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Criterion III

Research Innovations and Extension

Key Indicator – 3.3 Research Publications and Awards

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Dr. Samudra Subhasha
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O.No: -kgkcd/ 2022/23
Date: / /

3.3.1: Number of the research papers published in the UGC care notified journal lists per teachers during last five years (2018-2023)

Sr. No.	Title of The Paper	Name of the Author	Department	Name of Journal	Year of Publication	ISSN Number
			2018-19			
1	Li2CuCl4 An Efficient Reagent in Epoxide Ring-Opening Reactions: Protocol for Synthesis of Chlorohydrins.	Sakhare N. D.	Chemistry	International Journal of Research and Analytical Reviews (IJRAR)	2018-19	2349-5138
2	An Implimentation of Catalyst for Oxidation of Benzylic Alcohols	Sakhare N. D.	Chemistry	Journal of Current Science	2018-19	9726-001X
3	Some Less Known Herbal Remedies Against Wounds from Daund Tahsil area in Pune District (M.S.) India	Samudra S. M.	Botany	International Journal of Social Science & Management Studies	2018-19	2454-4655
4	Traditional Oral Healthcare Practices in Daund areas of Pune District, Maharashtra, India	Samudra S. M.	Botany	Research Journey	2018-19	2348-7143
5	Reserve Bankesamoril Aavhane	Lohagaonkar J. H.	Economics	International Journal of Innovation in Engineering Research & Management	2018-19	2348-4918
6	Pradhanmantri Janadhan Yojanecha Banking Shetravar	Lohagaonkar J. H.	Economics	International Journal of Innovation in	2018-19	2348-4918

	Zalela Parinaam			Engineering Research & Management		
7	Bharatiya Chalanachya Utkranticha Etihaas	Jadhav V. D.	History	International Journal of Innovation in Engineering Research & Management	2018-19	2348-4918
8	Minimum Requirements of College Library	Veer A. S.	Library	Journal of Current Science	2018-19	9726-001X
9	Protein and Carbohydrate Digesting Capability of Syzigium Seed Powder in the Tissue Homogenate of Midgut in the fifth instar of Silkworm, Bombyx mori (L) Race: Bivoltine cross breed (CSR6 x CSR26) X CSR2X CSR27	Jagtap S. G.	Zoology	Journal of Current Science	2018-19	9726-001X
10	To study Effect of Social & Economic thing on Competency of sports man	Shelar V. S.	Physical Education	Research Journey	2018-19	2348-7143
11	Banketil Karmacharyncha Shararik va Manasik Shamatecha Aabhyas	Shelar V. S.	Physical Education	International Journal of Innovation in Engineering Research & Management	2018-19	2348-4918
12	To Study the Participation of Girls in Rural area in various sports type	Shelar V. S.	Physical Education	Accent Journal of Economics Ecology & Engineering	2018-19	2456-1037
13	A Review on the Final Grade in Mathematics with Linear Regression	Nadgauda N. N.	Mathematics	Accent Journal of Economics Ecology & Engineering	2018-19	2456-1038
14	Soil Fungi Association and Mineral analysis of Mosses from Western Ghats of Maharashtra, India	Mulay A. V.	Botany	World Journal of Pharmaceuticals and Life Science	2018-19	2454-2229
15	A Study on P-Transform of Multivariable Polynomials	Nadgauda N. N.	Mathematics	Accent Journal of Economics Ecology & Engineering	2018-19	2456-1038
2019-20						

16	Digital India Abhiyanacha Bharatiya Arthvyavasthevar Zalela Parinaam	Lohagaonkar J. H.	Economics	Research Journey	2019-20	2348-7143
17	Priliminary Phytochemical Analysis and Characterization of Bryum coronatum Schwager	Mulay A. V.	Botany	World Journal of Pharmaceuticals and Life Science	2019-20	2454-2229
18	Antifungal and Antibacterial activity of some Mosses from Maharashtra, India	Mulay A. V.	Botany	International Journal of Life science	2019-20	2320-7817
19	Maharashtratil sahakari Sakhar Karkhandaripudhil Avhane va Upayyojana	Lohagaonkar J. H.	Economics	Research Journey	2019-20	2348-7143
20	Analytical Research on Operation Research Linear Programming Problems with Solution	Nadgauda N. N.	Mathematics	International Journal of Innovation in Engineering Research & Management	2019-20	2348-4918
21	Novel approach to synthesize NiCo2S4 composite for high-performance supercapacitor application with different molar ratio of Ni and Co	Waghmode D. P.	Chemistry	Scientific Reports	2019-20	
22	Compost Soil Microbial Fuel Cell to Generate Power using Urea as a Fuel	Waghmode D. P.	Chemistry	Scientific Reports	2019-20	
23	Variation in Chemical Bath pH and the Corresponding Precursor concentration for optimising the optical, structural and morphological properties of ZnO thin films	Waghmode D. P.	Chemistry	Journal of Material Science: Materials in Electronics	2019-20	0957-4522
24	Some less commen indiginous herbal remedies against headache in Guptyeshwar hills of Daund Tahsil Pune District (M.S) India	Samudra S. M.	Botany	International Journal of Mechanical and Production Engi neering Research And Development	2019-20	2249-6890

2020-21						
25	Studies on Ethnomedicinal plants diversity at Daund Tahsil, Pune, Maharashtra	Samudra S. M.	Botany	International Research Journal of Plant Science	2020-21	2141-5447
2021-22						
26	Utilization of Magnetic Energy for the Qualitative Improvement in the Shell Ratio of the Cocoons Spun by the Mature Larvae of Silkworm, Bombyx mori(L) Race: Bivoltine Cross Breed (double hybrid) [CSR6 x CSR26) x CSR2 x CSR27)]	Jagtap S. G.	Zoology	International Journal of Researches in Biosciences, Agriculture and Technology	2021-22	2347-517X
27	Some Unique herbal remedies against arthritis and rheumatism in daund region pune district (m.s.) India	Samudra S. M.	Botany	International Research Journal of Plant Science	2021-22	2141-5447
28	Medicinal Plants Traditionally Used in Jaundice from Daund Region, Pune District	Samudra S. M.	Botany	Research Journey	2021-22	2348-7143
29	Ethno-Medicinal Plants Used for Respiratory Disorders in Daund Region of Pune District (M.S) India	Samudra S. M.	Botany	Research Journey	2021-22	2348-7143
30	Electroanalytical Study and Characterizationj of Lornoxicam by Differential pulse Polarography	Sakhare N. D.	Chemistry	Journal of The Maharaja Sayajirao University of Baroda	2021-22	0025-0422
31	Lithium bromide catalyzed efficient and convenient Synthesis of bis(indolyl)methane derivatives	Deshmukh J. R.	Chemistry	International Journal of Green and Herbal Chemistry	2021-22	2278-3229
32	A Facile an Efficient Synthesis of Coumarin Derivatives via Pechmann Condensation under Grind-stone method	Deshmukh J. R.	Chemistry	International Journal of Scientific research in Science, Engineering and	2021-22	2395-1990

	using Succinamide-N-Sulphonic Acid at room temperature			Technology		
			2022-23			
33	A study on the problems in the Game of Badminton and their Solutions	Shelar V. S.	Physical Education	The International Journal of Analytical and Experimental and modal Analysis	2022-23	0886-9367
34	A study of the problems faced by sportmen in secondary and higher secondary schools in rural areas	Shelar V. S.	Physical Education	Solovyov Studies ISPU	2022-23	2076-9210
35	A study of Physical Abilities of College stuidents in Daund city and its Surroundings	Shelar V. S.	Physical Education	Heritage Research Journal	2022-23	0474-9030
36	Value Education Necessity and importance in Schools and College	Shelar V. S.	Physical Education	Infokara Research	2022-23	1021-9056
37	A study of the problems faced by Sposts Guides	Shelar V. S.	Physical Education	Journal of Xidian University	2022-23	1001-2400
38	Kaushallyadhisthtit Shikshan ani Galati	Ingale V. M.	Marathi	International Journal of Advance and Applied Research	2022-23	2347-7075
39	Dalit Sahityatil Samakalin Kavichya Kavitetil Samajik Janiva (2000nantrchya sandrbhat)	Ingale V. M.	Marathi	Power of Knowledge	2022-23	2320-4494
40	Citric acid Catalyzed Efficient and Convenient Synthesis of Coumarin Derivatives	Deshmukh J. R.	Chemistry	International Journal of Scientific research in Science, and Technology	2022-23	2395-602X
41	A Faunistic Study of Coreidae (Hemiptera: Heteroptera) from Nashik Maharashtra, India	Ansari H. E.	Zoology	Journal of The Maharaja Sayajirao University of Baroda	2022-23	0025-0422
42	Priliminary Phytochemical Screening and HPTLC analysis of leaf extract of Crotalaria juncea from Vidarbha Region,	Tuwar D. A.	Botany	Journal of The Maharaja Sayajirao University of Baroda	2022-23	0025-0422

	M. S., India					
43	Ethanobotanical survey of some medicinal plants used by local people from man Tahsil of Satara District	Tuwar D. A.	Botany	Madhya Pradesh Journal of Social Science	2022-23	0973-855X
44	Review of the Current Situation and the Prospects for CZTS-based solar thin films	Tuwar D. A.	Botany	Journal of The Maharaja Sayajirao University of Baroda	2022-23	0025-0422
45	Preparation of Herbal formulation from leaves of Oscimum americanum & Eclipta alba and its effeciency aggainst the fungal diseases and wounds in Dairy animals	Tuwar D. A.	Botany	Journal of The Maharaja Sayajirao University of Baroda	2022-23	0025-0422
46	Microwave assisted green synthesis, single crystal XRD, DFT, Hirshfeld surface analysis, Antibiofilm, Anti-inflammatory activity and Molecular docking study of 4-(4-Flurophenyl)-5-methyl-1,3-thiazole-2-amine	Chavan A. D.	Chemistry	Journal of Molecular Science	2022-23	0022-2860

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3.3.1: Number of the research papers published in the UGC care notified journal lists per teachers during last five years (2018-2023)

Number of the research papers published in the UGC care notified journal lists per teachers

During the year 2018-19.

Year	Number of the research papers
2018-19	15

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Nilesh Dadasaheb Sakhare

In recognition of the publication of the paper entitled

LI2CUCL4 AN EFFICIENT REAGENT IN EPOXIDE RING-OPENING REACTIONS: PROTOCOL FOR SYNTHESIS OF CHLOROHYDRINS.

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Li_2CuCl_4 An Efficient Reagent in Epoxide Ring-Opening Reactions: Protocol for Synthesis of Chlorohydrins.

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* Department of Chemistry, Lt. Kisandas Gulabchand Kataria College, Daund, Pune, Maharashtra, India-413801.

Abstract: The Li_2CuCl_4 reacts with epoxides to afford chlorohydrins resulting from an attack at the electron-deficient carbon atom. The reaction works efficiently with chalcone oxide and yields are higher under nitrogen atmosphere.

Keywords:, Dilithiumtetrachlorocuprate, Lithium chloride, Cuprous chloride, Epoxide, Activity spectra.

Introduction: Regioselective epoxide ring-cleavage with different nucleophiles to form 1,2-difunctionalized compounds is an important conversion for the synthesis of several constituent parts of the molecules to be synthesized.[1] Vicinal-halohydrins or 1,2-halohydrins are the main synthetic compounds required in the generation of a large fraction of biologically vital synthetic as well as natural products.[2-5] Halohydrins are additionally important substrates for halohydrin dehalogenases, an extraordinary class of enzymes needed for chiral resolution of racemic mixtures and also for the processing of the environment like removal of contaminations from water and soil.[6-8] Epoxides having an important compound in organic chemistry as reactants or synthetic intermediate in different organic transformations.[9] Epoxides possessing three-membered strained rings in their structures that make them susceptible to attack by different nucleophilic compounds, therefore the ring-opening reaction is the famous organic conversion for the generation of different organic compounds.[10-11] The vicinal halohydrins are the more distinctive category of epoxide derivatives. Moreover, being applicable synthetic intermediates[12-16], these serve as building blocks in different natural products and have been used for the synthesis of an enormous amount of other useful functionalities.[17-18] Additionally, vicinal halohydrins are intermediates of varied naturally occurring organohalogens in marine organisms[19-20] and therefore these are conceivable origins of pharmaceutical drugs. These haloalcohols or chlorohydrins are applicable intermediate products for the manufacture of numerous biologically active natural and synthetic products associated with chiral auxiliaries for stereoselective synthesis.[21] Furthermore, protected 1,2-halohydrins protected with various protecting groups are the principal components in steroid chemistry for the preparation of various natural products.[22-23] There are consistent efforts submitted in the ring-opening of epoxides to 1,2-halohydrins regioselectively as a result of being important in the synthesis[24] mainly in the halogenated marine natural products[25] and in different organic transformations.[26] The most practicable process for the manufacture of these vicinal halohydrins by the epoxide ring-opening in presence of haloacids undergoing various limitations such as pharmacologically inactive halohydrins, undesirable by-products and lower regioselectivity.[27] This has encouraged research in various directions varying from elemental halogens[28] and metal halides like $TiCl_4$-LiX, $CeCl_3$, LiX and $7.H_2O$-NaI. These efforts have been generated specific catalytic methodologies for supporting the inclusion of silyl halides into epoxides. For example, the merging of TMSX-PPh3, TMSX-pyridine and TMSX-$CoCl_2$ used as productive and sensitive reagents for good regioselective ring-cleavage of epoxides or substituted 1,2- epoxy derivatives. These methods could provide an

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AN IMPLEMENTATION OF CATALYST FOR OXIDATION OF BENZYLIC ALCOHOLS

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Abstract:- Nitric corrosive (15mol%) helped in-situ created hypobromous corrosive catalyzed vigorous oxidation about benzyl alcohols to aldehydes under metal-free watery states is depicted. Nitric corrosive assumes An double part Similarly as "H+" benefactor and additionally optional oxidant to change over bromide to An sensitive species (BrOH) done vicinity of atomic oxygen from air.
Keywords:- Benzylic alcohols; Oxidation; Nitric acid; Bromide-bromate; Benzaldehyde.

1. INTRODUCTION

Vanadium phosphate materials proceed with on draw in consideration of scientists Similarly as A great contemplated heterogeneous impetus. Later enthusiasm toward VPO strong materials stems from their structural assorted qualities Also possibility requisition done catalysis Also material science. An astounding mixture of novel periods for this material arises because of flexible for vanadium As far as its variable oxidation states (III, IV, V) Furthermore co-ordination geometry (tetrahedral, square pyramidal Also octahedral). There are huge numbers great characterized, crystalline VPO stages were identifier whose structure Furthermore reactant properties need been [illegible]. cup oak generally contemplated are the V5+ vanadyl ortho phosphate and VOPO4•2H2O, and the V4+ vanadyl hydrogen phosphates (VOHPO4•4H2O, VOHPO4•0. 5H2O, VO (H2PO4)2), vanadyl pyrophosphate ((VO) 2P2O7) vanadyl metaphosphate (VO(PO3)2)

Those (VO) 2P2O7 impetus Also its forerunner VOHPO4•0. 5H2O period bring been extensively studied, including preparation procedures, actuation conditions, Precious stone structures, action Furthermore reactant energy [1–9]. On the other hand, the crystalline VO (PO3)2 impetus may be mostaccioli a blending from claiming amorphous [illegible] VO (PO3)2, monoclinic VO (PO3)2 [10] tetragonal –VO (PO3)2 periods [11]. The crystalline VO (PO3)2 might have been gotten from calcinations from claiming VO (H2PO4)2 stage under wind stream states. Those reactant execution for both VO (PO3)2 Furthermore (VO) 2P2O7 need been assessed over gas stage responses for example, oxidations, oxidative dehydrogenations Also am oxidations. However, VO (PO3)2 impetus need indicated poor reactant execution for gas stage oxidation about n-butane to maleic anhydride at contrasted with helter skelter reactant execution for (VO) 2P2O7 impetus. Poor people reactant execution from claiming VO (PO3)2 impetus previously, n-butane oxidation need committed on test its provision previously, other responses. Fluid stage oxidation about benzyl liquor is a heated point clinched alongside current natural union.

Those outline improvement of a impetus for secondary transformation what's more fractional oxidation must Additionally make conveyed out for respect to the protection of related assets. For particular oxidation reactions, there may be enormous challenge on keep again oxidation of the products, which would often All the more touchy will be oxidized over those reactants. That immediate oxidation of benzyl liquor with benzaldehyde will be such sort from claiming response. Benzaldehyde will be An Head crude material in the amalgamation about other natural compounds, extending starting with pharmaceuticals to plastic additives. It is additionally a paramount intermediate to those transforming of [illegible] Furthermore enhancing mixes Also in the preparation from claiming [illegible].

A few routines need aid accessible to liquor oxidations utilizing metal salts in the type from claiming homogeneous catalysis [20–26] alternately [illegible] heterogeneous impetuses. In any case the regular techniques of liquor oxidation might utilize toxic, corrosive, exorbitant oxidants for example, such that chromium (VI), settle dependent upon a extreme condition, such as high point alternately temperature, utilizing solid mineral acids. Structural stability, heterogeneity, deactivation rates recyclability of the strong corrosive impetuses need aid even now incredulous looming of the fluid stage reaction's sway for robust impetus.

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Some Less Known Herbal Remedies Against Wounds From Daund Tahsil Area In Pune District (M. S.) India

Samudra Subhash Machindra*
Department of Botany, K.G. Kataria College Daund, Pune

ABSTRACT :- The extensive field surveys were arranged in Daund tahsil areas to document ethno- medicinal uses of the native ethno-flora against wounds. The information was collected during the period from pre-monsoon 2010 to the post- monsoon of 2012, from the local inhabitants through verbal interviews via informal ways. The paper focus on the ethno- medicinal uses of 33 genera belonging to 27 families used against wounds formed due to certain reasons among the local inhabitants.

Keywords :- Herbal remedy, Traditional knowledge.

INTRODUCTION :- The curative and healing properties of many herbs have been documented in Rigveda. Ethno-medico-Botany and ethic medicine is a kind of systematized and analyzed traditional knowledge of folk healing in its own way. In India over 7000 plants are known and used for medicinal purpose (Holly and Willams, 1996). Since the last three to four decades, due to recent exploration considerable progress has been made in the field of ethno-medicinal remedies. Use of these plants and their parts had contributed so much to the field of ethno-medicinal science by fulfilling the social and cultural needs of the rural, aboriginal and tribal people. These plant based herbal drug are relatively safe, easily available in the market and manufactured with the traditional eco-friendly methods. Today chemists could able to synthesis many other drug still come from the plants.

STUDY AREA :- Daund tahsil lies in Pune district situated on the margin of Bhima river. Daund tahsil consist of 102 villages and one urban centre. Geographically this region extent from 18° 18' to 18° 41 north latitude and 74° 07' t0 74° 51 east longitude. Geographically area of the study region is 1289.86 Sq.Km. (128986 hector) according to 2011 census. The average height of study area is 554 meters from mean sea level. The river Bhima and its tributary river Mula- Mutha are dominating drainage pattern in study region. It is famous for rich ethno-floristic diversity along north-eastern side. It has remained inhabited to certain extent by the local inhabitants for certain needs and necessities.

The information is documented from the inhabitants in order to focus on wound healing significance of the native ethno-flora.

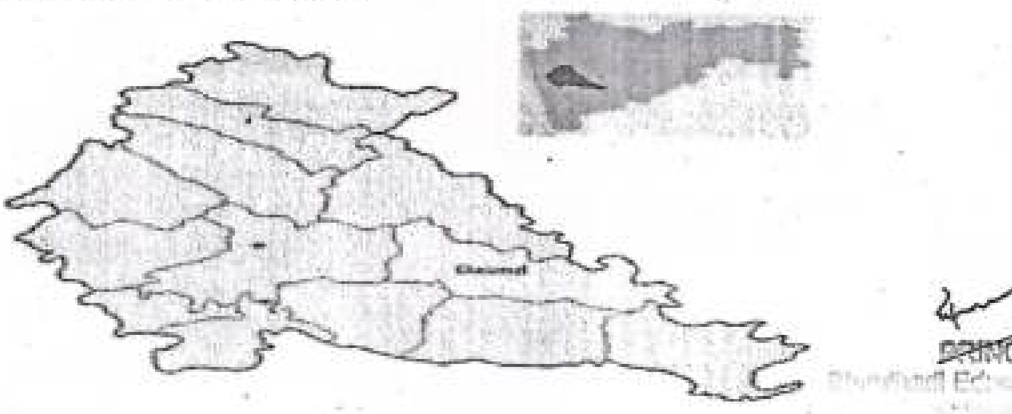

Figure: 1 The study area.

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BIODIVERSITY CONSERVATION - PRESENT SCENARIO AND FUTURE PERSPECTIVE

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Biodiversity conservation-present scenario and future prespective

Traditional Oral Healthcare Practices in Daund Areas of Pune District, Maharashtra, India

Samudra Subhash Machindra
Department Of Botany, K. G. Kataria College Daund, Pune-413801.

ABSTRACT

The present Papers reveals the traditional herbal therapies used in Daund tahasil areas of the Pune district against various liver diseases and disorders from Maharashtra, India. In all total 19 plant species belonging to 19 plant species belonging to 17 genera from 14 angiosperm families used for treating certain teeth borne diseases and disorders are documented. Of these, uses of -- plant species found unknown or less known to India.

Keywords: Folklore, oral health care, Daund.

INTRODUCTION

In India, traditional healers are using 2000 plants for ethnobotanical purposes out of which 100 alone used on regular basis for medicinal purposes. In recent years, it has been realized that traditional herbal drugs are going to play a very significant role in curing certain acute and chronic diseases and disorders. Most of the modern synthetic drugs and medicines have attacked the targets blindly and thus badly affected several related metabolic processes. The herbal drugs probably have more accuracy in working, more effective and target specific action and without side effects. Further the drugs are eco-friendly and easily available in local market.

ABOUT THE STUDY AREA

The area under the study is an ideal religious place famous for diverse flora of ethno-medicinal significance. It is situated at distance of 65 km on North-eastern side of Pune district (M.S.) Daund tahsil lies in Pune district situated on the margin of Bhima river. Daund tahsil consist of 102 villages and one urban centre. Geographically this region extent from 180 18 'to 180 4Tnorth latitude and 740 07 't0 740 5Teast longitude. Geographically area of the study region is 1289.86 Sq.Km. (128986 hector) according to 2011 census. The average height of study area is 554 meters from mean sea level. The river Bhima and its tributary river Mula- Mutha are dominating drainage pattern in study region. It is famous for rich ethno-floristic diversity along north-eastern side. It has remained inhabited to certain extent by the local inhabitants for certain needs and necessities.

Figure 1- Map of the study area.

PRINCIPAL

METHODOLOGY

Frequent field visits were arranged in the area under the study during the period from pre-monsoon of 2010 to post-monsoon of 2012 to collect the data on ethno-medicinal uses of the wild ethno-flora among the local inhabitants. The plant specimens were collected with the help of traditional healers and medicine men by knowing their local names as per suggestion. The ethno-

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PEER REVIEWED AND REFEREED JOURNAL IMPACT FACTOR 6.13 (INTERNATIONAL [illegible])
(SLSOCHS - 2019)

रिझर्व्ह बँकेसमोरील आव्हानें

प्रो.डॉ.लोहगांवकर जयश्री हनुमंतराव
अर्थशास्त्र विभाग प्रमुख,
स्व. के.जी. कटारिया महाविद्यालय,
दौंड, ता. दौंड, जि.पुणे

गोषवारा (Abstract) :— देशातील आर्थिक विकास आणि स्थैर्य याला रिझर्व्ह बँक ही एकमेव जबाबदार नसली तरी ती त्यातील प्रभावी संस्था आहे. अर्थात या सर्व घडामोडींमध्ये इतरही घटक जबाबदार आहेत. सरकारचे कर धोरण, सरकार कोणत्या कारणासाठी खर्च करते, खर्चाचे प्रमाण किती आहे त्यावरही देशाचे आर्थिक स्थैर्य अवलंबून असते. म्हणजे सरकारची भूमिका येथे कळीची ठरते व रिझर्व्ह बँकेची भूमिका दुय्यम राहते.

कळीचे शब्द (Key Wards) :— आर्थिक विकास, आर्थिक स्थैर्य, वाढत्या किंमती नियंत्रण करणे, विनिमयदर स्थिर ठेवणे

१. प्रस्तावना

भारताची मध्यवर्ती बँक म्हणून रिझर्व्ह बँक ऑफ इंडिया ओळखली जाते. रिझर्व्ह बँक ही देशातील पैशाचा पुरवठा करणारी, व्याजदर ठरवणारी, चलनबाजारावर नियंत्रण ठेवणारी सर्वोच्च संस्था आहे. त्याचबरोबर बँकावर नियंत्रण ठेवणे त्यांचे नियमन करणे, त्यांना मार्गदर्शन करण्याचं कार्य रिझर्व्ह बँक करते. अशा रिझर्व्ह बँकेसमोर वाढती किंमत वाढ, रूपयाची होत असलेली ऐतिहासिक घसरण, बँकांचे कर्ज बुडवण्याचे वाढते प्रमाण, अनुत्पादक कर्जाचे वाढते प्रमाण, विनिमय दरातील अस्थैर्य, ग्रामीण भागातील बँक सेवेची अनुपलब्धता अशा अनेक आव्हानाला सामोरे जावे लागते.

२. उद्दिष्टे :—

१) किंमत वाढीची कारणे व त्यावरील उपाय योजना स्पष्ट करणे.

२) रिझर्व्ह बँकेचे वेगवेगळया मार्गाने करण्यात आलेले कार्य स्पष्ट करणे.

३. संशोधन पद्धती (Research Methodology)

प्रस्तुत शोध निबंधासाठी प्रामुख्याने माहिती द्वितीय स्त्रोतांद्वारे प्राप्त केलेल्या माहिती व आकडेवारीचा वापर केला आहे. यासाठी विविध संदर्भग्रंथ, नियतकालिके, वर्तमानपत्रातील लेख, विविध संकेतस्थळ या स्त्रोतांमधून माहिती संकलित करण्यात आली आहे.

४. किंमत वाढीची कारणे :—

देशातील वस्तूंच्या किंमती नियंत्रित ठेवायचे असेल तर चलनबाजार [illegible] नियंत्रण ठेवावे लागते. त्यामुळे पैशाचा पुरवठा नियंत्रित राहतो व किंमती वाढत नाही. रिझर्व्ह बँकेला [illegible] नियंत्रित करणे हे [illegible] बँकिंग क्षेत्राकडे [illegible] असतो त्यामुळे उद्योगधंद्यांना कर्ज मिळते, यामुळे रोजगार निर्माण होतो, उत्पन्न वाढते, बचतीला प्रोत्साहन मिळते, त्यामुळे पुन्हा गुंतवणूकीत वाढ होते, म्हणून देशाचा आर्थिक विकास होतो. [illegible]

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प्रधानमंत्री जनधन योजनेचा बँकिंग क्षेत्रावर झालेला परिणाम

प्रा.डॉ.लोहगांवकर जयश्री हनुमंतराव
अर्थशास्त्र विभाग प्रमुख,
स्व. के.जी. कटारिया महाविद्यालय,
दौंड, ता. दौंड, जि.पुणे.

गोषवारा (Abstract) :— पंतप्रधान नरेंद मोदी यांच्याद्वारे सन २०१४ मध्ये या योजनेची सुरूवात करतांना 'विश्व चक्रातुन गरिबांचे स्वातंत्र्य पर्व' असे उद्‌गार उच्चारण्यात आले. देशातील नागरिकांना वित्तीय सेवा उपलब्ध करून देणे, देशातील आर्थिक दुर्बल घटकांमधुन सवकारशाही कमी करणे, देशातील आर्थिक दुर्बल घटकांना बँकाशी जोडणे, देशातील प्रत्येक गरीब कुटुंबाला बँकसेवा व कर्ज पुरवठयाच्या सुविधा उपलब्ध करून देण्याच्या उद्‌देशाने ही योजना सुरू करण्यात आली आहे.

कळीचे शब्द (**Key Words**) :— प्रधानमंत्री जनधन योजनेचे लक्ष्य, या योजनेचे फायदे, प्रधानमंत्री जनधन योजनेचा बँकिंग क्षेत्रावर झालेला परिणाम.

१. प्रस्तावना :—

प्रधानमंत्री जनधन योजनेची घोषणा पंतप्रधान नरेंद्र मोदी यांच्याव्दारे १५ ऑगस्ट २०१४ रोजी करण्यात आली आणि या योजनेचा प्रारंभ दिल्लीमधुन २८ ऑगस्ट २०१४ रोजी करण्यात आला. या योजनेचे ब्रीद वाक्य 'मेरा खाता भाग्यविधाता' आहे. भारतातील कमी उत्पन्न आणि आर्थिकदृष्टया मागास लोकांना वित्तीय सेवा देणे, त्यांना बँकेशी जोडणे, बँकिंग सेवा पुरवणे, त्यांच्या नावे बँकेत खाते खोलने यासाठी एका घरातुन कमीत कमी एक खाते उघडण्यात येईल. आजही भारतातील आठ करोड शहरी आणि अडीच करोड ग्रामीण लोकांपर्यंत बँकिंग सुविधा पोहचलेल्या नाही. त्यांना बँकेशी जोडण्याच्या उद्‌देशाने जनधन योजनेची सुरूवात करण्यात आलेली आहे.

२. उद्दिष्टे :—

१) प्रधानमंत्री जनधन योजनेचे लक्ष्य अभ्यासणे.
२) प्रधानमंत्री जनधन योजनेचे फायदे अभ्यासणे.
३) प्रधानमंत्री जनधन योजनेचे बँकिंग क्षेत्रावर झालेला परिणाम अभ्यासणे

३. संशोधन पध्दती (त्मेमंतबी डमजीवकवसवहल) :— प्रस्तुत शोध निबंधासाठी माहिती प्रामुख्याने व्दितीय स्त्रोतांव्दारे संकलित करण्यात आलेली आहे. यासाठी विविध संदर्भग्रंथ, नियतकालिके, वर्तमानपत्रातील लेख, विविध संकेतस्थळ या स्त्रोतांमधून माहिती संकलित करण्यात आली आहे.

४. गृहितक :—

१) प्रधानमंत्री जनधन योजनेमळे बँकिंग सुविधा सुलभ झालेली आहे.
२) प्रधानमंत्री जनधन योजनेमुळे देशातील आर्थिक दुष्टया दुर्बल घटकांना बँकांशी जोडलेले आहे.

५. प्रधानमंत्री जनधन योजनचे लक्ष्य :—

१) एका वर्षामध्ये ७.५ कोटी बँकखाती उघडणे.
२) प्रधानमंत्री जनधन योजना ही गरीब जनतेस आर्थिकदृष्टया सशक्त बनविणाच्या उद्‌देशाने सुरू करण्यात आली आहे.

[illegible]

भारतीय चलनाच्या उत्क्रां[illegible] इतिहास

प्रा. [illegible]

[illegible] महाविद्यालय [illegible]

भारतीय रुपया हे भारतीय गणराज्याचे अधिकृत चलन आ[illegible] भारतीय रुपया हा शंभर पैशामध्ये विभागला आहे भारतात [illegible] नोटा व [illegible] जातात. सर्व भारतीय चलनी नोटा या भारतीय रिझर्व्ह बँकेमार्फत बनविल्या [illegible] चलनासाठी युनिकोड मध्ये U+20B9 ही नियमावली ठरविण्या[illegible] शब्द संस्कृतमधील रुप्य या शब्दापासुन आला आहे रुपया हा पूर्वी राजे [illegible] धातुपासुन बनवित असत. बक्सारच्या लढाई नंतर भारतात [illegible] मध्ये ब्रिटिश ईस्ट इंडिया कंपनीने भारतात मोघल बादशहा [illegible] दिली त्या काळी नाणी हाताने बनविली जात त्यामुळे ती गोल [illegible] नसत पुढे १७९० मध्ये भारतात मशीनव्दारे एकसारखी [illegible] लागली भारतात सुबक व एकसारखी नाणी बनविण्यात येऊ लागली [illegible] एक सारखी नाणी बनविण्याचा मान जेम्स [illegible] नाणकशास्त्राचे जनक मानले जाते. त्यांनी भारतीय [illegible] भारतीय नाणी प्रमाणित करण्याचा अहवाल लॉर्ड विल्यम बेंटिंग यांच्याकडे [illegible] त्यांनी पाठविलेल्या सहा नमुन्यांपैकी एक मंजुर करण्यात आला [illegible] ब्रिटिश राजे चौथे विल्यम यांची आत मुद्रा होती. तेव्हा पासुन भारतीय नाणी [illegible] करण्यात येऊ लागली प्रिन्सेप यांनी भारतात वजन व मापे [illegible] पाठपुरावा करुन भारतात वजन व मापे प्रमाणित केली आणि [illegible] करण्यात येऊ लागली याची छोटी [illegible] करण्यात येऊ लागली.

१८३३-३४ पासुन विल्यम राजाच्या छापाची नाणी [illegible] व्हिक्टोरिया राणी, ७ वे एडवर्ड, पंचम जॉर्ज आणि सहावे जॉर्ज या [illegible] नाणी सन १९४७ पर्यंत करण्यात आली या कामासाठी [illegible] मद्रास या प्रांतात टांकसाळी निर्माण करण्यात आल्या होत्या. चांदी [illegible] तयार करण्यात आली.

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MINIMUM REQUIREMENTS OF COLLEGE LIBRARY

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Abstract - A College library is the library that is attached to higher education Institutions which serves two complimentary purposes to support the College curriculum and to support the research of the college faculty and students.

1 INTRODUCTION

The primary goal of library is to collect,preserve and give access to record knowledge. Today, librar

2 REQUIREMENTS IN COLLEGE LIBRARY

1) Photocopying facilitymust be available in the library.
2) Online public access catalogue for library.
3) Reading room facility.
4) Facility to reserve book.
5) E-learning material open to all.
6) Workshop & literature programs for user.
7) INFLIBNET Facility must available to Faculty and Research Students.

3 COLLECTION IN COLLEGE LIBRARY

Because undergraduates seek information for cour[illegible] college library needs to have quantity of resources as prescribed by government UGC, AICTE. The collection of a college library may have as following:-

1. Text books
2. Books
3. Reference books
4. Current journals
5. Magazine
6. E-resources: i) Online journals
   ii) CD, DVD's
   iii) Databases
7. Special collection:
   i) Competitive examination
   ii) Rare collection

3.1 Services in college library-

1) Circulation.
2) Wifi services.
3) Article index to select periodicals.
4) Photocopy services
5) Reference services.
6) Library orientation to fresh members.
7) CAS.
8) SDI.
9) Newspaper clipping service.

3.2 Bestpractices in College library

1) Best library user award
2) Inter library loan service
3) Book exhibition
4) Computerization of library
5) Bar Coding of Books
6) Newspaper clipping
7) Internet facility to different users.

4 CONCLUSION

Library is heart of College, so main purpose of this to incline the students, faculty and give them more benefited by using online services and other reading materials give to [illegible] resources to students, staff and other reader. We provide library services to free of cost which help students, staff to develop their reading ability to strength their research area.

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PROTEIN AND CARBOHYDRATE DIGESTING CAPABILITY OF SYZIGIUM SEED POWDER IN THE TISSUE HOMOGENATE OF MID GUT IN THE FIFTH INSTAR OF SILKWORM, BOMBYX MORI (L) RACE: BIVOLTINE CROSS BREED (CSR6 X CSR26) X CSR2 X CSR27)

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Abstract:- Four different concentrations (10.0 ppm; 20.0 ppm; 40.0 ppm & 50.0 ppm) of the aqueous solution of seed powder of Syzigium cumini (L) concentrations was used to treat the leaves of mulberry & fed to the fifth instar larvae of bivoltine, crossbreed silkworm, Bombyx mori (L) Race: Bivoltine Cross Breed [(CSR6 x CSR26) x CSR2 x CSR27)] for first four days of fifth instar larvae. The larvae fed with untreated & water treated leaves were also maintained. The midgut enzyme (protease & amylase) bioassays were carried out on fifth day. The velocity of biochemical reaction catalyzed by mid gut protease and midgut amylase in larvae fed with untreated mulberry leaves was found measured 02.593 units and 5.547 units respectively. The midgut protease activity in larvae fed with mulberry leaves treated with various concentrations (10.0 ppm; 20.0 ppm; 40.0 ppm & 50.0 ppm) of the aqueous solution of seed powder of Syzigium cumini (L) was found measured 3.217; 4.339; 4.476 and 5.793 units respectively. There was 24 to 123 percent increase in the mid gut protease activity through Syzigium treatment. The midgut amyase activity in experimental group larvae in attempt was found measured 6.864; 10.148; 10.319 and 10.483 units respectively. There was 23 to 88 percent increase in the mid gut protease activity through Syzigium treatment. The contents of seed powder of Syzigium cumini (L) serve to improve the digestibility & exert the influence of efficient metabolism in the fifth instar larvae of silkworm, Bombyx mori (L). The Syzigium seed powder treatment may gear overall biochemical constituency of silkworm larvae, through the significant improvement in the velocity of mid gut enzyme catalyzed biochemical reactions.

Keywords:- Bombyx mori (L); Midgut Protease; Midgut Amylase; Syzigium cumuni (L).

1. INTRODUCTION

The life of insect herbivores is interlinked with metabolites in plants. The metamorphosis in insects is said to be in the orchestrate progression. The insect metamorphosis is closely interlinked with plant metabolites. According to Bowers, et al (1966) the chemical constituents of plants (Roots; Stems; Leaves and Fruits) could have been the factors of growth & metamorphosis for insects. The plant eating insects are able to avoid poor quality food. That is to say, the insects are able to select food from variety available for them. The larvae of silkworm, Bombyx mori (L) are monophagous.

They are feeding exclusively on the leaves of mulberry Morus Alba (L). For the purpose of getting qualitative silk cocoons, it is essential to fortify either the quality of food (mulberry leaves) appetite of larval instars of silkworm, Bombyx mori (L). According to Murugan and George (1992), the factors responsible for influencing the growth, development & subsequent physiology of body of silkworm larvae include: quality of nutrition, that is to say the biochemical status of nutrients in the food (Leaves of mulberry, Morus Alba L); quantity of hormones (hormonal level) in the body & the conditions of climate (environmental conditions).

Each and every element in body of larva is primarily derived from its source of food material. The leaves of mulberry, Morus Alba (L) are exclusive source of nutrients for the life of larval instars of silkworm, Bombyx mori (L). The leaves of mulberry, Morus Alba (L) are containing the nutrients and many stimulants for the life of larval instars of silkworm, Bombyx mori (L) (Ito, 1960, 1961; Nayar & Fraenkel, 1962; Ito, et al, 1964; Ito & Hyashiya, 1965). The quality of the nutrition (leaves of mulberry, Morus Alba L.) serves a lot to accelerate the growth, metamorphosis in larval instars of silkworm, Bombyx mori (L). The entire

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INDEX

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To Study effect of social and economic thing on competency of sports man.

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Late K.G.Kataria College Daund, Dist-Pune

Kishor [illegible]
Director of Physical Education & Sports
[illegible]

Introduction:

In the life of every person economic factor plays an important role. A [illegible] and problems faces so many danger for simple needs. He always [illegible] problem at once, he has to face the [illegible]. [illegible]

The something also happens in the case of sportsman.

Social rules also create an impression on the life a person the [illegible] on the social environment. The [illegible] of society [illegible] important role and prepare a person. If the society [illegible] the society must be educated if the society is educated [illegible] carry out this work.

These rules we also fit for the sportsman in this case.

Economic & Social factor create [illegible] effect on the [illegible] country more preference is given to sport and exercise. While [illegible] to complete their daily needs. It also [illegible] time and money for doing other things. [illegible] persons. There is a lack of all these things i.e. knowledge, technic and [illegible].

Objectives.

1) To check the abilities as sportsman.
2) To do the study of social & economic factors and its effect on the competency [illegible]
3) To study the problem of sportsman and help them to solve it as well [illegible]

Observe and explain :-

The inventor has studied the whole surrounding at Daund [illegible] of economical condition by studying these the inventor point out the following [illegible]

1. There is a lack sports facilities in many schools and colleges.
2. There is a lack of school, college of administration the lacking [illegible] related to sports.
3. There no element about the sport [illegible] and efforts done to place it [illegible]
4. No one from the society gives related information about sport.
5. The parents don't have much knowledge about sport so they don't pay attention.
6. towards various sport to rather than cricket, kabaddi, wrestling.
7. To spend money for sport equipment both the school, parent and [illegible] difficult, they consider it as an unwanted expenditure.
8. By checking the competency of sportsman the inventor find out the lack of [illegible] exercise, physical fitness, sportsman are really weak in these section, so it can an effect on their competency.
9. The sportman don't have any knowledge of various sports as well as [illegible] do any efforts to learn or archieve knowledge and information about it.
10. The practice of sports is done in the course of the [illegible] school and colleges so it can and effect on their teaching and learning process.

[illegible]

बँकेतील कर्मचाऱ्यांच्या शारीरिक व मानसिक क्षमतेचा अभ्यास

प्रा. [illegible]
शारीरिक शिक्षण संचालक
म. कि.गु. कटारिया महाविद्यालय, ता. दौंड, जि.पुणे
प्रा. राजेंद्र सुर्वेकर
शारीरिक शिक्षण संचालक, [illegible] महाविद्यालय, परभणी

सारांश : बँक कर्मचारी आपल्या दैनंदिन आयुष्यामध्ये कोणताही एक क्रीडा प्रकार आपल्या [illegible] दिवसा [illegible] शारीरिक क्षमतेमध्ये वाढ करणे, शरीर सदृढ राखणे [illegible] त्यामुळे [illegible] विविध [illegible] बँक कर्मचारी [illegible] नाही परिणामी [illegible] आरोग्य [illegible] आहे. कर्मचारी विविध [illegible] नाही. [illegible] कर्मचारी [illegible] आहेत. कर्मचाऱ्यांना [illegible] आवश्यक आहे. कर्मचारी [illegible] आहेत [illegible] व कौटुंबिक आरोग्य [illegible] आहे.

प्रास्ताविक :

बँकेतील कर्मचाऱ्यांना आधुनिक तंत्रज्ञानाचा वापर करून दैनंदिन कामकाज वेगाने पूर्ण करावे लागते. ऑनलाईन व्यवहार असल्याने त्यासाठी प्रशिक्षण देखील घ्यावे लागते. बँक कर्मचाऱ्यांना कामाचा दैनंदिन भार वाढत आहे. लोक संख्येच्या प्रमाणात सेवा देणे अत्यंत अवघड आहे. या सर्व गोष्टींचा कर्मचाऱ्यांच्या शारीरिक हालचाली [illegible] कमी होत आहे. एकाच खुर्चीवर बसून [illegible] तासाचा कामाचा [illegible] करावा लागतो. आहार व विहार यांचे अयोग्य प्रमाणात वाढ होत आहे. त्यामुळे शारीरिक व्याधींचे प्रमाण मोठ्या प्रमाणात वाढ होताना दिसते. वाढते वजन, चरबी, मधुमेह या सारखे आजार वाढत आहेत. त्यामुळे आरोग्य धोक्यात आले आहे.

आरोग्य म्हणजे शारीरिक, मानसीक, आणि सामाजिक सुस्थिती म्हणजे आरोग्य होय. या व्याख्येप्रमाणे बँक कर्मचाऱ्यांची शारीरिक व मानसिक सुस्थिती अत्यंत खालावली आहे. बँक कर्मचाऱ्यांना येत असलेल्या ताणामुळे शारीरिक व्याधी होणारी कारणे म्हणजे सिगारेट, तंबाखू, गुटखा खाणे, नशा करणे, (दारू पिणे) या सारख्या सवयी लागत आहेत. या सर्व बाबींमुळे मानसीक स्वास्थ्यावर परिणाम होताना दिसतो व परिणामी कार्यक्षमता कमी होत आहे.

कळीचे शब्द :– बँक कर्मचारी, शारीरिक क्षमता, मानसीक क्षमता.

संशोधनाची उद्दिष्टे :

1) विविध बँक कर्मचाऱ्यांच्या शारीरिक क्षमतेचा अभ्यास करणे.
2) विविध बँक कर्मचाऱ्यांच्या मानसीक क्षमता अभ्यासणे.
3) बँक कर्मचाऱ्यांच्या आरोग्य शिक्षणाबाबत माहिती तपासणे.

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TO STUDY THE PARTICIPATION OF GIRLS IN RURAL AREA IN VARIOUS SPORTS TYPE

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Abstract- The participation of girls in rural area in various type of sports is very less, their physical, mental, and psychological abilities must be increased. Their should be planned efforts for increasing it must essential. For motor fitness, their physical ability should be checked for easy improvement both in exercise and various movements. Which activity should be undertaken as well as essential for best result, the inventor has point our his own views by studying/making proper survey report.

1 INTRODUCTION

To change the attitude of girls in rural area towards sports. It is very necessary for the physical competency of girls. By finding our inferiority complex in them and suggest some solution. As well as for that both in school and college level describe its significance to check their physical ability and increase the competency level of girls for the sports easily. Increasing such ability of girls for sport is essential.

Various type sport-by the means of practice various type of sports are inevitable part of life. It should be told to them. By introducing it overall development of both girls i.e. physical and intellectual should be done. From that way we will create young as well as well personality students. In college life the participation of girls in sports is very less due to the facilities those are available in college level, so their parents do not allow them to participate in sports. They consider the time and money that they are spending for sports is involve.

For this purpose the attitude of parents must be changed. For this change efforts should be done. The government, society i.e. NGO's, social unions, Teachers etc. should come forward for bringing the change in parents attitude

1.1 Objective

1. To study participation of girls in sport both school and college level.
2. To study the facilities of sports available at school and college level.
3. To study the role of girls parents in the various type of sports participation of their girls.

2 METHODS

Survey method and using the technique of interview.

2.1 Explanation

The inventor has studied different school and colleges sport, their arrangements such as Kabaddi, Kho-Kho, Holleyballs, Athletics. In it 100m, 400m, 500m, running, Long jump, shot-put etc. Through out Daund, Baramati, Shirur, Bhor , Mavel, Velhe, Indapur etc. and came to conclusion riyaz is very less in all sports type. He point out that in various sports if we want to achieve success the role of parents is very important both father and mother too.

The mother always prevent girls for sports frequently some solution of must be find out over it. The participation of girls in various sports is less due to their phys9ical capacity which is very fatal for the future life.

Both schools and college level various society are working as per their capacity for increasing the participation of girls in sports but it is useless. Their should separate branch for providing proper facilities, A work shop programme should be launched for better result. It is an essential one.

3 CONCLUSION

1. Both the abilities of girls that is physical and mental are very low.
2. The facilities must be launched from the government level and proper workshop programme must be prepared as well as launched.
3. By studying parents attitude changes as well as solutions must be suggested.

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A REVIEW ON THE FINAL GRADE IN MATHEMATICS WITH LINEAR REGRESSION

Mrs. Namrata N. Nadgauda
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Abstract: In this paper simple and multiple linear regression model is developed to analyze and compare the final grades of students from two Universities, University "Goce Delcev" - Stip, more specifically a group of students who studied from "Mother Teresa" University in Skopje, for the subject of Mathematics. The models were based on the data of students' scores in three tests, 1st periodical exam, 2nd periodical exam and final examination. Statistical significance of the relationship between the variables has been provided. For obtaining our results some solvers like Excel and SPSS were used.
Keywords: simple linear regression, multiple linear regression, 1st periodical exam, 2nd periodical exam, final examination.

I. INTRODUCTION

Simple linear regression is a statistical method that allows us to summarize and study relationships between two continuous variables: one variable, denoted x, is regarded as the predictor, explanatory, or independent variable. The other variable, denoted y, is regarded as the response, outcome, or dependent variable

Multiple linear regression can be used to analyze data from causal-comparative, correlational, or experimental research. In addition, it provides estimates both of the magnitude and statistical significance of relationships between variables.

Multiple linear regression is one of the most widely used statistical techniques in educational research. Multiple linear regression is defined as a multivariate technique for determining the correlation between a response variable y and some combination of two or more predictor variables, X.

In [11], such a model is developed to predict anomalies of westward-moving intraseasonal precipitable water by utilizing the first through fourth powers of a time series of outgoing longwave radiation that is filtered for eastward propagation and for the temporal and spatial scales of the tropical intraseasonal oscillations. An independent and simpler compositing method is applied to show that the results of this multiple linear regression model provide better description of the actual relationships between eastward and westward moving intraseasonal modes than a regression model that includes only the linear predictor .

In [2] the application of regression models in macroeconomic analyses is emphasized. The particular situation approached is the influence of final consumption and gross investments on the evolution of Romania's Gross Domestic Product.

II. SIMPLE AND MULTIPLE LINEAR REGRESSION MODEL

A simple linear regression is carried out to estimate the relationship between a dependent variable, y, and a single explanatory variable, x, given a set of data that includes observations for both of these variables for a particular population.

Model form is:

$$y=\beta_0+\beta_1 x+\varepsilon \quad (1)$$

where β's denote the population regression coefficients, and ε is a random error.

A multiple linear regression analysis is carried out to predict the values of a dependent variable, y, given a set of k explanatory variables (x1, x2,....,xk).

Model form is:

$$y=\beta_0+\beta_1 x_1+\beta_2 x_2+\ldots+\beta_k x_k+\varepsilon \quad (2)$$

where β's denote the population regression coefficients, and ε is a random error.

Excel and SPSS regression computer programs were used to determine the regression coefficients and analyse the data.

III. PROBLEM AND OBJECT OF STUDY

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SOIL FUNGI ASSOCIATION AND MINERAL ANALYSIS OF MOSSES FROM WESTERN GHATS OF MAHARASHTRA, INDIA

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ABSTRACT

Present attempt emphasizes on report of fungi from rhizosphere soil of *Funaria hygrometrica* Hedw, *Macromitrium sulcatum* Brid, *Brachymentum turgidum* Broth, *Bryum coronatum* Schwaegr, *Hyophila involuta* (Hook.) Jaeg. from Western Ghats of Maharashtra. Seven fungal genera like *Aspergillus niger* Tiegh, *Penicillium islandium* Sopp, *Glomus fasciculatum* (Thaxt.) Gerd and Trappe emend. C. Walker and Koske, *Rhizopus stolonifer* (Ehrenb.) Vuill, *Aspergillus fumigatus* Fresen. Beitr. *Candida albicans* (C.P. Robin) Berkhout, *Penicillium chrysogenum* Thom, *Trichoderma citrinoviride* Bisset, *Fusarium oxysporum* Schlecht, *Aspergillus flavus* Link, *Aspergillus unguis* (Weil and L. Gaudin) Thom and Raper, *Penicillium aurantiogriseum* Dierckx, were reported by serial dilution method from rhizosphere soils. The major elements like N, P, K, Ca, Mg, S, Na and minor elements like Fe, Mn, Cu, Zn were isolated from rhizosphere soils. The accumulation of different macro and micronutrient elements in rhizosphere soils varies from species to species. N and Fe concentration was comparatively higher in soil supporting all moss species and the nutrient elements determined in *Hyophila involuta* is maximum as compared to soil supporting other moss species with few exceptions.

KEYWORDS: Isolation of fungi, Mineral elements analysis, Rhizosphere soil, Mosses, Western Ghats, Maharashtra, India.

INTRODUCTION

The role of bryophytes in nutrient uptake within ecosystems is generally ignored because of their small structure. Weetman and Timmer (1967) showed that the common feather moss *Pleurozium schreberi* (Brid.) Mitt. in a black spruce (*Picea mariana* (Mill.) Britton, Sterns and Poggenburg) forest took up only 23-53% of the N, P, K, and Mg taken up by trees. Kamal and Singh (1970) observed rhizosphere mycoflora of some bryophytes and vesicular arbuscular mycorrhizal fungi study of three mosses like *Sphagnum cymbifolium*, *Polytrichum communae* and *Funaria hygrometrica* (Iqbal et al. 1988). Gjengedal and Steinnes (1990) considered Na^{+} and Mg^{++} in the precipitation may occupy exchange sites and affect the uptake of other ions by this competition and uptake of Zn and Cd were pH dependent increasing temperatures uptake for all four of the metals tested as Ca, Cu, Pb, and Zn. Mycoflora of rhizosphere influence the growth of bryophytes (Tapwal et al. 2004). Studies on fungal association of liverworts and mineral element analysis done in rhizosphere soils of mosses from Western Ghats of Maharashtra. (Kashid and Chavan, 2013).

MATERIAL AND METHODS

The collection of mosses were done from five different localities as Aundh, Sinhagad, Kas pathar (Satara), Lonawala and Mahabaleshwar. The collection of mosses were done along with their rhizosphere soil during the period of July, 2016 to October, 2016 and in July, 2017 to October, 2017.The collected specimens were brought in the laboratory of Department of Botany, Tuljaram Chaturchand College, Baramati, Dist-Pune 413102 and rinsed, cleaned, dried and stored in paper bags at room temperature. Rhizosphere soils of moss species were used for isolation of soil fungi by serial dilution method. In this method 1 gm. rhizosphere soil dispersed in 9 ml sterile water, 1ml of this transfer to second tube containing 9 ml sterile water resulting in 0.01 dilution of the spore mass in the original material the process repeated to yield dilution 0.01, 0.001, 0.0001, 0.00001 or even further if necessary. 1 ml portion from each dilution pipette to a separate test tube. Concentration ranges 10^{-1}, 10^{-2}, 10^{-3}, 10^{-4}, 10^{-5}, likewise 1:10, 1:100, 1:1000, 1: 10,000, 1:1,00,000. Czapek- Dox Agar (CDA) Inoculated plates kept in incubation chamber for 5 to 07days for incubation. During the incubation period

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A STUDY ON P-TRANSFORM OF MULTIVARIABLE POLYNOMIALS

Mrs. Namrata N. Nadgauda
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Abstract In the present paper, the author istoderive the P-transform of Multivariable H-function and general polynomials.P-transform is useful in reaction theory in astrophysics. P-transform is generalization of many integral transforms, Multivariable H-function and general Multivariable polynomials are general in nature. These results discussed here can be used to investigate wide class of new and known results, hitherto scattered in the literature. For the sake of illustration, some special case have also been mentioned here of our finding.

Keywords: P-transform, general class of multivariable polynomials.

I. INTRODUCTION

The P-transform is defined and represented in Kumar and Kilbas [1] as

$$(\mathcal{P}_{\tau}^{\rho,\mu,\beta} f)(x) = \int_0^{\infty} D_{\rho,\mu}^{\tau,\beta}(xt) dt, x > 0 \quad (1.1)$$

where $D_{\rho,\mu}^{\tau,\beta}(x)$ represents the kernel-function

$$D_{\rho,\mu}^{\tau,\beta}(x) = \int_0^{\infty} y^{\tau-1} |1-\alpha(1-\beta)y^{\rho}|^{\frac{\mu}{1-\beta}} e^{-xy^{-\rho}} dy, \quad x > 0, \quad (1.2)$$

with $\tau \in \mathbb{C}, \mu > 0, \rho > 0, \alpha > 0, \beta < 1$, when $D_{\rho,\beta}^{\tau,\beta}(x)$ is given by (1.2), P-transform is called type-1 Ptransform. If we use

$$D_{\rho,\beta}^{\tau,\beta}(x) = \int_0^{\infty} y^{\tau-1} |1-\alpha(\beta-1)y^{\rho}|^{\frac{\mu}{\beta-1}} e^{-xy^{-\rho}} dy, \quad x > 0, \quad (1.3)$$

For $\tau \in \mathbb{C}$, $\mu > 0$, $\rho > R$, $\alpha > 0$, $\beta > 1$, On (1. 1) At that point we acquire a type-2 P-transform. Those P-transform about both sorts are characterized in the space $L_{\tau,r}$ $(0, \infty)$ comprising of the Lebesgue measurable unpredictable esteemed works f . for which.

$$\| f \|_{\tau,r} = \left\{ \int_0^{\infty} |t^{\tau} f(t)|^r \frac{dt}{t} \right\}^{\frac{1}{r}} < \infty, \quad (1.4)$$

for $1 \le r < \infty$, $\tau \in R$. The P-transform of both the types is obtained by using the pathway model of Mathai [5], Mathai and Haubold [6]. If $\mu = 1$, $\alpha = 1$, $\beta \to 1$, we have

$$\lim_{\beta \to 1} D_{\rho,1}^{\tau,\beta}(x) = Z_{\rho}^{\tau}(x) \quad (1.5)$$

where $Z_{\rho}^{\tau}(x)$ is the kernel function of theKrätzel transform, introduced by Krätzel [12] and given by (1.5)

$$K_{\rho}^{\tau}(x) = \int_0^{\infty} Z_{\rho}^{\tau}(xt) f(t) dt, \quad x > 0 \quad (1.6)$$

where

$$Z_{\rho}^{\tau}(x) = \int_0^{\infty} y^{\tau-1} e^{-y^{\rho} - xy^{-1}} dy \quad (1.7)$$

The transform in (1.6) and its several modifications were considered by many authors. Glaeske et al. [14] considered a generalized version of the Krätzel transform and its compositions with fractional calculus operators on the spaces of $F_{p,\delta}$ and $F'_{p,\delta}$ Bonilla et al. [7, 8] studies the Krätzel transform in the spaces $F_{p,\delta}$ and $F'_{p,\delta}$ Kilbas et al. [2] obtained the asymptotic representation for the modified Kratzel function. Klibas et al. [3] studied the Krätzel function in (1.7) for all values of ρ and established it in the terms of Fox's H-function, when $\mu = 1$, $\rho = 1$, $\alpha = 1$, *and* $\beta \to 1$P-transform of both types reduces to the Meijer transform. For $\mu = 1$, $\rho = 1$, $\alpha = 1$, *and* $\beta \to 1$, along with x replaced by $\frac{t^{\rho}}{4}$ in (1.2) and (1.3), we get

$$\lim_{\beta \to 1} D_{\rho,1}^{\tau,\beta}(x) = Z_{\rho}^{\tau}(x) \quad (1.8)$$

where$K-\tau$ t is modified Bessel function of the third kind or the Mc-Donald function (see [4], sect. 7.2.2). Kilbas and Kumar [1] considered (1.3) for $\mu = 1$ and established its composition with fractional operators and represented it in terms of various generalized special functions.

The H-function of several complex variables, defined H. M. Srivastava and R. Panda [10], we will define and represent it

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INDEX

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डिजिटल इंडिया' अभियानाचा भारतीय अर्थव्यवस्थेवर झालेला परिणाम

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गोषवारा (Abstruct) :–

प्रधानमंत्री नरेंद्र मोदी यांच्याद्वारे १ जुलै २०१५ रोजी नवी दिल्ली येथील इंदिरा गांधी इनडोअर स्टेडियमवरून डिजिटल इंडिया कार्यक्रमाची घोषणा करण्यात आली. डिजिटल इंडिया भारत सरकारचा एक उपक्रम आहे. ज्या अंतर्गत सरकारी विभाग देशातील जनतेशी जोडला जाईल. या अभियाना बाबत जन जागृती करण्यासाठी देशाच्या ३६ राज्यांत आणि ६०० जिल्ह्यांत विविध कार्यक्रम घेण्यात आले. तसेच सर्व महाविद्यालये व उच्चशिक्षण संस्थाना 'डिजिटल इंडिया सप्ताह' साजरा करण्याची सुचना देण्यात आले.

डिजिटल इंडिया भारत सरकारने घेतलेला एक पुढाकार आहे. ज्यामध्ये सरकारी विभागांना देशातील सर्वसामान्य लोकांना जोडने आहे. याचा उद्देश हे निश्चित करणे आहे. की कागदाचा वापर न करता सरकारी सेवा इलेक्ट्रॉनिक स्वरूपात लोकांपर्यंत पोहचवणे आहे. या योजनेचा उद्देश ग्रामीण भाग हाईस्पीड इंटरनेटच्या माध्यमातुन जोडने आहे. या डिजिटल इंडियाचे मुख्य तीन उद्दिष्ट आहे. प्रत्येक नागरिकांसाठी डिजिटल सोयी–सुविधा, मागणीप्रमाणे प्रशासन आणि सुविधांचा पुरवठा, नागरिकांचे डिजिटल सबलीकरण.

कळीचे शब्द (Keywords) – डिजिटल इंडिया, माहिती तंत्रज्ञान, ई–क्रांती, ई–शासन, ई–शिक्षण, ई–बँकिंग

प्रस्तावना (Introduction) –

प्रधानमंत्री नरेंद्र मोदी यांच्या द्वारे सुरू करण्यात आलेल्या डिजिटल इंडिया' अभियानामार्फत सरकारचा देशाला एक माहिती तंत्रज्ञानावर आधारित सशक्त अर्थसत्ता बनवण्याचा प्रयत्न आहे. यामध्ये डिजिटल लॉकर, ई शिक्षण ई आरोग्य,ई–साईन, ई–न्यायालय आणि नॅशनल स्कॉलरशिप पोर्टल या सारख्या १ लाख कोटी रुपयांहून अधिक किमतीच्या योजना आहेत. ११ राज्यात भारतनेट आणि नेक्स्ट जनरेशन नेटवर्क योजना राबवली जाणार आहे. नागरिकाना सरकारी सुविधांचा आणि योजनांचा लाभ घेता यावा. यासाठी डिजिटल तंत्रज्ञानाचा वापर केला जाणार आहे.

अभ्यासाची उद्दिष्टे (Objectives of the study) –

१. डिजिटल इंडिया अभियानाचे उद्देश अभ्यासणे
२. डिजिटल इंडिया अभियानाचे भारतीय अर्थव्यवस्थेवर झालेले परिणाम अभ्यासणे.

संशोधन पध्दती (Research Methodology) –

प्रस्तुत सोध निबंधासाठी प्रामुख्याने द्वितीय स्त्रोताद्वारे प्राप्त झालेल्या माहिती व आकडेवारीचा वापर केला आहे. यासाठी विविध संदर्भग्रंथ,नियतकालिके,वर्तमान पत्रातील लेख, विविध संकेत स्थळ या स्त्रोतांमधून माहिती संकलित करण्यात आली आहे.

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PRELIMINARY PHYTOCHEMICAL ANALYSIS AND CHARACTERIZATION OF *BRYUM CORONATUM* SCHWAGER

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ABSTRACT

The present investigation was focused on the preliminary phytochemical and Fourier Transform Infrared Spectral analysis of *Bryum coronatum* Schwager. The organic solvent extracts (ethanol) from the aerial part of *Bryum coronatum* were tested for the availability of alkaloids, phenols, flavonoids, saponins, steroids, tannins and terpenoids and glycosides. Flavonoids and steroids detected from moss species have commercial interest in pharmaceuticals companies for the manufacturing of the new drugs for treatment of various diseases. The FT-IR spectrum showed the presence of alcohols, nitrite group, carbonyl groups, phenolic esters, ethers, aromatic compounds, alkyl halides and alkene. In GC-MS analysis twenty different compounds were detected. The results confirm the fact that this moss posses' important bioactive constituents useful for our health so further scientific investigation is needed.

KEYWORDS: *Bryum coronatum*, FT-IR, GC-MS analysis, Bioactive constituents.

INTRODUCTION

Mosses belong to class Bryophyta, which earlier also includes hornworts and liverworts but now hornworts and liverworts are separate divisions. Mosses are an advanced class of bryophytes which includes about 17,000 species of 900 genera and 89 families of 4 orders under 3 subclasses distributed in the world (Richardson, 1981). Many microbiologists and botanists have documented the presence of biologically active compounds and antibiotic substances in bryophytes such as glycosides, phenols, terpenoids, and fatty acids (Banerjee and Sen, 1979, Glime and Saxena 1991, Zhu *et al.*, 2006 and Sabovljevic *et al.*, 2009). They contain several potential compounds including polysaccharides, amino acids, sugars, alcohols and phenolic compounds (Pant and Tiwari 1990). The constituents that have been isolated from *Hypnum cupressiforme* are, biflavonoids, hypnogenols and dihydroflavonols. Some of these flavonoids were revealed to have marked antibacterial effects (Dulger *et al.*, 2005). Phenolic, Terpenoids and volatile constituents have also been scrutinized in some bryophytes. Many of the terpenoids were isolated and described mainly from liverworts (Saritas, 2001).

Asakawa (1981, 1984) stated that the presence of lipophilic aromatic compounds and terpenoids in liverworts as potent source of antibiotics. By using Gas Chromatography and Mass Spectroscopy (GC-MS) techniques compounds like monoterpenoids, sesquiterpenoids, diterpenoids, bicarbocyclic diterpenoids, triterpenoids, phenolic compounds, sterols, flavonoids, and fatty acids can be found out (Banerjee, 2001). Wankhede and Manik, (2005) trace the possible chemical compounds from crude methanolic extract of *Plagiochasma appendiculatum* by Gas Chromatography and Mass Spectroscopic analysis. They revealed the presence of compounds like Caryophyllene, 3, 7, 11, 15-Tetramethyl-2-hexadecen-1-ol, n-Hexadecanoic acid, Phytol, Hexacosane and Henicosane.

MATERIAL AND METHODS

1. Collection of plant material: The different moss species *Bryum coronatum* collected from various localities such as Purandar, Lonawala, Sinhagad, Kaas Plateau and Koynanagar during from moist shady places in rainy season. Before evaluation, material has cleaned along with water and used for analysis.

2. Qualitative test for phytochemical analysis: The collected moss were properly washed and dried. After drying it was used for extract preparation. The plant material weighted was grinded in mortar and pestle with equal amount methanol till the formation of fine paste and left for overnight, then it was filtered. This filtrate was used as (100%) crude extract. The freshly prepared extract was used for standard phytochemical analysis to

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Original Article

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Antifungal and antibacterial activity of some mosses from Maharashtra, India.

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ABSTRACT

In this study, the antifungal and antibacterial effect of 5 different mosses were tested in vitro against 4 bacterial and 4 fungal strains. For the extraction, methanol, ethanol, and water were used as solvents. The highest antimicrobial effect was seen in methanol extracts, and lowest level of antimicrobial effect was seen in aqueous extracts. *Bryum coronatum Schwaegr and Steeriophyllum anceps* (Bosch .et Lac.) mosses showed the highest activity. The results showed that *Trichoderma viride* and *Penicillium notatum* were found to be more sensitive than the other test strains like *Aspergillus niger* Tiegh and *Fusarium oxysporum* Schlecht. *Staphylococcus aureus strain* was sensitive against *Steeriophyllum anceps* (Bosch .Et Lac.), extracts, and resistant against *Bryum coronatum* Schwaegr and *Hypnum reflexum F.E. Tripp* extracts. *Escherichia coli* was resistant against *Hyophila involuta* (Hook.) Jaeg .Methanolic extract of *Macromitrium sulcatum* (Hook.) Brid and *Bryum coronatum* Schwaegr shows maximum zone of inhibition against all tested bacteria. All the results were compared with standard antibiotic discs viz. Nastatin (10 µg) and ampicillin (10 µg).

Key words: Moss, antimicrobial effect, disc diffusion assay.

INTRODUCTION

Bryophytes are the oldest known land plants in the world. They are also called as plant amphibians of the plant kingdom. They are placed taxonomically between algae and pteridophytes. They are distributed further into three classes, Hepaticae (liverworts, 6000 species), Anthocerotae (hornworts, 300 species) and Musci (mosses, 14 000 species). Based on the morphological characters (branching patterns and location of sexual organs), the mosses has been divided into two major groups as acrocarpous mosses and pleurocarpous mosses. Many bryophytes exhibit antimicrobial effects against fungi and bacteria (Basile *et al.*, 1999; Frahm and Kirchhoff, 2002; Ilhan *et al.*, 2006; Sabovljevic *et al.*, 2006; Subhisha and Subramoniam, 2005; Bodade *et al.*, 2008; Dulger *et al.*, 2009).

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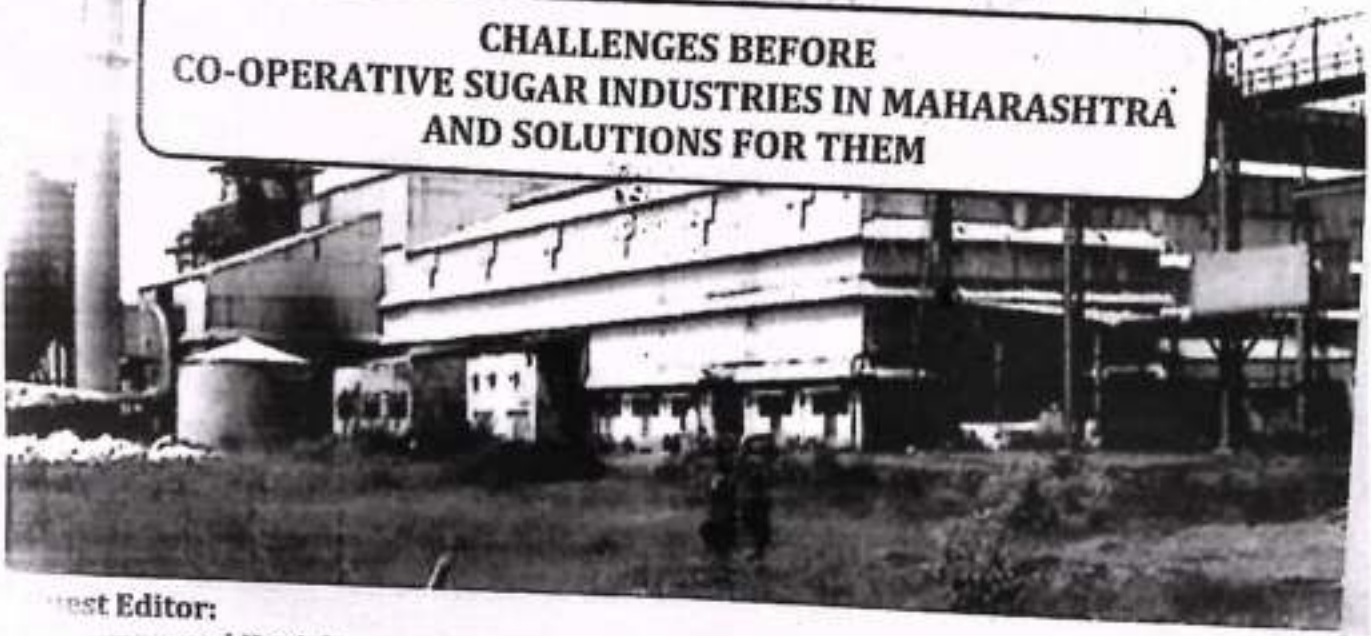

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महाराष्ट्रातील सहकारी साखर कारखानदारी पुढील आव्हाने व उपाययोजना

प्रा. डॉ. जयश्री हनुमंतराव लोहगांवकर
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गोषवारा (Abstruct) :–

महाराष्ट्राच्या आर्थिक विकासात सहकारी साखर कारखानदारीस अतिशय महत्वाचे स्थान आहे. १९४९ मध्ये सहकारी साखर कारखानदारीच्या लावलेल्या रोपटयाचे नंतरच्या काळात वटवृक्षात रूपांतर झाले आहे. राज्याच्या सहकारी साखर कारखानदारीच्या विकासात महाराष्ट्राचे पहिले मुख्यमंत्री यशवंतराव चव्हाण, डॉ. कर्मवीर भाऊराव पाटील,वसंतदादा पाटील,रत्नाप्पा कुंभार, तात्यासाहेब कोरे,गो.रू.गोरखे,विठ्ठलदास ठाकरसी न.चि. केळकर,जी.के.देवधर,चुनीलाल मेहता,वैकुंठभाई मेहता,विठ्ठलराव विखे पाटील,शरद पवार यांनी मोठा हातभार लावलेला आहे.अशा धुरंधर व सहकारी नेतृत्वामुळेच महाराष्ट्राची सहकारी चळवळ अधिक विकसित होऊन या चळवळीने देशात पहिला क्रमांक मिळविला आहे.

गुरुचे शब्द (Keywords) –

महाराष्ट्रातील सहकारी साखर कारखानदारी पुढील आव्हाने, ग्रामीण अर्थकारणात महत्वाची भूमीका, सहकारी साखर कारखानदारी पुढील आव्हाने सोडविण्यासाठी उपाययोजना

प्रस्तावना (Introduction) – भारतातील अनेक उद्योगामध्ये साखर उद्योग हा सर्वात जुना आणि विशाल उद्योग आहे. या उद्योगाने भारतातील औद्योगिक क्षेत्रात आपले स्वतंत्र स्थान निर्माण केले आहे. अश्या देशातील साखर उत्पादनात सहकारी साखर कारखान्यांची मक्तेदारी निर्माण झाली आहे. सध्या देशातील २५२ सहकारी साखर कारखान्या पैकी १८८ सहकारी साखर कारखाने महाराष्ट्रात असून या सहकारी साखर कारखान्यांची स्थापना सहकार तत्वानुसार केली जाते. साधारणपणे ग्रामीण भागातील काही लोक सहकार तत्वावर एकत्र येऊन उद्योग निर्माण करतात. सहकार हे एक असे संघटन आहे की ज्यात व्यक्ति मानवाच्या रूपात समानतेच्या आधारावर आपल्या आर्थिक हिताच्या पुर्ततेसाठी स्वेच्छेने सहकार्य करतात. सहकार माध्यमातुन स्वत:च स्वत:चा विकास करतात.

सहकारी कारखान्यामुळे प्रत्यक्ष रोजगाराबरोबरच विविध व्यवसायांच्या माध्यमातुन मोठया प्रमाणात रोजगार निर्मिती झालेली आहे. म्हणुन राज्यात मोठया प्रमाणावर रोजगार मिळवुन देणारा व ग्रामीण विकासाला हातभार लावणारा उद्योग म्हणुन सहकारी साखर कारखानदारीस महत्वाचे स्थान प्राप्त झाले आहे. राज्यातील अनेक सहकारी साखर कारखान्यांनी आपल्या परिसरात रस्ते बांधणी, बंधारे बांधणे, जलसिंचन योजना, पाणी पुरवठा स्थापन मोफत आरोग्य शिबिरे राबवणे काही साखर कारखान्यांनी प्राथमिक शिक्षणापासुन महाविद्यालयीन शिक्षणाच्या सुविधा उपलब्ध करून दिलेल्या आहेत, सभासद शेतकऱ्यांच्या पाल्यांना परदेशात उच्च शिक्षणासाठी आर्थिक मदत करणे शेतकऱ्यांना दर्जेदार बी–बियाणे, शेती अवजारे उपलब्ध करून दिले आहे, सामुहिक विवाह सोहळे राबविणे इत्यादी योजना राबवुन आर्थिक आणि सामाजिक विकासात महत्वाची भूमीका

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This is to certify that

Prof. (Mrs.) Namrata N. Nadgauda

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AN ANALYTICAL RESEARCH ON OPERATION RESEARCH- LINEAR PROGRAMMING PROBLEMS WITH SOLUTIONS

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Abstract- It is remarkable that replies to entire number modifying issues Likewise a standard can't be obtained by essentially understanding the relating straight modifying incoming up. There are, be that as it may, instances about amount modifying issues whose game plans could make procured Eventually Tom's perusing basically handling those straight system Furthermore ignoring the entirety amount necessities. Demonstrating that these particular models have this trademark is to those The majority a feature previous the degree of a beginning span done exercises research. In this paper a number modifying model, for recently two imperatives, is presented whose course of action could a chance to be authentically obtained using those standard simplex strategy. An verification may be provided for that makes an affiliation Around examination Also errands investigate.
Keyword:- OPERATION RESEARCH, LINEAR PROGRAMMING PROBLEMS.

1. INTRODUCTION

With expanding level about specialization Also intricacy previously, an association. Allotment for assets the middle of different parts of it so as should accomplish most extreme effectiveness in the association is All the more was troublesome. Investigated in place with fathom these issues needed off furnished foundation to advancement operational investigate. (9) operations research or operations research Likewise it stands will be called alternately interdisciplinary limb from claiming mathematics, the patterns for example, such that scientific programming, Factual algorithm employments the streamlining issue is on find those ideal purpose.

The problem of finding the optimal point of different concepts and is used in decision-making. Operations research on issues maximization (maximizing) such interest rate production line, producing more crops, more and more bandwidth or minimizing such as lower costs, reduce risk, etc.) Using one or more specified focus. The main idea operations Research find the best answers to complex issues that are mathematically modeling the system performance can be improved or optimized. (4)

Research in industrial operations in the United Kingdom and the United States developed in different directions. Great Britain nationalized a number of industries in areas prone to applying operations research to create. Economic conditions resulting from the application of pressure leads to state in planning operations and socio-economic planning. (2)

2. DEFINITION OF OPERATIONS RESEARCH

Meaning of the operations research culture of incredible Britain: operations research will be those mind boggling issues emerging in the requisition for exploratory techniques to lead wrist binding's substantial systems, including human, machines, materials and cash in industry, business, and legislature guard. Separated approach, operations Research, improvement of a exploratory model of the framework will measure factors for example, such that luckiness danger to foresee analyze the results of decisions, methodologies alternately controls is displaced.

The goal is to help management determine the scientific basis for policy and action. (15)

- **Definition of U.S. Society of the Operations Research:-** Operations research is a scientific approach to decision making. Operations Research is the scientific decisions to achieve the best design and operation of the system, usually in the context of limited resources is also required. (13)
- **History of Operations Research:-** The general philosophy of research and development operations include three phases are as follows:-
- **Before World War II:-** In the past, research and development are often limited to specific routes have been separated. Only one or two factors were considered

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nature research

Novel approach to synthesize $NiCo_2S_4$ composite for high-performance supercapacitor application with different molar ratio of Ni and Co

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Here, we developed a new approach to synthesize $NiCo_2S_4$ thin films for supercapacitor application using the successive ionic layer adsorption and reaction (SILAR) method on Ni mesh with different molar ratios of Ni and Co precursors. The five different $NiCo_2S_4$ electrodes affect the electrochemical performance of the supercapacitor. The $NiCo_2S_4$ thin films demonstrate superior supercapacitance performance with a significantly higher specific capacitance of 1427 $F g^{-1}$ at a scan rate of 20 $mV s^{-1}$. These results indicate that ternary $NiCo_2S_4$ thin films are more effective electrodes compared to binary metal oxides and metal sulfides.

The development of sustainable electrochemical energy conversion methods and storage has sparked the interest of researchers aiming to produce devices that offer high power output, a long lifetime, and a short charging time to meet the increasing demand for power in daily life[1,2]. Supercapacitors have emerged as a promising energy storage device in this respect, with outstanding properties that include a high power density, a long cycle life, short response, rapid charging times, moderate energy density, modest maintenance requirements, and safe operation[3–5]. However, existing supercapacitor electrodes are mainly composed of activated carbon, binders, and conductivity enhancers, thus it is difficult to develop simple, lightweight supercapacitors. In general, supercapacitor performance depends mainly on the properties of the materials and synthesis methods used. Besides, carbon-based materials such as activated carbon, carbon nanotubes, and graphene exhibit low capacitance due to their surface dominant electrochemical double-layer storage mechanism[6].

In recent years, significant research progress has been made on improving supercapacitor performance via the fabrication of nickel-cobalt-sulfide nanostructured electrode materials due to their higher electronic conductivity, strong redox reactions, high theoretical capacity, high cycling stability, variable oxidation states, environmental benign nature, easy and low preparation cost[7]. Nanomaterial composed of ternary metal sulfides with various structural morphologies have been applied as high performance pseudo supercapacitor electrodes, such as nanosheets arrays[8], nanotubes[9], nanorods[10], urchins[11], nanosheets[12], hallow spheres[13,14], nano-buds[15], and flowers[16]. Ternary sulfides such as nickel cobalt sulfides have unique physical, chemical, and electrochemical properties,

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Compost Soil Microbial Fuel Cell to Generate Power using Urea as Fuel

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The acute problem of eŭtrophication increasing in the environment is due to the increase of industrial wastewater, synthetic nitrogen, urine, and urea. This pollutes groundwater, soil and creates a danger to aquatic life. Therefore, it is advantageous to use these waste materials in the form of urea as fuel to generate power using Microbial Fuel Cell (MFC). In this work, we studied the compost soil MFC(CSMFC) unlike typical MFC with urea from the compost as fuel and graphite as a functional electrode. The electrochemical techniques such as Cyclic Voltammetry, Chronoamperometry are used to characterise CSMFC. It is observed that the CSMFC in which the compost consists of urea concertation of 0.5 g/ml produces maximum power. Moreover, IV measurement is carried out using polarization curves in order to study its sustainability and scalability. Bacterial studies were also playing a significant role in power generation. The sustainability study revealed that urea is consumed in CSMFC to generate power. This study confirmed that urea has a profound effect on the power generation from the CSMFC. Our focus is to get power from the soil processes in future by using waste like urine, industrial wastewater, which contains much amount of urea.

The rapid increase in power consumption and various environmental issues have compelled the research community to identify new sources of renewable energy. It is pertinent to discover new renewable resources[1–3]. In this pursuit, energy storage devices such as fuel cells, which are mostly powered by organic compounds, can be useful tools. Urea Fuel cells available in the liquid state are not sustainable and portable[4]. However, in soil-based Microbial Fuel Cell (MFC) use natural bacteria or secreted enzymes to break down the fuel, typically to generate electricity from the soil. In MFCs, bacteria and enzymes to act as biocatalysts to produce electricity[5–7]. Until now the reported liquid state MFCs associated with safety concerns mainly related to toxicity, shifting, leakage, handling and degrading fastly in the liquid state. Moreover, additional precautions are needed to prevent exposure to gaseous NH_3 due to volatilisation of the liquid fuel. Therefore, the solid-state materials like soil compost are preferred to overcome the risk, as mentioned above for stable behaviour.

Among element of urine, urea is a suitable fuel for MFCs. It is an advantage for the soil-based system to go through the natural processes by following nitrification and denitrification in the nitrogen cycle by ammonification to nitrogen (N_2) formation in soil[8]. The soil itself is a source of many bacteria and microorganisms in aerobic and anaerobic forms[9,10]. Urea and ammonium are sources of nitrogen, and the density of urea is higher as compared to other nitrogen sources[11,12]. Urea when comes in contact with the soil while hydrolysis releases urease enzymes working as a catalyst with bacteria. Therefore, soil systems can be a neutral medium to transport electrons and protons easily in an eco-friendly medium for power generation and maintain the ph level for the proper working of the MFC[13–15]. Power generation from urea as fuel is shallow in the liquid state, as shown in various studies done previously[16–18]. However, there is no other technology at present, which can generate electricity from a soil-based MFC, using urea as fuel in compost. The conventional electrodes, like gold, platinum, and palladium-based catalysts, routinely used in the fuel cell industry, are expensive. In comparison, graphite electrodes are cheaper and stable; moreover, it is an excellent electron collector for MFCs. It is a purely microbial system the soil itself works as separator, mediator, and ionic conductor to promote electron and protons in the device[19–23]. It is noted that this is an entirely soil-based system, which we are analysed first-time using compost

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Variation in chemical bath pH and the corresponding precursor concentration for optimizing the optical, structural and morphological properties of ZnO thin films

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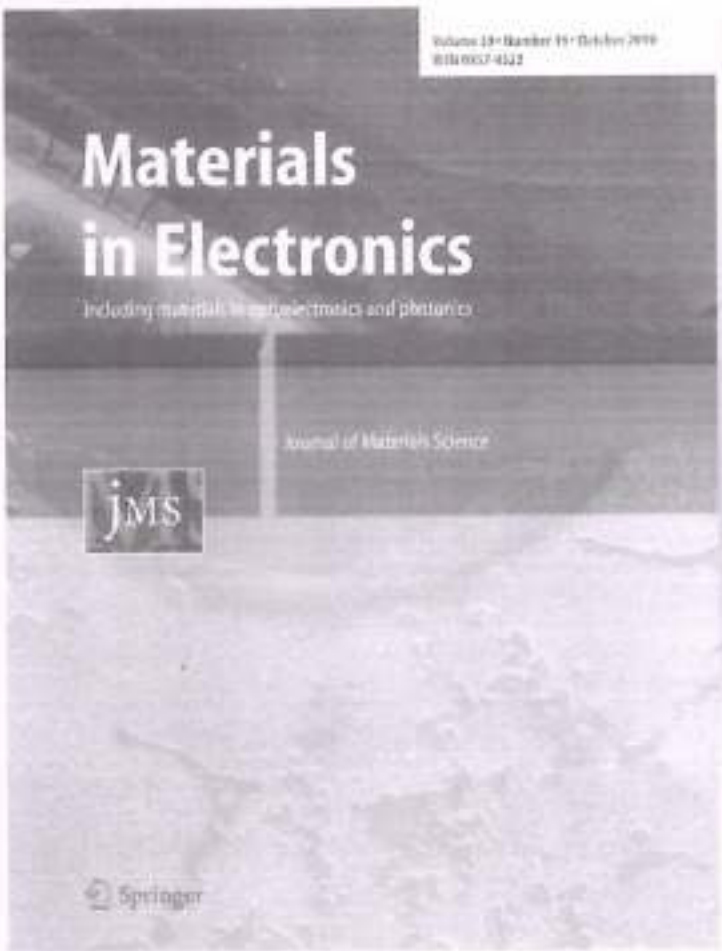

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Variation in chemical bath pH and the corresponding precursor concentration for optimizing the optical, structural and morphological properties of ZnO thin films

Sunil Kumar[1] · H. C. Jeon[1] · T. W. Kang[1] · Rajni Seth[2] · Sanjay Panwar[3] · Surendra K. Shinde[4] · D. P. Waghmode[5] · Rijuta Ganesh Saratale[6] · Ravi Kant Choubey[7]

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Abstract
In the present study, ZnO thin films were deposited by chemical bath deposition carried out by selective correlation of varying (i) pH values at fixed concentration and (ii) concentration of the precursors at fixed pH. The selective correlations were done by using the characterization tools like X-ray diffraction, scanning electron microscopy, transmittance, refractive index, dielectric constant, Fourier-transform infrared spectroscopy and IV measurements. Transmittance was found to increase from 57 to 87% on varying the pH from basic side (10.8) to acidic side (pH 6.8) with a blue shift in band gap. The nature and morphology of the deposited films were found to be dependent on pH as well as concentration. Acidic pH 5.0 was found to be most suitable for deposition of highly transparent film with low absorption coefficient, refractive index and dielectric constant. On the other hand, nearly complete coverage of the substrate and high purity was observed in the ZnO thin films which was deposited by taking equal 100 mM concentration of $Zn(NO_3)$ and HMTA precursors at a fixed pH 5.0 as desired, sheet resistance was also found to increase on the acidic pH side which is useful in case of buffer layer solar cell application. These studies lay a foundation stone for understanding the optical and morphological parameters by selectively correlating the pH and concentration variation at the same time.

1 Introduction

Zinc oxide (ZnO) is a wide bandgap semiconducting material with unique chemical, optical and electrical properties. It has attracted considerable attention due to its various applications such as gas sensor [1], solar cell materials [2], antimicrobial materials [3, 4], optoelectronics devices [5, 6] and several other important applications [7]. These films are widely used as conductive and optical cover layers of large area solar cells [8, 9]. Different methodologies have been reported by several groups for deposition of ZnO nanostructures [10, 11]. Wet chemical techniques [12], physical vapor deposition [13], metal organic chemical vapor deposition (MOCVD) [14], pulsed laser deposition [15], molecular beam epitaxy (MBE) [16], sputtering [17], electrospinning [18] etc. are few common techniques. Most of these techniques are performed at high temperature and require expensive instrumentation. Wet chemical methods are comparatively simple, less expensive and reliable method.

Chemical bath deposition (CBD) is a low temperature wet chemical technique being widely used for the deposition of ZnO thin film buffer layers [19, 20]. It is a simple technique,

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Original Article

SOME LESS COMMON INDIGENOUS HERBAL REMEDIES AGAINST HEADACHE IN GUPTESHWAR HILLS OF DAUND TAHASIL PUNE DISTRCIT (M.S.) INDIA

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ABSTRACT

An extensive field surveys were arranged in Gupteshwar hills areas to document the ethno-medicinal information regarding the use of wild and endemic ethno-flora against headache. The information presented here, is being collected from the native inhabitant's community through verbal communications in an informal way during the period from pre-monsoon 2010 to the post-monsoon 2012. The paper focuses on the ethno-medicinal uses of 22 plant species belonging to 21 genera from 17 families used for curing headache by the native inhabitants.

KEYWORDS: Herbal Remedy, Gupteshwar Hills, Traditional Knowledge

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INTRODUCTION

Traditional ethno-botanical information has played a key role in the discovery of the recent herbal drugs, particularly when the literature and the orally transmitted data was not properly evaluated. Ethnic, tribal and aboriginal populace residing in the forests, hamlets and villages have been remained dependant mainly on plant resources as a source of food or as a herbal drugs which is transmitted to them verbally from their forefathers. Ethno-botanical as well as ethno-pharmaceutical information has found to be one of the most reliable approaches for discovery of several medicinally active herbal compounds. Most of the ancient traditions and cultures are eroding fastly day by days and year after years as they are mostly oral in India. Therefore, effort should be made for the documentation and digitalization of medicinally important wild plants and the traditional knowledge associated with their herbal use. According to World Health Organization, about 65–80% world's population in developing countries, depend upon the plants for primary healthcare due to the poverty and lack of access to modern medicine.

Use of these plants and their parts had contributed so much to the field of traditional medicinal science by fulfilling the social and cultural needs of the rural, aboriginal and tribal people. These plants based herbal drugs are affordable, more effective and easily available in the market and are manufactured with the traditional eco-friendly methods. They can work selectively and gently without disturbing the other system as compared to modern synthetic drugs.

STUDY AREA

Gupteshwar hills is famous for the rich ethno-floristic diversity. It is located towards west side 5 km of the Daund city. Geographically this region extent from 180 18 ' to 180 41' north latitude and 740 07' t0 740 51' east longitude. Geographically area of the study region is 225 hectors according to 2011 census. The dry mixed deciduous forest pocket covers the board western part of the area. It has remained inhabited to certain extent by the native inhabitants for specific needs including headache cures.

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Full Length Research Paper

Studies on ethnomedicinal plant diversity at daund tehsil, Pune, Maharashtra

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Abstract

India is rich in biodiversity and considered to be a storehouse of medicinal plants. The diversity of indigenous and endemic medicinal plants has contributed a lot to the practice of herbal/traditional medicines by local tribal communities. It has been observed that valuable information about the diverse ethno medicinal plant species located at the particular area is accumulated traditionally at the local herbal healers or medicine men "Vaidu" by whom; this valuable information is hardly shared with others, due to which the vast treasure of ethnomedicinal knowledge is eroding gradually, also triggered by modernization, rapid socioeconomic changes etc. As a part of participatory efforts towards creating awareness about medicinal utilities of plants and need of conservation; a periodic survey was carried out in and around Daund tehsil to record the diversity of ethnomedical plant species along with their medicinal utilities. Total 74 plant species were identified and enlisted for their medicinal values to cure several diseases like gynaecological ailments, asthma, cold, cough, dysentery, jaundice, piles, skin diseases etc. including plant species like *Aegle marmelos, Boerhavia diffiosa, Caralluma adscendens var. fimbriata, Chrozophora rottlerin, Citrulus colocynthis, Glossocardia bosvallea, Macrotyloma uniflora, Sesamum laciniatum, Vernonia anthelmintica* etc. The present work aimed to highlight not only the diversity of ethnomedicinally important plant species but also their potential utilization as resources in a conservation perspective.

Keywords: Ethnomedicinal diversity, Daund.

INTRODUCTION

India ranks sixth among 12 mega diversity countries in the world and is treasure for endemic medicinal plants. (Myers et.al. 2000). The entire Western Ghats (Sahyadris) is considered as a major genetic reserve with an enormous biodiversity of ancient lineage. The use of plants with pharmaceutical properties has received increased interest nowadays from both homeopathic and allopathic branches. The diversity of indigenous and endemic medicinal plants has contributed a lot to the practice of herbal/traditional medicines by local tribal communities. The Indian systems of medicine have been a part of the culture & tradition of India down the centuries. The 'Sushruta Samhita' attributed to Sushruta in the 6th century BC described over 700 medicinal plants. More than 9000 plant species are found to be used for health care in India under folk and codified Indian medical systems.

Earlier, (Razi 1952; Santapau 1951, 1957; Vartak 1953, 1960) have contributed flora of Poona and neighbouring district including regions like Torna fort, Katraj ghat etc. Similarly; (Chopra et al. 1956, 1958; Mitra, Jain 1991 and Nair, Mohan 1998) have provided a glossary of Indian medicinal plants. (Jain et al. 1973, 1994) published the use of medicinal plants among certain Adivasis in India and gave a list of major medicinal plants of India. Many valuable herbal drugs have been discovered by knowing that particular plant was used by ancient folk healers for the treatment of some kind of ailment (Ekka & Dixit, 2007). The presence of drug residues results in development of drug resistant microorganism that are difficult to treat and the world is looking for safer herbal alternatives (Nisha. 2008). Medicinal plants play an important role in public health, especially in developing countries, where it is believed that the intense utilization of plants with therapeutic action does not lead to intoxication (Mossi et. al. 2009; Jagtap et.al. 2020). Similarly; Indian council of medicinal research has prepared a Database on ethnomedicinal plants of Western Ghats (Kholkunte, 2008). The use of participatory methods in ethnobiological studies has grown overtime and become an important tool

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Utilization of Magneti Energy for the Qualitative Improvement in the Shell Ratio of the Cocoons Spun by the Mature Larvae of Silkworm, *Bombyx mori* (L) Race: Bivoltine Cross Breed (double hybrid) [(CSR6 x CSR26) x CSR2 x CSR27)]

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ABSTRACT:

The shell ratio gives a satisfactory indication of the amount of raw silk that can be reeled from a given quantity of fresh cocoons under transaction. The calculation of shell ratio assists in estimating the raw silk yield of the cocoon and in deriving an appropriate price for the cocoons. The percentage will change based on the breed of the silkworms, rearing and mounting conditions. Percentage rates are altered based on the age of the cocoons as the pupa loses weight as metamorphosis continues. The fifth instar larvae of bivoltine cross breed (double hybrid) [(CSR6 x CSR26) x CSR2 x CSR27)] of silkworm, *Bombyx mori* (L) were exposed to the magnetic energy of various strengths (1000, 2000, 3000 and 4000 Gauss magnetic field). The magnetization of fifth instar larvae was carried out on the first four days, for half an hour for each day before first feeding. The attempt reveals significant influence of magnetization of *Bombyx mori* (L) larvae on the shell ratio of the cocoons. The shell ratio of the cocoons spun by the fifth instar larvae of untreated control group was 19.427 percent. The provision of 1000 Gauss magnetic energy to the fifth instar larvae on the first four days, for half an hour for each day before first feeding was found the silk cocoons of 20.953 percent. The provision of 2000 Gauss magnetic energy to the fifth instar larvae on the first four days, for half an hour for each day before first feeding was found the silk cocoons of 21.112 percent. The provision of 3000 Gauss magnetic energy to the fifth instar larvae on the first four days, for half an hour for each day before first feeding was found the silk cocoons of 21.204 percent. The provision of 4000 Gauss magnetic energy to the fifth instar larvae on the first four days, for half an hour for each day before first feeding was found the silk cocoons of 22.162 percent. Magnetization may have had influence on the increase in the levels of amino acids followed by accelerated rate of silk synthesis in the fifth instar larvae of silkworm, *Bombyx mori* (L). Magnetic energy should be utilized as efficiently as possible for the qualitative improvement in the shell ratio of the cocoons spun by the mature Larvae of silkworm, *Bombyx mori* (L) Race: Bivoltine Cross Breed (double hybrid) [(CSR6 x CSR26) x CSR2 x CSR27)].

Keywords: Magnetic Energy; Silk cocoons; Cocoon Shell Ratio; Bivoltine Cross Breed; Double Hybrid; [(CSR6 x CSR26) x CSR2 x CSR27)].

INTRODUCTION:

The innovation of India as a developing country is definitely based upon agriculture and agro-based industry. Like agriculture, sericulture plays an important role in the transformation of rural economy as it assures wide scopes in the term of regular employment and provides return round the year. The race Nistari is a resistant variety of multivoltine mulberry silkworm (Bombyx mori), which contributes up to a great extent in the

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Research Article

Some unique herbal remedies against arthritis and rheumatism in daund region pune district (m.s.) india

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Abstract

An extensive field surveys were arranged in Daund taluka to document the ethno-medicinal information regarding the use of wild and endemic ethno-flora against arthritis and rheumatism. The information presented here, is being collected from the local inhabitants through verbal interviews by an informal way during the period from pre-monsoon of 2018 to the post-monsoon of 2020. The paper focuses on the ethno-medicinal uses of 20 plant species belonging to 17 families used for curing arthritis ad rheumatism among the local inhabitants in their routine life.

Keywords: Herbal remedy, Daund, Traditional knowledge.

INTRODUCTION

Human interactions with the surrounding environment, especially plants have started from ancient period due to which the modern medicines have been arrived at the end of 20th century. Being a part and parcel of the nature, man remained busy in utilizing the wild plants for his certain needs and necessities such as food, medicine, fodder, agricultural tools, house construction etc. It has been realized recently that most of the plants were in use by the traditional healers, hakims and ethnic societies of the world either as a food or as herbal drugs in the ancient time. Since the last three to four decades considerable progress has been made in the field of ethno-medicinal remedies due to the recent explorations. Use of these plants and their parts had contributed so much to the field of traditional medicinal science by fulfilling the social and cultural needs of the rural, aboriginal and tribal people. These plants based herbal drugs are affordable, more effective and easily available in the market and are manufactured with the traditional eco-friendly methods. They can work selectively and gently without disturbing the other system as compared to modern synthetic drugs.

Study Area

Daund tahsil lies in Pune district situated on the margin of Bhima river. Daund tahsil consist of 102 villages and one urban centre. Geographically this region extent from 180 18' to 180 41 north latitude and 740 07' t0 740 51 east longitude. Geographically area of the study region is 1289.86 Sq.Km. (128986 hectors) according to 2011 census. The average height of study area is 554 meters from mean sea level. The river Bhima and its tributary river Mula Mutha are dominating drainage pattern in study region. The only mixed deciduous forest pocket covers the board western part of the area. It is a rich ethnobotanical diversity. It has remained inhabited to certain extent by the native inhabitants for certain needs and necessities for curing specific livestock ailments. The collected ethno-botanical information from the inhabitants is documented and spread in nearby areas in order to understand importance of the traditional medicinal knowledge in the life of local inhabitants.

METHODOLOGY

Frequent field visits were arranged in the study areas during the period from pre-monsoon of 2018 to post monsoon of 2020 to collect the ethno medicinal data on uses of the wild ethno-flora by the local inhabitants. The plant specimens were collected by knowing their vernacular names through the help of knowledgeable informants as per guidelines (Schulte, 1962; Jain, 1989; Alexiades, 1996; Martin, 1995). The information was confirmed through the traditional healers through verbal and informal interviews.

The voucher specimens were prepared, tagged and confirmed by referring the standard floras such as (Cooke, 1967; Almeida, 1996; Prashar & Singh, 1999). Such plants were dried and mounted on herbarium sheets and preserved as voucher specimens in the Department of Botany, K.G. Kataraj College Daund, Pune for future study.

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Medicinal Plants Traditionally Used in Jaundice from Daund Region, Pune District

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Abstract:

Rural people from Daund region use more than 18 plant species for treatment of jaundice. Uses of plants like Musa paradisiaca L. (Fruit and lime), Caesalpinia bonducella Flam. (leaf juice and jaggary), Lavendula gibsoni Grah. (leaf juice) and Jatropha curcas L. (latex) are reported from this area. The present paper deals with different ethno-botanical practices performed by local Bhagats and Vaidya.

Key words: Ethno-botanical, Daund region, Jaundice.

Introduction:

Jaundice is called as Hariman disease in Rigveda (8000BC). The first record of hepatitis was reported by Hippocratic school in 200BC (Nene,2007). Jaundice is viral disease known to spread through poor sanitation and contaminated drink and foods. It disturbs the function of liver and consequently secretion of bile. The eyes and urine become yellow and the patients loses appetite, feels too much weakness and fatigue ultimately and succumbs to jaundice in case of severe attack.

In this disease herbal treatment are prescribed since the times of Charaka (700 BC). The jaundice is called as Kamala and some traditional treatment are:

1. Powder of Lauhabhasma (iron ash), Haritaki (*Terminalia chebula* Retz) and Haridra (*Curcuma longa* L.) mixed together with hony and ghee.
2. Dhatri (*Embelica officinalis* Gaertn.), Lauhabhasma (iron ash), Triktu (dry ginger, long pepper and black pepper) and turmeric together are administered with honey and ghee. It is claimed to alleviate even the severe jaundice (Vidyalankar, 1994).

Traditional Indian medicinal plants have considerable value for curing infectious and viral diseases. These plants are also useful for prevention of health, longevity, intelligence and body resistance. Information on 17 plants is commonly practised for jaundice from the Dandakaranya area covering Korapur and Phulbani district of Orrisa, Bastar district of Madhya Pradesh, the west belt of eastern Ghats of Andhra Pradesh and Maharashtra (Hemadri and Rao, 1984). They have mentioned combination of plants used by tribal people and administration of doses. Urine therapy is also one of the ways for curing jaundice. Urine of black goat collected in the morning is given on empty stomach as 100 ml once a day for 3 days. Panch mutra urine of goat, sheep, cow, bull and she-buffalo is given empty stomach as 20 ml of each urine. The unpleasant odour and taste are nullified by mixing Jirka (*Cuminum cyminum* L.) with ground sugar candy. Samvastsar and Diwanji (2000) documented the treatment of jaundice in tribal pockets of western Madhya Pradesh. These tribal people use 13 plants out of which five are used externally and eight in the form of decoction. Dry fruit powder of Luffa acutangular var. amara is used as snuff. Kulkarni et al. (2007) has tapped traditional knowledge of medicinal plants from Mahadeokoli tribe of Western Maharashtra and recorded 9 species for curing jaundice.

Mujumdar et al. (1998) reported effect of *Azadirachta indica* A.Juss. leaf extract on hepatic damage in albino rats. Mann et al. (2006) mentioned plant like *Tephrosia purpurea* (L.) Pers..

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Ethno-Medicinal Plants Used for Respiratory Disorders in Daund Region of Pune District (M.S.) India

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Abstract:

Despite being use of allopathic medicine in modern civilization man still depends largely on herbal medicine and their product. Traditional medicinal plants are playing an important role in rural people health since ancient time. Local people or bhagat are giving locally available medicine to treat Asthma, Cough and Cold. Last few decades herbal remedies are being investigated on scientific background for major and minor diseases. Rural people from Daund region are still using more than 28 plant resources in the treatment of respiratory disorder.

Key Words: Ethnomedicinal, Respiratory disorder, Traditional, Daund.

Introduction:

Since ancient times, traditional medicinal plants have contributed to the health of rural people in India. The role of ethno-botanists has prime importance in searching new medicine or collecting information from folk medicine that exist in tribal cultures (Upadhye et al., 1999). Schults (1960) and Vartak and Gadgil (1980) recognised the value of documentation of the treasure of verbal knowledge available to the tribal communities. Kulkarni and Upadhye (2007) have tapped traditional knowledge of medicinal plants from Mahadeokoli tribe uses 12 plant species for cough and asthma, and 6 species for asthma (Kumbhojkar et al., 1999). Plant based medical tradition make a very significant contribution to the country health care system in rural area.

In general, respiratory disorders are classified as common cold, cough, bronchitis, asthma and whooping cough due to change in weather, allergy and spread through contamination. Local people like Mahadeokoli, Dhangar, Carpenters, Barbers and Kunbis in Daund region are severely affected due to humid weather conditions in the mansoon and winter season. Local barefoot doctors or vaidus belonging to the above communities treat respiratory disorders with locally available plants. These are certain traditional natural remedies given by local communities based on their experience.

Material and Methods:

Daund tahsil lies in Pune district situated on the margin of Bhima river. Daund tahsil consist of 102 villages and one urban centre. Geographically this region extent from 180 18' to 180 41' north latitude and 740 07' t0 740 51' east longitude. Geographically area of the study region is 1289.86 Sq.Km. (128986 hector) according to 2011 census. The average height of study area is 554 meters from mean sea level. The river Bhima and its tributary river Mula- Mutha are dominating drainage pattern in study region. The dry mixed deciduous forest pocket covers the board western part of the area. It is famous for rich ethno-floristic diversity along north-eastern side. It has remained inhabited to certain extent by the local inhabitants for certain needs and necessities. The people here utilize medicinal plants to cure human diseases. The ethno-medico-botanical survey was carried out in the various part of Daund taluka with the help of field visits,

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ELECTROANALYTICAL STUDY AND CHARACTERIZATION OF LORNOXICAM BY DIFFERENTIAL PULSE POLAROGRAPHY

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ELECTROANALYTICAL STUDY AND CHARACTERIZATION OF LORNOXICAM BY DIFFERENTIAL PULSE POLAROGRAPHY

Patil S. V Dept. of Chemistry, E. S. Divekar College, Varvand, Tal. Daund. (Pune).
Sakhare N. D. Dept. of Chemistry, K. G. Kataria College, Daund. (Pune).

ABSTRACT

The differential pulse polarographic (DPP) technique has been suggested as a simple, accurate, quick, and low-cost way to determine the presence of lornoxicam in pharmaceutical formulations. HPLC technique was used for comparison, which yielded similar findings. DPP mean values and standard deviations were 7.19, 0.11 mg, whereas HPLC method mean values and standard deviations were 8.02 0.08 mg, based on ten measurements. According to the statistics, there was no significant difference between the two techniques' mean values and precessions (t=2.59, F=2.22). The procedure was verified in accordance with ICH standards. Lornoxicam showed linearity in the range of 0.23 – 125 g mL-1 (r^2 = 0.999) using the newly developed technique. As a result of these characteristics, the suggested technique may be utilized for regular quality control examination of these mixed dose forms of medicines.

Key words: Lornoxicam, Pharmaceutical, Polarography, HPLC, Validation.

INTRODUCTION

It's a nonsteroidal anti-inflammatory medication called Lornoxicam (rINN, G chloro-4 hydroxy 2-methyl N-2 pyridyl-2H-thienol 1, 2- thiazine-3-carboxomide-1, 1-dioxide) (NSAID). As with the previously mentioned drugs, Lornoxicam belongs to the same chemical class as the others. It has strong anti-inflammatory, antipyretic, and analgesic properties. In terms of tolerability, Lornoxicam has a profile comparable to that of diclofenac, although it is better than indometacin. NSAIDs reduce inflammation similarly to aspirin, the most well-known and longest-acting member of the family, which is the mechanism they all follow.

$C_{13}H_{10}ClN_3O_4S_2$ is the molecular formula and 371.82 $gmol^{-1}$ is the molecular weight of Lornoxicam, an NSAID. A powerful anti-inflammatory, antipyretic, and analgesic substance, lornoxicam is a member of the same chemical class as piroxicam, meloxicam, and tenoxicam. Cyclooxygenase, the enzyme responsible for the body's synthesis of Prostaglandin, is what the drug targets. 6 chloro-4 hydroxy-2 methyl N 2-pyridyl 2 h thieno[2, 3-e] is the chemical name for lornoxicam. -1, 2-thiazine-3-carboxamide-1, 1-dioxide (Fig.1)

Lornoxicam tablet assays are presented and compared using differential pulse polarographic (DPP) methods in this research article.

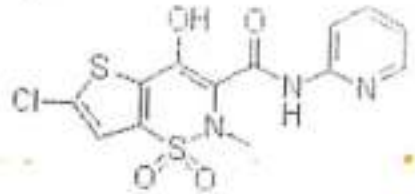

Fig.1: Structure of Lornoxicam

Ethanol is the best lornoxicam (I) solvent for DPP measurements. As in our earlier work on the measurement of DPP for certain medicines, many solvents were also tested to dissolve tablets. DP polarograms are obtained by extracting the I from tablets with ethanol, filtering, and diluting it appropriately before recording the results. In Ag/AgCl, 3N KCl, E_{peak} was found at - 0.030 V. The i_{peak} and I concentrations were calibrated using a calibration graph.

Methanol, acetonitrile, and a diammonium hydrogenphosphate aqueous solution were used in the HPLC method's mobile phase. After injecting the samples into the column, the retention time was measured and determined to be 1.87 minutes. The linear calibration range was determined to be between 1 and 30 g mL1.

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Section A: Green Chemistry

Research Article

CODEN (USA): IJGHAY

Lithium bromide catalyzed efficient and convenient Synthesis of bis(indolyl)methane derivatives

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Department of Chemistry, Lt. K.G. Kataria College, Daund, Pune [M.S.]-India.

Received: 24 October 2021; **Revised:** 16 November 2021; **Accepted:** 01 December 2021

Abstract: A novel and efficient protocol was developed for synthesis of bis(indolyl)methane using eco-friendly catalyst lithium bromide.. The advanced synthetic protocol represents a novel and very simple route for preparation of bis(indolyl)methane derivatives. In addition, an ultrasound irradiation technique is successfully implemented for carrying out the reactions in shorter reaction times.

Keywords: Bis(indolyl)methanes , Lithium bromide, Aromatic aldehyde, Green protocol, Ultrasound irradiation

I. INTRODUCTION

Bis(indolyl)alkanes synthesis has been of significant interest in organic synthesis because of their wide occurrence in various plants natural products particularly from marine sources. Indole is the building block of a large number of natural products, agrochemicals, pharmaceuticals, etc [1-8] substituted indole units in a molecule. Synthetically these compounds are obtained from the condensation of indoles or substituted indoles with aldehydes or ketones in the presence of catalysts. Indole and its derivatives having many applications in medicine.

They have pharmacological and biological active properties. Among the various indole based derivatives, bis(indolyl)methanes (BIM), is have been wide range of applications in the fields of pharmaceutical and agrochemical industries, material sciences, etc [9,12] Bis(indolyl)methane

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A Facile an Efficient Synthesis of Coumarin Derivatives via Pechmann Condensation under Grind-Stone Method Using Succinamide-N-Sulphonic Acid at Room Temperature

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ABSTRACT

A rapid and efficient solvent free synthesis of coumarin derivatives by Pechmann condensation reactions of substituted phenols with β-keto ester using succinamide-N-sulphonic acid (SuSA) as a catalyst under grinding techniques. Key advantages of this grinding method includes short reaction time, eco-friendly, good to excellent yield, non toxic and easy to handle.

Keywords: Coumarin, solvent free, SuSA, grinding technique.

I. INTRODUCTION

Coumarin is oxygen containing heterocyclic compound which are the parent chemical structure for a class of phytochemicals naturally occur in various plant species. Coumarin are represents the core structure of several molecules of pharmaceutical importance, such as novobiocin, coumaromycin and chartesium. The structural diversity found in this family of compounds led to the division into different categories, from simple coumarins to many other kinds of polycyclic coumarins, such as furocoumarins and pyranocoumarins. Simple coumarin is better known for the resemblance of its aroma to that of the vanilla [1]. Thus, the synthesized or artificially prepared coumarins have been mainly used in the manufacture of fragrances and essences. Nowadays, coumarins are considered to be a significant group of organic compounds.

They are associated with various biological activities viz. antiviral [2, 3], antibacterial [4, 5], antimicrobial [6], anticoagulant [7], anti-inflammatory [8, 9], anticancer [10, 11], anticonvulsant [12], antioxidant [13], antifungal [14, 15], and anti-HIV [16]. They also possess the properties like inhibition of platelet aggregation [17] and inhibition of steroid 5α-reductase [18]. Besides, they are attracting considerable attention of chemists due to their wide range of applications such as optical brighteners [19], photosensitizers [20], fluorescent and laser dyes [21], and additives [22] in food, perfumes, cosmetics, and pharmaceuticals. The novel compounds are also utilized in drug and pesticidal preparations [23] considering these multifarious activities of coumarins, synthetic chemists are actively engaged in developing

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"A STUDY ON THE PROBLEMS IN THE GAME OF BADMINTON AND THEIR SOLUTIONS"

Authored by :

Prof. Vikas Sudhakar Shelar

From

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A STUDY ON THE PROBLEMS IN THE GAME OF BADMINTON AND THEIR SOLUTIONS.

Prof. Vikas Sudhakar Shelar
Director of Physical Education and Sports
Late K. G. Kataria College Daund, Dist-Pune,
Maharashtra, India.

Abstract:

While Playing Badminton players need to put a lot of effort. For that players must be provided with facilities such as sports materials, good coach, regular discussions on reasons of failure, organizing practice camps. Choosing of good teams, Coordination between the players, organizing of practice matches etc. For the Growth of badminton Game and to seek the attentions of the player's incentives must be taken by the organizational measures, various activities must be conducted for the promotion and dissemination , Involvement of economic and social elements, And also necessary help at the government level is necessary from time to time.

Research Problems:

A study on the problems in the game of badminton and their solutions.

Introduction:

Badminton is a sport of Indian origin. It is very necessary to spread and promote this sport in rural areas. A Badminton player needs to work hard to become proficient. This sport involves a lot of physical activity. Muscles get a lot of exercise and because of this, the muscles become strong. The body becomes flexible. Capacity increases.

Sports are an important part of physical education. Due to sports, a person develops a perfect personality in society. Sports provide exercise Sports like badminton improve the central coordination of movement. The growth and development of the body becomes faster and at the same time it helps in the growth of mental development.

Research Methods:

The researcher has collected the information through observation, interview, as well as questionnaire method and made interpretation and analysis on it.

Key Word: Badminton, Respondent Players, Opinion

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"A study of the problems faced by sportsmen in secondary and higher secondary schools in rural areas"

Authored by

Prof. Vikas Sudhakar Shelar

From

Lt. K. G.Kataria College,Daund, Dist.-Pune, Maharashtra

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Ulrich Muller

Editor-in-Chief

A study of the problems faced by sportsmen in secondary and higher secondary schools in rural areas

Prof. Vikas Sudhakar Shelar
Lt. K. G.Kataria College,Daund,
Dist.-Pune, Maharashtra (India)

Introduction:

Secondary, Higher Secondary education is the education after primary education and before college education. Yes, students in secondary, higher secondary school are in the age group of 14 to 18. Children in this age group are attentive and curious. They have different interests. They acquire knowledge through education. Ability to show, motivation is created in them. Imitation, action, encouragement, etc. take place.While doing secondary and higher secondary education, knowledge, comprehension and application are happening at various levels in their lives for family, society, friends etc. There are various problems for education about physical education in schools. Athletes face problems at various levels like sports materials, ground, lack of sports guides, family environment, financial, social factors etc. in schools. There is a need to implement activities at various levels to solve the problem as well as to generate the interest of the players.

Abstract:

Secondary and higher secondary school athletes in rural areas face various problems it is necessary to solve the problem at the level of facilities, playground, sports guide, family, society etc. The researchers used the survey method and selected 300 sportsmen from 15 secondary and higher secondary schools in Daund Taluka to collect, analyze and interpret the data.35 percent of players report that grounds are maintained during tournaments only. While 16% of players vote that it is maintained once a week from this we can say there are a lot of problems about the field, there are problems with all the materials, lack of proper guidance, proper leadership, lack of player coordination, etc. Regarding the lack of facilities, lack of ground arrangements, insufficient sports materials, lack of proper guides, etc.

Objectives:-

1. To study the facilities in the school
2. Studying competition participation
3. To study economic and social factors
4. To study the subject of physical education in secondary, higher secondary level.

Research Methods:-

The researcher has used survey method as well as interview and observation technique. 300 children from 15 schools were selected as a sample of some selected secondary, higher secondary schools of Daund Taluka.

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"A STUDY OF PHYSICAL ABILITIES OF COLLEGE STUDENTS IN DAUND CITY AND ITS SURROUNDINGS"

Authored by

Prof. Dr. Vikas Sudhkar Shelar

From

Late. K. G. Kataria College Daund, Dist-Pune, Maharashtra, India

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Joao Passos, Editor-in-Chief, HRJ

DRJI

A STUDY OF PHYSICAL ABILITIES OF COLLEGE STUDENTS IN DAUND CITY AND ITS SURROUNDINGS

Prof. Dr. Vikas Sudhkar Shelar
Director of Physical Education and Sports
Late. K. G. Kataria College Daund, Dist-Pune,
Maharashtra, India.

Introduction:

A healthy body has a healthy mind. If the mind and heart are pure, good work is done by that person. A sense of playing is created while watching the game. Physical activity occurs through sports. Sports bring happiness, motivation, encouragement, fighting strength, willpower etc. College-aged youths experience physical changes during puberty. In addition to this, anxiety, irritability, anger, pain in the mind, changes between men and women, etc. appear in the stage of puberty. Physical education is very important and necessary for the college students. It is beneficial for the growth and development of the students. The effect of internal and external forces acting on the human body on the student depends on the growth and progress. Basic movements for student is his walking style, running style, sitting style, good or bad habits which should be imparted to the students. To create interest in sports among college students it is necessary to acquire skill in sports for that interest, convenience, need and importance, sports guide etc. things are necessary. The key of living is health,which requires well-planned efforts and consistency to grow.

Abstract:

Two colleges from daund city and vicinity were selected for the study of students physical ability in which total 240 students were selected from which was 77% students were from the age group of 17 to 20 years. In the physical ability tests, sit and reach test, bent knee sit ups test and hard ward steps test were conducted. When flexibility was measured, the flexibility of the students was good.It appeared that but 3%. The flexibility of the girl was found to be very low. In measurement of abdominal muscle strength, boys 38% and girls 76% of students need to train abdominal muscle strength. In Cardiovascular endurance measurement 16% boys and 24% of girls are found to have less cardiac capacity.

Key Word:

Physical Fitness, Physical Test, Flexibility, Muscular Strength, Cardiovascular Endurance

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Value Education-Necessity and Importance in Schools and Colleges

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Value Education-Necessity and Importance in Schools and Colleges

Prof.Dr. Vikas Sudhkar Shelar
Director of Physical Education and Sports
Late. K. G. Kataria College Daund ,Dist-Pune,
Maharashtra, India.

Abstract:

Value Education andtraining in Education is necessary from which values such as empathy, equal opportunities, respect for environment, healthcare and physical education, positive thinking courtesy, sensitivity, equality between men and women, scientific view, Dignity of labor Punctuality etc.Through which personality development can be achieved

Happiness ,Satisfaction and peace are based on personal values developing moral values building trust, respect,Truthfulness, politeness, kindness need to be rewarded all value education is important.

Listening, thinking,and meditation a very important values in education. In India People listen is in kirtan preaching and after mediation people develop their personality.

Keywords:**Value Education, Sensitivity, Courtesy, Positive Thinking, Punctuality, Ethical Values and Equal Opportunity.**

Introduction:

Values are the qualities that lead to mutual interaction between individuals, society, nation and values life is a value that everyone is discussing and developing training on that subject is value

Education is the organization demonstration of understanding fundamental truth about humanity the aim of value education is to indicate inculcate basic moral values in children when education is the education of good virtuesvalues express human behavior and credibility a person give it depends on its on its ability to think values.

A person must follow certain ethical value, what do you understand?What knowledge do you have?Who are we?What are your needs?What does uses philosophy says?All this things must be under the value education training

Research Methodology:

Descriptive and analytical methods has been adopted.

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A study of the problems faced by sports guides

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JXU JOURNAL

A study of the problems faced by sports guides

Dr. Vikas Sudhakar Shelar
Director of Physical Education and Sports
Late. K. G. Kataria College Daund ,Dist-Pune,
Maharashtra,India

Abstract:

College athletes must overcome a variety of challenges in order to compete and acquire athletic skills. The researchers have conducted a research study aiming at the problems faced during competition, facilities, sports performance techniques etc. Using survey method, 65 college sports coaches have been selected as a sample and the data collection and analysis have been interpreted. This means that the college athlete does not practice daily, the athlete depends only on the sports coach as a guide, lack of facilities available to college athletes, filming, video recording, observation charts, performance profiles, athlete self-reports, etc. Special skill practice, tactical technique, teamwork are essential for enhancing sports performance as well as competitive success Emotions, sports guides, convenience and facilities, parents' encouragement to athletes, financial support, participation of social elements, etc., are problems that the work guides face and efforts must be made to solve them.

Introduction:

Globally, participation in sports competitions of various countries is increasing and sports culture is taking root in modern times. Various competitions are organized in which athletes participate in large numbers, so athletes practice a lot. A good strong body has a good mind. If the mind is clean, the daily performance will increase. Sports fans have problems on the playground, sports tactics, technique, skills, personality and mentality. Athletes need strength, flexibility, agility, orientation, body coordination etc. Competition performance will not increase unless special efforts are made to increase physical capacity.

Objective:

1. To study the problems encountered during College competition.
2. Studying the college facilities
3. Studying sports performance techniques

Research Methods:

The researchers have used the survey method and have collected, analyzed and interpreted the information by adopting interview, observation, questionnaire method.

Data collection analysis and interpretation

Information collection and analysis has been done through questionnaires and interviews about the problems faced by various college sports guides.

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CONTENTS

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कौशल्येधिष्ठित शिक्षण आणि गळती

इंगळे विजयमाला महादेव
स्व. की. गु. फटारिया महाविद्यालय, दौंड, पुणे
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गोषवारा—

भारताने 21 व्या शतकातील पहिले व सर्वात व्यापक शैक्षणिक धोरण जवळजवळ 34 वर्षानंतर जाहीर केले. शिक्षण व्यवस्थेत पूर्वी दहा + दोन व आता पाच + तीन + तीन + चार या सूत्रानुसार तीन ते आठ वर्ष आठ ते अकरा वर्ष बारा ते चौदा वर्ष आणि 14 ते 18 वर्ष असे चार टप्पे तयार करण्यात आले आहेत. या धोरणानुसार बहुशाखीय शिक्षण, आंतरराष्ट्रीय संशोधन, पुस्तकी ज्ञान सोडून कौशल्य आधारित व्यवस्था त्या काळी होती. त्याची पुनरावृत्ती नव्या शैक्षणिक धोरणात होत आहे. शिक्षणाचे खाजगीकरण होत राहिले तर दुर्बल घटकावर अन्याय होईल. बहुशाखिय एकीकडे काल्पनिक कथा तर दुसरीकडे वैज्ञानिक दृष्टिकोन, विद्यार्थी संभ्रमावस्था, मातृभाषेतून शिक्षण जमातीत बंदिस्त उदा. तांडा, आदिवासी पाळा जाती जमातीत नियुक्त उरली नाही, बाह्य जगाशी संबंध नाही.

सूचनक शब्द-- अंभर विद्यापीठे भारतात , उच्च शिक्षण व्यावसायिक शिक्षणावर अवलंबून, बहुशाखीय मातृभाषेतून शिक्षण, आंतरराष्ट्रीय संशोधन.

संशोधनाचे उद्दिष्टे—

१) सार्वत्रिक शिक्षण पूर्ण करणाऱ्या विद्यार्थ्यांकडे किमान कौशल्य

२) उच्च शिक्षण व्यावसायिक शिक्षणावर अवलंबून

३) स्थानिक मातृभाषेतून शिक्षण

४) बहुशाखीय (इंटरडिसिप्लिनरी) शिक्षण

५) आंतरराष्ट्रीय दर्जाची 100 विद्यापीठे

गृहितके—

१) आंतरविद्याशाखीय अभ्यासक्रम अभ्यासने.

२) विद्यार्थ्यांमधील वैज्ञानिक दृष्टिकोन अभ्यासणे

३) गळती प्रमाण (Drop out) अभ्यासणे

४) उच्च शिक्षण राष्ट्रीय स्तरावर एकच प्रवेश परीक्षा अभ्यासणे

संशोधन पद्धती— विश्लेषणात्मक संशोधन पद्धती, गुणात्मक, विशेष दुय्यम साधने.

प्रस्तावना—

राष्ट्रीय शिक्षण धोरण 2020 हे नवीन भारत आणि भविष्यासाठी तयार युवा पिढी घडविण्याच्या दृष्टीने हे धोरण महत्त्वाची भूमिका बजावणार आहे. 21 व्या शतकातील दूरदर्शी धोरण आहे असे मत शिक्षण मंत्री धर्मेंद्र प्रधान यांनी मांडले. या धोरणानुसार आंतरराष्ट्रीय संशोधन विद्यापीठ कामाचा मुळगाव बहुशाखीय (आंतरविद्याशाखीय) शिक्षण महाविद्यालयीन वैशिष्ट्ये. संशोधन शिक्षण सर्वसाधारण अभ्यासक्रमासाठी स्वतंत्र विद्यापीठे अस्तित्वात येणार शैक्षणिक धोरणाच्या दृष्टीने खाजगी क्षेत्राची भूमिका महत्त्वाची ठरणार भारतात 70 टक्के उच्च शिक्षण देणाऱ्या संस्था खाजगी आहेत शिक्षणावरील सार्वजनिक खर्च एकूण देशांतर्गत उत्पन्नाच्या सहा टक्के पर्यंत वाढवावा. २०२०-२१ मध्ये ९३.१२४ कोटी इतका कमी झाला.

वर्गाची रचना:—

नव्या शैक्षणिक धोरणात प्राथमिक शिक्षण स्तरावरच पालकांना मुलांचा कल पाहता येईल दहावी बारावी परीक्षांचे महत्त्व कमी, सेमिस्टर पद्धत सहामाही वार्षिक असे दोन भाग त्यावरून विद्यार्थ्यांची शैक्षणिक कामगिरी मोजली जाईल खाजगी शिक्षण व्यवस्थेला संधी

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''समकालीन मराठी साहित्यातील जाणिवा''

♦ राष्ट्रीय चर्चासत्र ♦

दि.१६ मार्च २०२३

भाग तीन

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दलित साहित्यातील समकालीन कवींच्या कवितेतील सामाजिक जाणीवा(२००० नंतरच्या संदर्भात)

संशोधक विद्यार्थीनी :- विजयमाला महादेव इंगळे
पीएचडी संशोधक विद्यार्थी
चां. ता. बोरा महाविद्यालय, शिरूर ता. शिरूर, जि.पुणे

प्रस्तावना :-

समाज जीवनावर व एखाद्या समाज गटावर काही ऐतिहासिक घटना अपरिहार्य परिणाम करून जातात ज्या परिणामांनी समाज जीवनात जे अमलाग्र परिवर्तन त्या समाजात होते त्याचा परिणाम त्या समाजाच्या सगळ्याच व्यवहारांवर घटकांवर होतो. विसाव्या शतकात दलित समाजाच्या बाबतीत असेच घडले आहे. डॉ. बाबासाहेब आंबेडकरांचा अस्पृश्यद्धाराचा संघर्ष, घटना, लढाई विचार स्वातंत्र्य, भारताच्या राज्यघटनेला त्यांनी दिलेला लोकशाही समाजवादाचा आशय व दलितांना सांस्कृतिक मानसिक गुलामीतून मुक्त करण्यासाठी आपल्या लाखो अनुयायांसोबत केलेले धर्मांतर या तीन परिघातून दलित समाज मनावर परिणाम झाला. दलितांच्या आयुष्यात इथल्या व्यवस्थेने चिरंजीव दास्य बाबासाहेबांनी दाखविलेला दलितांमधला माणूस त्यातून लाभलेला जीवनाकडे पाहण्याचा नवा दृष्टिकोन यांच्या मानसिक नोंदीतून दलित साहित्य उदयाला आले.

आपले जीवन वेगळे दुःख समस्या वेगळ्या म्हणून आपले साहित्य वेगळे असा पवित्रा दलित लेखकांकडून घेतला गेल्याने स्वतंत्र दलित साहित्य विचाराला गती मिळाली म्हणून दलित कवितेतील साहित्य समीक्षेची सुरुवात काही मूलभूत प्रश्न सोबत घेऊन झाल्याचे दिसते यात काही प्रश्न दलितेतर समीक्षक, वाचकाकडून काही वाचक व स्वतः दलित म्हणजे कोण? दलित जाणीव म्हणजे काय? दलित अस्मिता, दलित संवेदना, दलितत्व, अस्पृश्यत्व म्हणजे काय? इत्यादी प्रश्नांच्या माध्यमातून दलित साहित्यातील कवितेची समीक्षा मांडली ही समकालामध्ये महत्त्वाची मानली गेली.

विसाव्या शतकातील डॉ. बाबासाहेब आंबेडकरांनी उभारलेला सामाजिक उत्थानाचा लढा हा मुक्ती लढ्यातील महत्त्वाचा टप्पा होय. दलित साहित्याची प्रेरणा डॉ. बाबासाहेब आंबेडकरांचा विचार आणि चळवळ आहे. 1970 नंतर दलित कवितेने आपला ठसा उमटवला नामदेव ढसाळ, यशवंत मनोहर, दया पवार, केशव मेश्राम अशी कितीतरी नावे घेता येतील. विचारांची स्पष्टता डॉ. बाबासाहेब आंबेडकर विचारधारेचा एक पैलू आहे. या पैलूचे प्रकटीकरण मराठी दलित कवितेत फार रसरशीतपणे समोर येते. आंबेडकरी विचारांची कृतिशीलता हाच या देशातील परिवर्तनाचा पाया आहे अशा भूमिकेत जात, धर्म इतिहास, पुराण या सर्व गोष्टीचे विश्लेषण दलित कविता वाचकांसमोर ठेवते. प्रारंभापासून ते आतापर्यंत दलित कवितेची पाहणी केली तर असे दिसते की प्रारंभी ज्वालाग्रही, विद्रोही आणि नकाराची मांडणी करणाऱ्या या कवितेतून दलित कवींनी आपल्या प्रेरणास्त्रोताला नेहमीच अभिवादन केले आहे. डॉ. बाबासाहेब कुणाला सूर्य वाटला, कुणाला फकीर, कुणाला युगायुगाचा निर्माता, तर कुणाला माऊली. मुक्याला वाचा देणारी बाबासाहेब दलितांच्या रचनासृष्टीचे शिल्पकार होते. पहिल्या पिढीतील कलावंतांनी या संस्कृती विषयी चीड व संताप तर व्यक्त केलाच परंतु भूतकाळ आणि वर्तमानाचा वेध घेत त्यांनी भेदक भावनाभूती व्यक्त केली. तोच सूर पुन्हा पुन्हा व्यक्त होऊ लागला. त्यात अगदी संत रचनेसारखे आक्रोशाला अग्रस्थान होत. मात्र त्यात उत्कटताही होती. पूर्वजांच्या वेदना खोट्या नव्हत्या की वांझ. एकतर कवितेच्या आकलन सुलभतेबाबत तिच्या अधिकाधिक व्यक्तीलक्षी अभिव्यक्तीतून निर्माण झालेल्या दुर्बोधतेबाबत काही प्रश्न या कालखंडातील नियतकालिकातून आपल्या कवितेने समोर आणले. वाचकांच्या काव्या कलाचा स्तर उंचावण्याच्या दिशेने या नियतकालिकांनी काही पावले उचलणे आवश्यक होते. तसे झाल्याचे

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Citric Acid Catalyzed Efficient and Convenient Synthesis of Coumarin Derivatives

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ABSTRACT
A coumarin derivatives has been synthesized via Pechmann condensation Substituted phenol with a β-ketoester using Citric acid as a green and efficient catalyst. The optimal conditions are: molar ration of reagents (1:1), Citric acid (15mol %) at 130°C for hrs in solvent-free conditions. Advantages of this Catalyst short reaction time, eco-friendly, good to excellent yield, non toxic and easy to handle.

Keywords : Coumarins, Phenols, β-Ketoesters, Pechmann Reaction, Citric acid

I. INTRODUCTION

Coumarins are an essential class of benzopyrones wich consist of a benzene ring joind to a pyrone ring [1] . The synthesis of coumarins and their derivatives has usual attention from organic and medicinal chemists for many years as a large number of natural products contain this heterocyclic nucleus. They are widely used as additives in ,agrochemicals,cosmetics,food,pharmaceuticals [1] and in the preparations of insecticides, optical brightening agents, dispersed fluorescent and tunable dye lasers [2]. They have varied bioactivities, such as, inhibitory of platelet aggregation[3], antibacterial [4], anticancer [5], inhibitory of steroid 5_-reductase [6] and inhibitory of HIV-1 protease [7]. Coumarins also act as intermediates for the synthesis of fluorocoumarins, chromenes, coumarones, and 2-acylresorcinols [8]. Their properties turn coumarins very interesting targets to organic chemists, and several strategies for their synthesis were already developed. Coumarins can be synthesized by various methods such as Pechmann [9], Perkin [10], Knoevenagel [11], Reformatsky [12] and Witting [13] reactions. Pechmann condensation is one of the most common procedures for the preparation of coumarin and its derivatives.This method involves the reactions between a substituted phenol and a β-keto ester in the presence of an acidic catalyst. Simple starting materials are required here to produce various substituted coumarins in good yields.

Different acid catalysts like H2SO4, P2O5, FeCl3, ZnCl2, POCl3, AlCl3,HCl, H3PO4 and CF3-COOH acid are known to affect this condensation [14]. However, in the current context of environmental impact, these methods are not attractive as they require catalyst in excess, for example, sulfuric acid in 10–12 equivalents [15],trifluoroacetic acid in three to four equivalents [14b] and phosphorus pentoxide in

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A FAUNISTIC STUDY OF COREIDAE (HEMIPTERA: HETEROPTERA) FROM NASHIK, MAHARASHTRA, INDIA

Authored by

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A FAUNISTIC STUDY OF COREIDAE (HEMIPTERA: HETEROPTERA) FROM NASHIK, MAHARASHTRA, INDIA

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Swami MuktanandCollege Of Science, Yeola, Dist. Nashik (Maharashtra)[1]

ABSTRACT

The family coreidae has a place with the superfamily coreoidea, suborder Heteroptera and the order Hemiptera. The specimens were gathered in the long stretch of June 2018 to December 2019 from Nashik area during the study time frame. The nine species of Coreidae have recognizes are-Acanthocorisscabrator, Anoplocnemisphasiana, Brachytes bicolor, Cletomorpha hastate, Cletus sp., Coriadarplaniventris, Homoeocerus sp., Physomerusgrossipes, Physomeruscentralis.

Keywords*:Coreidae, Heteroptera, Hemiptera, Diversity,Nashik.*

INTRODUCTION:

The suborderHeteroptera or "true bugs" are the most diverse group within the orderHemiptera and are identified by the strong odourwhich is produced by the metathoracicscent glands of the bugs (Aland et al., 2010). According totherecent studies about 80,000 hemipteran species are present worldwide. In India around 6500 species arereported, which are belonging to the 77 families (Dolly Kumar et al., 2010). The Heteropteraare separatedinto the 7 infraorders, first two infraordersareprimarily aquatic (Gerromorpha and Nepomorpha), one is semiaquatic (Leptopodomorpha), and the remaining four are terrestrial (Enicocephalomorpha, Dipsocoromorpha, Cimicomorpha and Pentatomomorpha)(Henry, 2009).

The coreidaebugs are belonging to theinfraorderpentatomomorpha(Henry, 2009) ranges from 7 to 45 mm in length and the body shape of these bugsare quite variable, with some species are broadly oval while others are slender. The coreidae bugs are also called as leaf-footed bugs or squash bugs (Prabakar, 2015). The coreidaebugs are recognized by presence of small, narrow head, antennae four segmented and hind tibiae in some species shows modifications. They are thephytophagous insects (B.Biswas etal., 2014). They pierce tissues ofplants and mainly feeds on their liquid juices. Most of them are serious pest of crops (Chandra et al., 2012)also some of them pest of *PongamiaPinnata*Fig (a)showing*Homeocerus*sp.infesting the*PongamiaPinnata (Karanj).*

Fig. (a)

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PRELIMINARY PHYTOCHEMICAL SCREENING AND HPTLC ANALYSIS OF LEAF EXTRACT OF CROTALARIA JUNCEA FROM VIDARBHA REGION, MS, INDIA

Authored by

D. A. Tuwar

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PRELIMINARY PHYTOCHEMICAL SCREENING AND HPTLC ANALYSIS OF LEAF EXTRACT OF CROTALARIA JUNCEA FROM VIDARBHA REGION, MS, INDIA.

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ABSTRACT
Native shrub Crotalaria juncea from Vidarbha region of central India is explored as it has a part of ethanomedicinal system of tribal community. Present study is aiming to identification and quantification of active constituents in C. juncea. Preliminary phytochemical screening of all three types of aqueous (AqE), methanol (ME) and petroleum ether (PEE) extracts showed the presence of alkaloids, terpenes, tannins, saponnins, glycosides, phenolic compounds and flavonoids. The HPTLC analysis, chromatograph of methanolic leaf extract of Crotalaria junceaat 366 nm showed total 10 peaks while at 540 nm revealed 06 peaks with the Rf values of the peaks ranging from 0.01 to 0.94 resp. It has concluded that in all three types of extracts contain not a single compound but a mixture of compounds and so it is proven thatthe pharmacological activity shown by them are due to the collective effect of all the compounds in combined.
KEYWORDS: phytochemical; chromatograph; ethanomedicinal.

INTRODUCTION
Natural herbal products are playing important roles in treating and preventing human diseases as well as providing nutrition (Rautet al., 2009). In India, several medical systems have evolved and prominent among these systems are Ayurveda, Siddha and the Unani Systems of Medicine. In different civilizations the contribution of floral biodiversity to health care has been well documented (Posey, 1999). Because of the accelerated local, national and international interest in recent years the demand for medicinal and aromatic plants has increased manifolds and pharmaceutical industry views plant wealth as a source of income. Due to easy availability, no side-effects, and sometimes only source of health care, the demand for medicinal plants is increasing in both developing and developed countries. In recent days, plant based nutritional products are also making boom. Crotalaria is one of most important genus of Fabaceae, prominently herbaceous in nature. Crotalaria is the largest legume genus in India, having 93 species. Most species of Crotalaria are being used as wild medicinal plants (Vijaykumar et al., 2003). It was also reported to have curative properties (Kirtikar and Basu, 1935 and Chopra et al., 1956). Crotalaria juncea L., a native of India, is a fast growing annual crop. It is an important source of natural fibre. Traditionally its fiber is used in preparation of ropes, twines, fishing nets, tat-patties, handmade paper etc. (Tripathi et al., 2012). It has been
identified as the most promising indigenous raw material for manufacturing of high quality tissue paper, cigarette paper and paper for currency. It is one of the most outstanding green manure crops suited to almost all parts of the India (Ram and Singh, 2011). In Hawaii, sun hemp (Tropic Sun) has

CERTIFICATE OF PUBLICATION

This is to certified that the article entitled

ETHNOBOTANICAL SURVEY OF SOME MEDICINAL PLANTS USED BY LOCAL PEOPLE FROM MAN TAHSIL OF SATARA DISTRICT.

Authored By

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ETHNOBOTANICAL SURVEY OF SOME MEDICINAL PLANTS USED BY LOCAL PEOPLE FROM MAN TAHSIL OF SATARA DISTRICT.

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Abstract:

Medicinal plants are very important for the production of drugs. These plants are traditionally used to cure various diseases. The present research work is based on a survey conducted on traditional ethnobotanical medicinal uses of plants of tahsil Man, district Satara, M. S. India. The local, especially rural people use medicinal plants for various purposes. A total of 05 plant species belonging to 05 families are studied, that are being use by the local people for various ailments. In the present research work only medicinal plants and their local medicinal uses are collected and presented. Information was obtained from local people having knowledge about medicinal plants. About 24 local old people were interviewed information obtained by these sources is present here. For each plant necessary information like botanical name, family of plant species, local name, Morphology and uses are given.

Keywords: Ethnobotanical studies, medicinal plant, Man tahsil.

I. INTRODUCTION

Medicinal plants are very useful source of different biological active compounds which have directly or indirectly use in the treatment of different human diseases. Various disease cure from using different plants, plant parts and plant product. World health organization (WHO) (2001) Surveyed about 80% of world's population, particularly in rural areas people depend upon traditional medicines for their maintenance and improvement of physical and mental health. Ethnobotany meaning a relationship between plant and people as well as complex relationship between plants and culture. This includes use for cosmetics, dye medicines, food, clothing and more. First ethno botany term discuss by the John Hershberger in 1895. The local medicinal intelligence of plants is useful to taxonomist, Pharmacologists in sinologist the progress of area in addition listing the traditional uses. Shyma T B, Devi PAG (2012) and Bussmann RW 5, Sharan D (2006). An ethanobotanical survey of medicinal plants in man tehsil, ethnobotanical survey of medicinal plant carried out during mid-July to September and studied 05 species belonging to 05 different families. The best represent families, Asteraceae, Zygophyllaceae, Menispermaceae, Solanaceae and Acanthaceae. Similar work on medicinal plants of special area were carried by various workers in various area, like Mohmmad Nafees Trivedi (2003-2008), Mali and Bhadane (2011). Medicinal plants reports gives the local medicinal plants used by local people in Man tahsil of Satara district.

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REVIEW OF THE CURRENT SITUATION AND THE PROSPECTS FOR CZTS-BASED SOLAR THIN FILMS

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ABSTRACT:
Use of renewable energy resources is crucial given the current energy economics and environmental situation. Solar cell technology has advanced from the first-generation silicon solar cell to the fourth-generation "Inorganics-in-Organic" solar cell, which is currently being developed. For the production of 2D solar cells, a variety of solar absorber materials have been employed, including CdTe, Cu2InGaS4, CIGSSe, Cu2ZnSnS4, and CZTSSe. These chemicals have varying degrees of conversion efficiency, as well as benefits and disadvantages. The efforts have been directed to overcoming the shortcomings and achieving improved conversion efficiency. The efforts have been directed to overcoming the shortcomings and achieving improved conversion efficiency. In the last ten years, researchers have achieved superior results with a few physical and chemical parametric adjustments. This review discusses the current Cu2ZnSnS4 thin film research and development being done in order to create high efficiency solar cells. The impact of numerous alterations to the CZTS's structure and composition, various buffer layers and their interfaces, doping of the host material, partial substitution of host elements, various synthesis techniques, and post-treatments are all carefully investigated. The final discussion focuses on the difficulties in increasing the conversion efficiency of CZTS solar cells and their potential in solar cell applications.

INTRODUCTION:

Solar Energy:

Solar energy is radiant light and heat from the Sun . It is an important source of renewable energy. The Sun is an extremely powerful energy source on the Earth. The sunlight that reaches the ground consists of nearly 50 % visible light, 45% infrared radiation, and smaller amounts of ultraviolet and other forms of electromagnetic radiation.

In 21st century solar energy is expected to become increasingly attractive as a renewable energy source because of its non-polluting characteristics. Plants make their food in the presence of sunlight. Animals and humans get food from plants. Fossil fuels are actually solar energy stored millions and millions of years ago [1].

Applications Solar Energy

a) Solar Water Heating.
b) Solar Heating of Buildings.
c) Solar-distillation.
d) Solar pumping water for irrigation purposes.

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PREPARATIONOF HERBAL FORMULATION FROM LEAVES OF *Oscimum americanum* & *Eclipta alba* AND IT'S EFFICIENCY AGAINST THE FUNGAL DISEASES AND WOUNDS IN DAIRY ANIMALS

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PREPARATIONOF HERBAL FORMULATION FROM LEAVES OF *Oscimum americanum* & *Eclipta alba* AND IT'S EFFICIENCY AGAINST THE FUNGAL DISEASES AND WOUNDS IN DAIRY ANIMALS

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ABSTRACT:
In present study organic formulation was prepared by using two plants for controlling fungal diseases as well as wounds i.e. *Oscimum americanum* (Rantulas) & *Eclipta alba* (Kalamaka).The main constituents are Eugenol, Methyl Chavicol, Terpineol, Linalool in *O. americanum* (Rantulas) and Stigmasterol, Wedelolactone, Desmethywedelo lactone in *E. alba* (kalamaka). These chemicals have different activities like antifungal, antibacterial, insecticidal, and anti-viral and also shows wound healing properties.Powder was made & homogenize in 80 % Methanol and keep this mixture for 24 hours and filter through Whatman filter paper. Evaporate this extract in water bath to obtain semi solid extract and simultaneously to collect methanol for reuse.Semi solid extract is directly use to prepare formulation with use other chemicals. The testing of formulation on fungal disease and wound healing were carried out on dairy animals like Cow & Buffalo. The testing showed that fungal disease and wound healing were cure. The period for cure disease and wound is different in different proportion i.e. 8-16 days.Therefore this formulation first might be a potential source for the treatment of fungal diseases and wound healing in animals and it more efficient than available ointments.
Keywords: Rantulas, Kalamaka, fungal diseases.

INTRODUCTION:-
Fungi are organisms that can spread in many different habitats around the world and directly or indirectly affect living and non-living things.Fungal borne diseases and wounds threat to human as well as livestock across the World. Fungal diseases like Dermatitis, Ringworm give larger patches on skin and it can spread. Bacterial disease like Mastitis is very hazardous to dairy animals. Wounds in human and animals are due to different types of mechanical injury. If these wounds are not cure earlier then transform in septic. Wound also increase due to insect attack. Plants are the good source of natural drugs in traditional and modern medicine (Viplav,et.al. 2011). The plant mediated synthesis is rapid, lowcost, eco- friendly and for safer human therapeutic uses (Kumar, Yadav, 2009).

Ocimum americanum Linn belongs to the Family:Lamiaceae.It is generally distributed all over India, in fields of waste lands,Plains and lower hills of India. The plant is a pubescent erect much branched herb, 15-60 cm. high with subquadrangular striate branches. Leaves are elliptic-lanceolate, entire, glabrous and gland dotted strongly aromatic herb; branchlets puberulous. Leaves are elliptic lanceolate, entire or faintly toothed, almost glabrous, gland-dotted. Flowers aresmall, white, pink or purplish, in more or less closely set whorls in spiciformracemes. Seeds are having Nutlets with narrowly ellipsoid, punctulate black. (Anuradha, et.al. 2014) The main chemical constituents are Volatile oils include methyl cinnamate, methylheptenone, methylnonylketone, d-camphor, citral, Ocimin, methylchavicol, linalool, nevadensin, salvigenin, beta-sitosterol, betulinic, ursolic, oleanolic acids, flavanoids, pectolinarigenin-7-methylether and nevadensin. Polysaccharides composed of xylose, arabinose, rhamnose and galacturonic acids (Chopra, 1956). The main uses of *Ocimum americanum* are antimicrobial, antioxidant, anthelmintic and anti-diabetic (C.P. Khare, 2007). The essential oil obtained from *O. americanum* showed antibacterial activity against *Staphylococcus aureus*, *Streptomyces pyogenes*, *Escherechia coli* and *Salmonella typhosa*, *Xanthomonas malvacearum*, *Bacillulsmycoides*, *B. subtilis*, *B. pumilus*, *Vibrio cholerae*, *Staph. albus*, Sal. *paratyphi and Xanth. campestris*. *O. americanum also* oil showed antifungal activity against a great number of fungi which included some human pathogens(Ntezurubanza et.al.1986).

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Microwave assisted green synthesis, Single crystal XRD, DFT, Hirshfeld surface analysis, Antibiofilm, Anti-inflammatory activity and Molecular docking study of 4-(4-Fluorophenyl)-5-methyl-1,3-thiazole-2-amine

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ABSTRACT

The title compound 4-(4-Fluorophenyl)-5-methyl-1,3-thiazole-2-amine was synthesized by the green microwave irradiation method and the structure was confirmed by spectroscopic techniques. Single crystal X-ray diffraction study was performed to investigate the crystal structure of the title compound. Further, the molecular structure was optimized by density functional theory (DFT) calculations using the B3LYP/6-311G++ (d, p) basic set and compared with X-ray diffraction data. DFT optimized structure, geometrical parameters and IR spectra of the title compound showed excellent correlations with the experimental results. The chemical reactivity and stability of the title compound were studied by molecular electrostatic potential (MEP) and Frontier molecular orbitals (FMOs) analysis. Intermolecular interactions of the title compound were analyzed by Hirshfeld surfaces and 2D-fingerprint plots. In vitro, antibiofilm activity against *C. albicans*, suggests a potential biofilm inhibitor (MIC 12.5 µg/ml). A molecular docking study of the title compound with the active sights of the target protein (PDB:5T21) justifies the results of the antibiofilm activity whereas a drug-likeness pharmacokinetic study is used to analyze the safety and efficiency of the drug. Furthermore, the Anti-inflammatory activity study of the title compound indicates significant (82.63%) inhibition of protein denaturation.

1. Introduction

One of the most significant heterocycles found in nature is the thiazole ring system. Thiazole derivatives have garnered significant interest due to their diverse applications in the pharmaceutical industry [1,2]. Thiazole-containing compounds have shown promising pharmacological properties as antifungal [3], anti-bacterial [4], anti-cancer [5, 6], anti-inflammatory [7], antiviral [8], anti-HIV drug [9], antiulcer agent [10], antiproliferative [11] and insecticide [12] agents. Researchers have particularly focused on 2-aminothiazoles, which can form Schiff bases with aldehydes and generate metal complexes, making them of significant interest [13,14]. Several new and better techniques have recently been developed to create 2-aminothiazoles, although most of them still make use of dangerous and unstable α-haloketones along with volatile and risky organic solvents [15–19]. In response to environmental concerns, the development of environmentally friendly synthesis approaches has gained importance in organic chemistry. As a result, we used microwave-assisted a rapid and elegant method under solvent-free conditions for the synthesis the of title compound.

Fungal infections are becoming a rising hazard for patient health, resulting in significant financial losses in hospitals [20,21]. Invasive candidiasis, caused by candida species such as *C. albicans* is one of the most common fungal infections [22,23]. The capacity of *C. albicans* fungi to create fungal biofilm is the primary clinical issue in fungus-related illnesses possessing higher resistance to antifungal medication [24–27]. Due to the biofilm's inherent enhanced

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