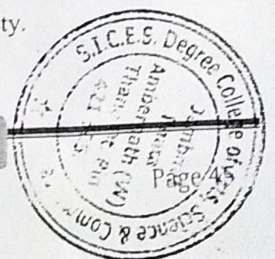
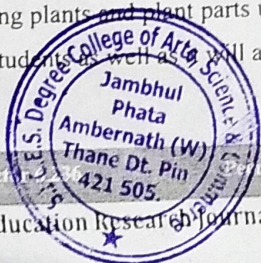
Keyword: Bio-Diversity, plants, SICES Degree College, Ambarnath.

Introduction:

Nature has provided abundant medicinally important plant wealth to all living beings (Bhatti *et al.*, 2001). Climate in Ambarnath is comparatively less humid as compared to the western part of the Thane district. The temperature variation is more in the eastern part of the district comparing to the western coastal areas. As College has rich Plant diversity, many medicinal plants has been observed near the Campus. Traditionally this treasure of knowledge was passed orally from generation to generation without any written documentation and it is still retained by various aboriginal people of the world (Perumal Samy, R. *et al.*, 1998).

Need of the Study:

Ancient people use to stay nearby river and learned first how to make agriculture and studied more forest for their food and to maintain the good health, they learned the use of plants as medicine for curing the diseases. Plant based drugs have been in used in curing various ailments (Perumal Samy, R. *et al.*, 2000) ranging from common cold to complicated lifestyle diseases like diabetes, cancer, etc. About 85% of traditional drug are plant derived (Farnsworth, N.R. *et al.*, 1994). The need of the hour is to explore and study common as well as other medicinal resources against various diseases. Conservation of these biological resources as well as their sustainable use is important in preservation of traditional Knowledge (Jain D.L. *et al.*, 2010). Efforts should be made to conserve this knowledge. If this knowledge does not flow on to the next generation, a time will come when this knowledge pool will be lost forever. Hence there is an immediate need that this treasure of knowledge should be conserved and inherited in such a way that we may be able to preserve this age old cultural heritage. Thus, the present study aims at documenting plants and plant parts used for curing various diseases. Knowledge of Medicinal plants is helpful for college students as well as will also benefit to Society.



14. A Study on the Need and Importance of Motivation for Better Employee Performance Of employees in An Educational Organization

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Prof. Shanti M. Mudaliar
SICES College, Ambarnath.

Abstract

Motivation is one of the most essential factors within an educational institution that enables a teacher to concentrate on the teaching learning aspect thereby helping with the over-all development of the students and also himself. This paper attempts to study this important aspect in the teaching learning process.

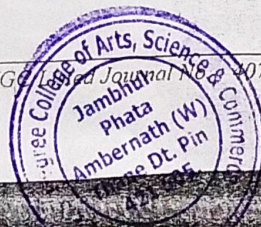
Keywords: Motivation, Pioneering, Commitment.

Introduction

An educational institutional is a place where careers are made. Young minds are shaped into future dreams. Hence it is of utmost importance that the person pioneering the change (ie: Professors, in case of educational institutions) has to be in prime form. Motivation is one of the most important factors that enable a teacher to perform in an efficient manner by encouraging and inspiring him/her to excel in his/her educational organisation. Motivation is the word derived from the word 'motive' which means needs, desires, wants or drives within the individuals. It is the process of stimulating people to actions to accomplish the goals.

Motivation is something that stimulates, inspires and encourages an employees to perform to the best of their capabilities. Motivation is the willingness of an employee to do a specific work which come from within an employee and hence can only be described as a psychological term. The teacher has to ensure that the student develops an insight into the problems faced by the students. It is only then that he/she will be able to teach the concepts to the students in a proper and dedicated manner.

Objective of the Study



Microwave dielectric spectroscopy of molecular liquids and polymers using TDR Technique

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Abstract— A time domain dielectric spectroscopy technique has been successfully used to obtain information on the dynamic parameters of molecular liquids. The measurement of complex permittivity of liquids (aliphatic alcohol compounds), bio-molecules (carbohydrates), and polymers in the frequency range from 10 MHz to 30 GHz has been carried out using time domain reflectometry technique. The complex permittivity spectra have been fitted in a Havriliak–Negami equation. The dielectric parameters such as static dielectric constant (ϵ_0), relaxation time (τ in ps) and high frequency dielectric permittivity (ϵ_∞) have been determined.

Keywords—Dielectric Constant; Dielectric Relaxation Time; Time Domain Reflectometry.

1. INTRODUCTION

Time Domain Reflectometry (TDR) technique covers a wide frequency range with a fast data acquisition. Therefore, TDR technique up to 30GHz has been established and developed in order to measure the dielectric properties of molecular liquids and polymers samples along with the necessary software. The proposed technique has been proved testing it on several liquids, with different reference relative permittivity, demonstrating its suitability to detect both liquid levels and liquid dielectric properties. By using an appropriate calibration procedure, the effect due to coaxial cable losses and additional dissipations is considered to accurately evaluate the dielectric relaxation properties. Based on this estimate, it is concluded that the described system is an excellent entrant for quantitative and qualitative liquid monitoring applications, especially for environmental control and industrial purposes [1].

Dielectric relaxation studies are very useful in understanding the structure of molecular liquids and polymers. The properties of chemically

homologous series of polymer molecules are of special interest because changes in properties are related to chain length and temperature. A variation with increase in chain length and temperature is very useful to study the structural properties of polymers [2].

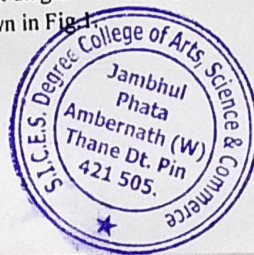
In the present study, complex permittivity spectra of molecular liquids, and polymers have been measured at 25°C using time domain reflectometry technique. From the complex permittivity spectra, dielectric parameters such as static dielectric constant, relaxation time, high frequency dielectric permittivity and relaxation distribution parameter have been calculated.

2. EXPERIMENTAL METHOD

The molecular liquids and polymers like water, acetone, chlorobenzene, 1-4dioxane, dimethyl sulfoxide(DMS), methanol, ethanol, propanol, butanol, dimethylformamide(DMF), glycerol, 1,2,6-hexanetriol, o-chlorotoluene, p-chlorotoluene Polyethylene glycol monomethyl ether-350, 550 and 750, Polyethylene glycol dimethyl ether-250 and 550, monosaccharide (D-glucose) and disaccharides (D-sucrose) over 99% purity purchased from Merck Chemicals Ltd. The water used in the preparations of mixtures was obtained by double distillation procedure.

2.1 DATA ANALYSIS

The Tektronix model no. DSA8200 Digital Serial Analyzer sampling oscilloscope along with the sampling module has been used and this module provides accurate oscilloscope measurement with user selectable bandwidth of 20 GHz or 30 GHz. The coaxial cable semi rigid, copper, with flat end was used. The schematic block diagram of the experimental setup for TDR is shown in Fig.1.



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NOVEL RESIN BASED LIQUID SURFACTANT FOR CELLULOSIC AND PROTEIN FIBERS

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Abstract: -

Novel polymer based on sorbitol and maleic & phthalic anhydride has been synthesized. The mole ratio standardized to get desire molecular weight, HLB ratio and surfactant properties. Liquid detergents have been formulated based on these novel polymer and conventional active ingredient. This polymer has been used as a total replacement of conventional LABS in detergent formulation. The proportion of SLS and SLES has been varied to know the optimum performance. The percentage detergency along with stain removing characteristic, surface tension, and foam height have been evaluated and compared with commercial samples. This composition is producing excellent result. The different types of stains can be effectively removed from cellulose fibers as well as protein fibers like cotton, linen, wool and silk. The use of novel polymer for developing foamless liquid detergent will be useful in washing machines and in the areas with water scarcity. Some formulations are not only technically excellent but also cost effective as compared to commercial products. It promotes green aspects by substituting petroleum based products, their sourcing cost and availability.

Key word:- Novel Resin, Alpha Olefin Sulphonate, SLS and SLES, cellulose fibers and protein fibers.

Introduction:-

Its high to replace petroleum based surfactant with renewable alternative product. It has been observed that LABS, the most important surfactant as compared to the others. The environmental pollution mainly foaming river and eutrophication are the major concerns. The idea is to prepare composition with minimum use of conventional material and free from petroleum derivative.

Surfactant based on novel resin have been used in various industrial procedures like wall finishes¹, water thinable paints², electrodeposition paints³, water thinable primers⁴ and printing inks⁵. We have already used novel polymeric surfactant for production of powder detergent. Resin based surfactants are an exciting new addition to the existing products. Polymeric surfactants when incorporated into detergent, they offer features like clay soil disperancy, prevention of soil redeposit ion, fabric anti incrustation, calcium salt inhibition and Ca and Mg sequestration.

The special features of novel resin based liquid detergent are

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