



সুৱালকুছি বুদ্ধৰাম মাধৱ সত্ৰাধিকাৰ মহাবিদ্যালয়, সুৱালকুছি
SUALKUCHI BUDRAM MADHAB SATRADHIKAR COLLEGE, SUALKUCHI
Affiliated to Gauhati University



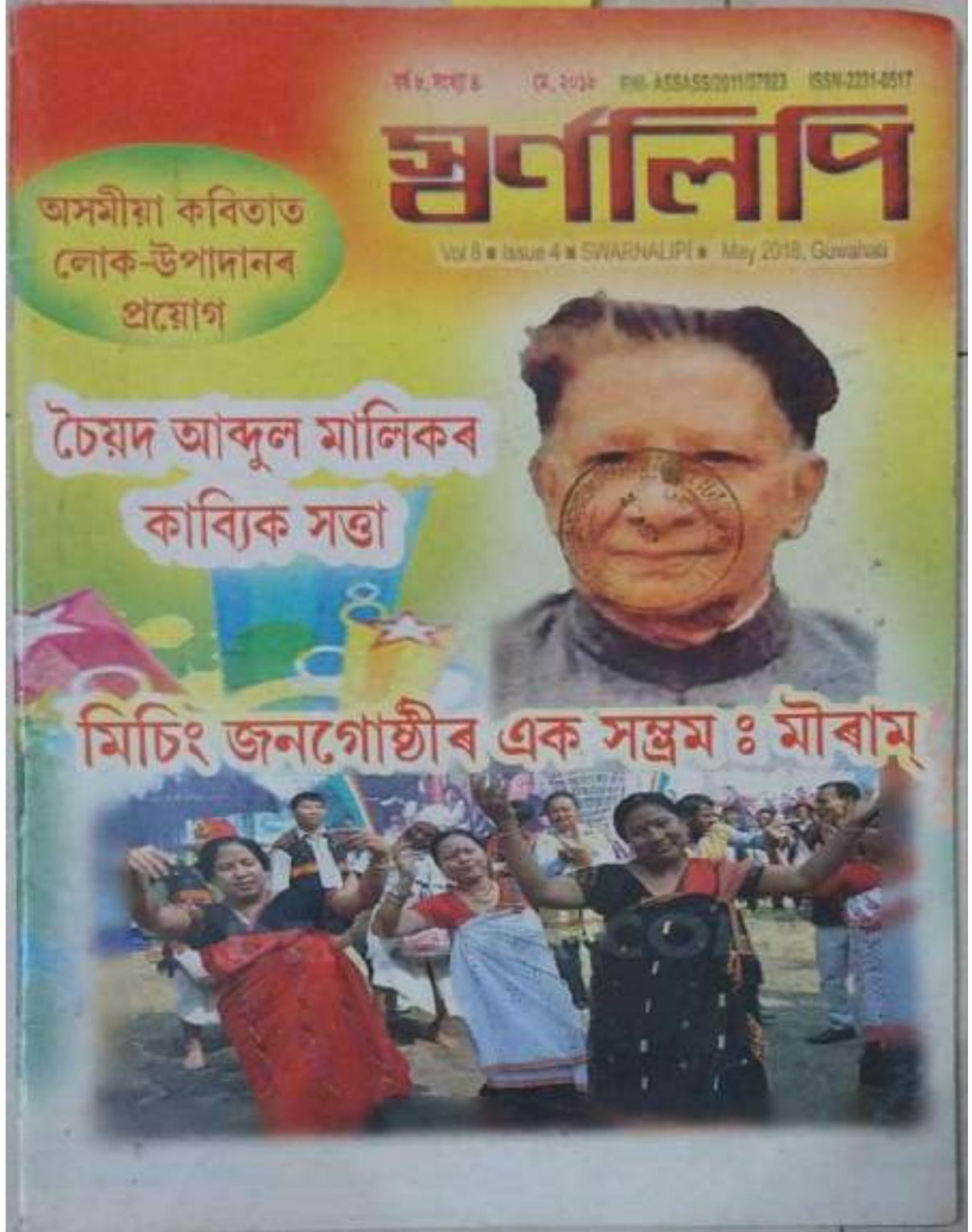
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(2018-2019)





লক্ষ্মীনাথ বেজবৰুৱাৰ ভাষাত লিঙ্গৰ স্বৰূপ

►► ডঃ মনালিঙ্গ বৰা

বেজবৰুৱাই স্ত্ৰীলিঙ্গবাচক ৰূপবোৰৰ
প্ৰয়োগৰ ক্ষেত্ৰত বিশেষ গুৰুত্ব দিছিল
আৰু এইক্ষেত্ৰত তেওঁ বিশেষ
সিদ্ধহস্ততাবে পৰিচয় দিছিল।
স্ত্ৰীলিঙ্গবাচক ৰূপৰ প্ৰয়োগৰ ক্ষেত্ৰত
বেজবৰুৱাই সংস্কৃত আৰু হিন্দী ভাষাৰ
নিচিনাকৈ ব্যাকৰণমিচ্ছ লিঙ্গৰ নিয়ম
মানি চলিছিল। ব্যাকৰণমিচ্ছ লিঙ্গৰ বহুল
ব্যৱহাৰ বেজবৰুৱাৰ ৰচনাৰ এক অন্যতম
বিশেষত্ব বুলিব পাৰি। লিঙ্গ প্ৰয়োগৰ
ক্ষেত্ৰত বিশেষকৈ স্ত্ৰীলিঙ্গবাচক ৰূপৰ
প্ৰয়োগৰ ক্ষেত্ৰত বেজবৰুৱাই মাজে
মাজে সীমা অতিক্ৰম কৰা যেন অনুমান
হয় যদিও তাৰ মাজেৰেই বেজবৰুৱাই
স্বকীয় প্ৰতিভাৰো পৰিচয় দিছিল।

০.০১ প্ৰস্তাৱনা :

অসমীয়া ভাষা-সাহিত্যক বিশেষভাৱে সমৃদ্ধ কৰা,
অসমীয়া ভাষা-সাহিত্যক স্বকীয় বৈশিষ্ট্যৰে
মহিমামণ্ডিত কৰি তোলা সাহিত্যিকসকলৰ ভিতৰত
এগৰাকী স্নানমণ্ডনা সাহিত্যিক হ'ল লক্ষ্মীনাথ
বেজবৰুৱা। অসমীয়া ভাষাক সুপ্ৰতিষ্ঠিত কৰি সকলো
ফালেদি আগুৱাই নিয়াৰ ক্ষেত্ৰত যিসকল সাহিত্যিক
আগভাঙা লৈছিল সেইসকলৰ ভিতৰত আটাইতকৈ অগ্ৰণী
ভূমিকা পালন কৰিছিল সাহিত্যৰথী লক্ষ্মীনাথ বেজবৰুৱাই।
প্ৰতিভাশৰ এইগৰাকী প্ৰথিতযশা সাহিত্যিক অসমীয়া ভাষা-
সাহিত্যত বৰিষ্ঠ নেতৃত্বৰে আগভুৱাই নিয়াৰ লগতে অসমীয়া
জাতিটোক এক দুৰ্যোগপূৰ্ণ অৱস্থাত সঞ্জীৱনী শক্তি প্ৰদান
কৰিছিল আৰু সেইবাবেই লক্ষ্মীনাথ বেজবৰুৱা সাহিত্যৰথী
উপাধিৰে বিভূষিতহয়। বেজবৰুৱাই তেওঁৰ বিশাল বাস্তৱ,
বিচিত্ৰ আৰু পৰ্যট সাহিত্য সৃষ্টিৰে অসমীয়া সাহিত্যত এটা

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This is to certify that a research paper/article/case study entitled

**SILK EXPORT GROWTH: TRADERS' PERSPECTIVE
AT STATE AND NATIONAL LEVEL
(A study of India and Assam)**

Authored by

Dr. Nihar Ranjan Kalita
Department of Economics
SBSM College, Sualkuchi, Assam

Published in

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Thanks
Regards

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This is to certify that a research paper/article/case study entitled

EXPORT PERFORMANCE OF SILK INDUSTRY OF ASSAM

Authored by

Nihar Ranjan Kalita
Department of Economics
SBSM College, Sualkuchi, Assam

Published in

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Regards
Editor in Chief

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ISSN: 2454-1168



CONFLUENCE

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SBMS College

Vol - III - No - 1
2018

Skill Based Course in Collegiate Education

—**Hari Deat Saikia**

Assistant Professor

Department of Animation and Graphic Design
SBMS College, Sualkuchi

—**Dr. Nihar Ranjan Kalita**

Associate Professor

Department of Economics
SBMS College, Sualkuchi

INTRODUCTION:

To keep pace with the growing demand of skill based knowledge government in the last few years has given immense importance to skill education at both school and college level. Though a number of universities have vocational education as separate subjects for many years, the recent move of University Grants Commission (UGC) has given a new impetus to the whole concept in the higher education. Of late, as per notification Bachelor Degree of Vocation (B. Voc) will be regarded as a separate stream in the colleges like other conventional streams of BA, B.Sc. and B.Com. Recently Assam government has also initiated steps to start degree programmes in higher educational institutes. Figure below shows the status of B. Voc. programmes currently running in Assam as funded by various sources.



A density functional study on synthetic polymer–amino acid interaction

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MS received 28 February 2018; revised 27 May 2018; accepted 12 June 2018

Abstract. Interaction of four synthetic polymers (*i.e.*, poly- ϵ -caprolactone (PCL), polyglycolide (PGA), polylactide acid (PLA) and Poly(lactide-co-glycolic) acid (PLGA)) used as protein delivery vectors with a few amino acids have been studied by using density functional theory. Association geometries of polymer–amino acid adduct are modelled in a vacuum and in five solvents. Nature and strength of interaction have been analysed in terms of interaction energy and thermochemical parameters of adducts as well as vibrational frequency shifts upon adduct formation. Results suggest comprehensive stability of adducts in the gas phase. Progressive destabilization of adducts with increasing polarity of solvent is observed. Redshifts in vibrational frequencies of X–H bonds (X = H dimer in hydrogen bonding) upon adduct formation are noticed. The study asserts the potentiality of the considered synthetic polymer as an amino acid carrier.





Keywords. Density functional theory; hydrogen bonding; synthetic polymer; amino acid; interaction energy; solvent effect.

Article

Understanding the structure, reactivity and absorption spectra of borazine doped pillar [5] arene: A DFT study

Jul 2018 · [Computational and T...](#) 1139

DOI: [10.1016/j.comptc.2018.07.011](https://doi.org/10.1016/j.comptc.2018.07.011)

 Himakshi Sharma ·  Bhabesh Chandra Deka ·  Bapan Saha ·  Pradip Kr. Bhattacharyya

Research Interest Score  8.2

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Recommendations  0

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Hexagon

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SBMS College, Sualkuchi



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Sualkuchi - 781103, Assam, India

A COMPARATIVE STUDY ON THE BIOLOGICAL CHARACTERISTICS OF ERI SILKWORM FROM TWO DIFFERENT SPECIES (*SAMIA CANNINGI* AND *SAMIA RICINI*)

Dr. Kakali Talukdar and Priyanka Kalita
SBMS College, Suaikuchi

Abstract:

Samia ricini and *Samia canningi* is non-mulberry silkworm with multivoltine and bivoltine nature reared in different environmental condition. Eri culture for exploitation as a Cottage Industry" analyzed the position of eri silk industry in Indian economy as a cottage industry. The present study was to design the effect on the two species of eri silkworm *S. canningi* and *S. ricini* of the environmental factor during the rearing period. The results revealed that the temperature fluctuation was found to be a major factor in the rearing performance of eri silkworm. The rearing of silkworm was done by standard protocol of Grekov et al. (2005), fed on castor leaves at outdoor condition throughout the experimental period and morphological characters of two different silkworms

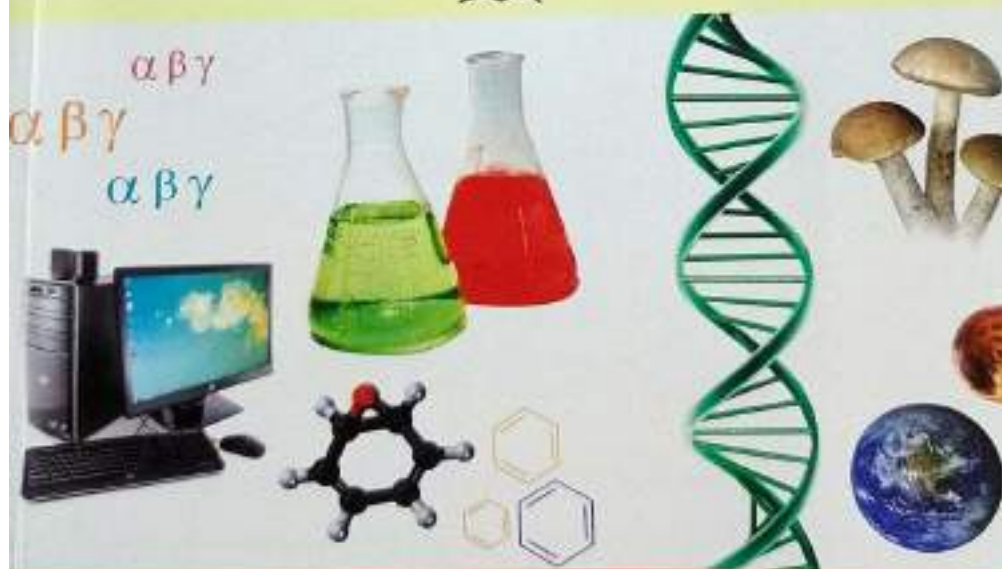
species were observed under microscope and also the length, breadth of silkworm larvae were done by using scale and weight of the cocoon was measured by using digital balance in the laboratory. An Experimental finding reveals that rearing performance of *S. ricini* has shown better rearing performances than wild type variety *S. canningi*. The size of the larvae was found to be almost similar in both the silkworm with slight variation that *S. ricini* showed slightly bigger in size compared to *S. canningi*. Also, Cocoons are brick red or white in color, exceptionally no peduncle was present in *S. ricini* whereas in *S. canningi* have found peduncle. The color of the pupa was copper brown in both the species with slight variation in the size. The study revealed that the hybrid variety *S. ricini* is better for commercial use compared to wild variety *S. canningi*.

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Volume C53

IMPORTANCE OF MATHEMATICS ON OTHER DISCIPLINES

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Introduction:

Mathematics may be defined as the science of logical reasoning. According to New English Dictionary, "Mathematics, in a strict sense, is the abstract science which investigates deductively the conclusions implicit in the elementary conceptions of spatial and numeric relations." In Hindi or in some regional languages such as Assamese, Punjabi etc. Mathematics is also called as 'Ganita' which means the science of calculation. Mathematics is a systematized, organized and exact branch of science. According to Roger Bacon, "Mathematics is the gate and key of the sciences." Mathematics is the knowledge of truth and realities.

Mathematics has played a very important role in building up modern civilization by perfecting all sciences. It has been very properly said about Mathematics, "It is a science of all sciences and art of all the arts."

For glimpses of its relationship with our sciences, for knowing its contribution to other

sciences or for understanding the dependence of other sciences on it, here I wish to throw some light on various relations of Mathematics with other subjects such as Physics, Chemistry, Biology, Engineering, Economics, Logic etc.

A. Mathematics and physics:

Perhaps no other science is as close as physics is. Only mathematical mind can take up Physics with confidence. If we observe any standard book of Physics, we will see that every rule and principle ultimately takes the mathematics form. Mathematics gives its final shape to the rule Physics. E.g.

I. The law of gravitation gives in the form of an equation,

$$F = GmM/r^2$$

II. Newton's second law of motion is given in the form of an equation,

$$F = ma$$

III. Mass energy equivalence principle is given by the relation,

$$E = mc^2$$

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STUDIES ON MEDICINAL PLANTS OF SUALKUCHI AREA OF KAMRUP DISTRICT, ASSAM

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ABSTRACT:

The present study is carried out to document and analyze the medicinal plants of Sualkuchi area of Kamrup district, Assam during the year 2018 -2019. The study includes the plants which are traditionally use directly as medicine or use for preparation of various alternative medicines. During the period of survey a total 199 species of medicinal plant belonging to 163 genera and 78 families are recorded. The most dominant families are Asteraceae and Euphorbiaceae with 11 numbers of species each and Solanaceae with 9 species. Some rare medicinal plants reported from the area are *Andrographis paniculata*, *Acorus calamus*, *Asparagus racemosus*, *Bacopa monnieri*, *Boerhaavia diffusa*, *Butea monosperma*, *Rauvolfia serpentina*, *Mucuna Pruriens*, *Corton tiglium*, *Piperlongum*, *Wdellia calendulacea*.

Key Words: - Sualkuchi area, Medicinal plants

INTRODUCTION:

The term "medicinal plant" includes various types of plants used in herbalism ("herbology" or "herbal medicine"). The earliest literature on Indian medical practice appeared during the Vedic period in India (Joshi and Joshi, 2013). Most of the drugs used in modern medicine and ancient Indian medicinal system are of plant origin. Among ancient civilizations, India has been known to be rich repository of medicinal plants. The forest in India is the principal repository of large number of medicinal plants, which are largely collected as raw materials for manufacture of pharmaceutical products. About 8,000 herbal remedies have been codified in AYUSH systems in India. Ayurveda, Unani, Siddha and Folk (tribal) medicines are the major systems of indigenous medicines. Indian systems of medicine 'Ayurveda', 'Sidha' and 'Unani' entirely, and homeopathy to some extent, depend on plant materials or their derivatives for treatment of human ailments (Prajapati *et al.*, 2003, Saikia and Khan, 2011).

S-PRIME MODULES AND MULTIPLICATIVE MODULES IN NEAR-RING MODULES

BY

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Abstract:

We deal with Primeness in Near-ring modules. In this paper, we introduce the concept of s -prime modules and multiplicative modules as a subset S of a near-ring R is called an s -system if s contains a multiplicative system S^* such that for every $s \in S$, we have $\langle s \rangle \cap S^* \neq \emptyset$. And study several features of this s -prime modules and multiplicative modules.

Introduction:

The study of s -prime and multiplicative modules is done by Van der Walt introduced another notion of a s -prime modules and multiplicative modules. Birkenmeier [1] extended the Van der Walt definition to near-ring and defined a near-ring R to right s -prime and multiplicative modules and analogously, a near-ring is defined to be left s -prime and multiplicative modules. Further, in ideal A of R an s -prime ideal if R/A is an s -system. Also in

ideal A of a near-ring R nilprime if A is 0-prime and R/A has no non zero nil ideals. If in R -ideal P of M satisfied a certain prime condition, then so did that corresponding ideal $\tilde{P} = (P:M)$ of R . In this section, we generalize these ideas to any R -module M .

Preliminaries:

In this section, we recall some preliminary definitions and results to be used in the sequel.

2.1 Definition: Let P be an R -ideal of an R -module M such that $RM \neq 0$. Let $v = 0, 2, 3$. Then P is called v - s -prime if

- (a) P is v -prime.
- (b) $R/P \otimes_R M$, contains no nonzero nil ideals (ie. For every $A \subseteq R$ such that $A \not\subseteq (P:M)$, there exists an $a \in A \setminus (P:M)$ such that $a^n M \not\subseteq P$ for all $n \in \mathbb{N}$)

If we transfer the above definition to the module M itself, then we have that M is v - s -prime if M is v -prime and $R/P \otimes_R M$, has no

A STUDY OF ZERO DIVISOR IN RINGS

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Abstract:

In this paper, we study the notion of zero divisor in rings. We illustrate them with examples and prove some interesting results about them.

Keyword: Zero divisor, zero as zero divisor, zero divisor on a modulus, zero product property.

Introduction: Throughout this paper, R denote a ring. Zero divisors are defined for a general ring. We also introduce about zero as zero divisor, zero divisor on a module, zero product property in this paper.

Zero divisor in ring

Definition1: Let R be a ring. An element a of R is called a left zero divisor if there exists a non zero element x s.t. $ax=0$ or equivalently if the map from R for that sends x to ax is not injective. Similarly an element a of R is called a right zero divisor if there exists a nonzero element y s.t. $ya=0$. This

is a partial case of divisibility in rings. An element a that is both a left and a right zero divisor is called a two sided zero divisor or Zero divisor .

Note: If the ring R is commutative than the left and right zero divisors are the same.

Definition2: An element of a ring R that is not a zero divisor is called a regular or a non-zero divisor.

Definition3: A zero divisor that is non-zero is called a non-zero zero divisor or a non-trivial zero divisor.

Remarks1: If the ring R have no non-trivial zero divisors then R is a domain.

Remarks2: Every ring has 0 as identity element and 0 absorbs all ring elements under multiplication.

Zero as a zero divisor

Definition 4: If R is a ring other than zero ring then 0 is a (two sided) zero divisor because $0.1=0$ and $1.0=0$.

* Corresponding Author

**SEASONAL VARIATION OF RELATIVE INTENSITY
(CRYSTALLINE INTENSITY) OF MUGA AND
ERISILKFIBRES FOUND IN ASSAM (UNDEGUMMED)
BY**

Chandrama Kalita (Assistant professor dept. of physics, S.B.M.S. college,
sualkuchi and research scholar of ADTU in dept. of physics, Dramaj. D. Sarma
(Associate professor of ADTU, dept, of physics.)

Abstract:

There are two classes of silk mulberry and non-mulberry (*Bombox mori*) and no mulberry (Tasar, Eri and Muga). *Anthers assamensis* (A. Assama) is one of the wild varieties of non-mulberry silk worm, which produced Muga silk. Few other wild silks are Mopani silk from South Africa, saturniidae silk from Thailand and Assam silks (Muga, Eri and Pat) from India, Tussah silk from china and Tasarsilk from India.

The aim of this paper is to study Relative Intensity of Muga and Eri silk in summer and winter season in undegummed condition.

Introduction:

Muga wild silk is known for its natural shimmering colour prerogative of India and the pride of Assam state.

Different technique are used by many researcher to understand the crystal and molecular structure of domestic and wild silk fibre varieties. Eri silk comes from the

caterpillar of *Samira Cynthia ricin* found in northeast India and some parts of china, Japan and Thailand. The name Eri derived from the Assamese word ERA which means a "castor" as the silkworm feeds on castor plants. One of the common names the Ailanthus silk moth, refers to the host plants. It is also known as Endi or errand in India.

R.I is the intensity at the highest point of the MSI peak for a peptide. Higher peak intensities mean that the mass spectrometer is registering higher reading for the peptides that is increased sensitivity.

Material and Method — The material for this study is cocoons of Muga and Eri is collected from central Research silk Board Boko.

Method — For XRD or determination of relative intensity counter diffraction method is apply. The diffractometer directly measure the intensity of x ray diffracted at any particular angle 2θ . The dependence of

MODULE WITH FINITE SPANNING DIMENSION

Chandra Kanta Uzir
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SBMS College, Sualkuchi

Abstract:

In this paper we introduce the concept of module with finite spanning dimension and extent this concept to general submodules and obtained some important results.

Keyword:

Module, Submodule and Module with finite spanning dimension.

Introduction:

Let R be a (not necessarily commutative) ring with unity. Throughout this paper by a module we mean a left R -module. M stands for a module with finite spanning dimension and A, B stand for submodules of M .

Preliminaries:

In this paper we collect together preliminary definitions and results which are needed in this sequel.

1. Preliminaries on Modules:

Definition 1.1: Let R be a ring (not necessarily commutative). An abelian group $(M, +)$ is called a left R -module if there is a mapping

$f: R \times M \rightarrow M$ s.t. the followings are satisfied:

- i) $a(x+y) = ax + ay$ for any $a \in R, x, y \in M$

- ii) $(a+b)x = ax + bx$ for any $a, b \in R, x \in M$
- iii) $a(bx) = (ab)x$ for any $a, b \in R, x \in M$
- iv) $1x = x$ for any $x \in M$.

A right R -module is similarly defined.

Note: Any vector space over a field F is an F -module. Any ideal I of a ring R is an R -module.

Definition 1.2: If M is a left R -module then a non-empty subset A of M is called a left R -submodule if

- i) $x, y \in A \Rightarrow x - y \in A$
- ii) $x \in A, a \in R \Rightarrow ax \in A$.

Similarly we define right R -submodule.

Definition 1.3: Let A, B be two left R -modules. Then the mapping $f: A \rightarrow B$ is called an R -module homomorphism if

- i) $f(x+y) = f(x) + f(y)$
- ii) $f(ax) = a f(x) \forall a \in R, x, y \in A$.

We note:

- i) $\text{Hom}(A, B)$ = The set of all R -module homomorphisms from A to B .
- ii) $\text{Ker} f = \{x \in A: f(x) = 0\}$
- iii) $\text{Im} f = \{y \in B: y = f(x)\}$



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in recognition of publication of paper titled

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Heteronormativity and the Marginalization of Third Gender: An Analysis of Arundhati Roy's

The Ministry of Utmost Happiness

Abstract

Indian society seems to be highly patriarchal which is expected to cherish heteronormativity, i.e. the assumption that heterosexuality is the only sexual orientation or the sexual and marital relations are happened to be with people of two opposite sexes. This heteronormativity believes only on the binary construction of gender identity, either masculinity or femininity and propels the non-heterosexual gender identities to the margin tagging them as unnatural, abnormal, deviant, queer, sick and so on. The Queer Theory questions the heterosexual framework and gives space to those whose identities and behaviours do not adhere to their biological sexes. Although Indian government legally acknowledges the Third Gender (the category of LGBT) which may be lesbian, gay, bisexual, transgender or gender queer but in the practical sense, they are yet far away to be accepted as "normal" human being by the society. Arundhati Roy's long-awaited second novel, *The Ministry of Utmost Happiness* (2017) brings the issue of Third Gender by depicting a transgender character named Anjum who was born as a hermaphrodite. After being humiliated, ridiculed and suffered a great deal in the family as well in social spheres, ze¹

¹ Gender neutral pronoun for he/she.

জ্ঞানম

সুস্বীয়া ই-আলোচনী

প্রথম বছর, দ্বিতীয় সংখ্যা, ২০২০



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শীর্ষমণি মেহরা

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STUDIES ON MEDICINAL PLANTS OF SUALKUCHI AREA OF KAMRUP DISTRICT, ASSAM

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ABSTRACT:

The present study is carried out to document and analyze the medicinal plants of Sualkuchi area of Kamrup district, Assam during the year 2018 -2019. The study includes the plants which are traditionally use directly as medicine or use for preparation of various alternative medicines. During the period of survey a total 199 species of medicinal plant belonging to 163 genera and 78 families are recorded. The most dominant families are Asteraceae and Euphorbiaceae with 11 numbers of species each and Solanaceae with 9 species. Some rare medicinal plants reported from the area are *Andrographis paniculata*, *Acorus calamus*, *Asparagus racemosus*, *Bacopa monnieri*, *Boerhaavia diffusa*, *Butea monosperma*, *Rauwolfia serpentina*, *Mucuna Pruriens*, *Cotton tiglium*, *Piperlongum*, *Wdellia calendulacea*.

Key Words: - Sualkuchi area, Medicinal plants

INTRODUCTION:

The term "medicinal plant" includes various types of plants used in herbalism ("herbology" or "herbal medicine"). The earliest literature on Indian medical practice appeared during the Vedic period in India (Joshi and Joshi, 2013). Most of the drugs used in modern medicine and ancient Indian medicinal system are of plant origin. Among ancient civilizations, India has been known to be rich repository of medicinal plants. The forest in India is the principal repository of large number of medicinal plants, which are largely collected as raw materials for manufacture of pharmaceutical products. About 8,000 herbal remedies have been codified in AYUSH systems in India. Ayurveda, Unani, Siddha and Folk (tribal) medicines are the major systems of indigenous medicines. Indian systems of medicine 'Ayurveda', 'Siddha' and 'Unani' entirely, and homeopathy to some extent, depend on plant materials or their derivatives for treatment of human ailments (Prnjapati *et al.*, 2003, Saikia and Khan, 2011).

ENTOMOPHAGY – A STEP FORWARD FOR FUTURE FOOD SECURITY

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Introduction:

Thomas Robert Malthus, an English cleric, and scholar, published his Theory on Population Growth in his 1798 writings, where he mentioned that population will grow in geometric progression and food supply will grow in arithmetic progression. Now, after about two centuries, population outburst seems to lead towards Malthusian catastrophe. Man has bred himself into starvation by consuming arithmetically increased food sources. It is widely accepted that by 2050 the world will host 9 billion people. To accommodate this number, current food production will need to almost double. Land is scarce and expanding the area devoted to farming is rarely a viable or sustainable option. To meet the food and nutrition challenges of today – there are nearly 1 billion chronically hungry people worldwide – and tomorrow, what we eat and how we produce it needs to be re-evaluated. Inefficiencies need to be rectified and food

waste reduced. We need to find new ways of growing food. Entomophagy, the consumption of insects by humans, may be an alternative source of future food. It is practiced in many countries around the world, predominantly in Asia, Africa, and Latin America. Insects as food and feed emerge as an especially relevant issue in the twenty-first century due to the rising cost of animal protein, food and feed insecurity, environmental pressures, population growth and increasing demand for protein among the middle classes. Thus, alternative solutions to conventional livestock and feed sources urgently need to be found. The consumption of insects, or entomophagy, therefore contributes positively to the environment and to health and livelihoods (Anon., 2013).

The edible insects, its type, the scope of its cultivation, preservation, and commercialization; and use of insects in different countries in general and North East India in particular is reviewed briefly in this article.

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NEED OF ENVIRONMENTAL EDUCATION FOR PRESERVING THE ENVIRONMENTAL DEGRADATION

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Abstract:

Environment is the main source of life. The word "Environment" has been derived from the French word "Environner" meaning encircling or surrounding. Environment not only directs but it determines the existence, growth and development of all living being in the earth. Earth's environment has been changed drastically during the last three decades. The present day world is facing with the great problems of environment degradation and pollution. Urbanization, industrialization, rapid growth of population etc. have given rise to the serious problems of environmental degradation.

Due to degraded nature, the possibilities of natural hazards like drought, inadequate rains, acid rains, etc. causing destruction or health of all living species. At present it has been realized all over the world that the environmental issues like global warming, ozone depletion, acid rains etc. are not only natural issues but are global. Human beings

are mainly responsible for all these. The basic objective of this paper is to evaluate the need and significance of environmental education in preserving the environmental degradation.

Keywords: Environmental education, environmental degradation, environmental pollution.

Introduction:

In Present scenario of rapid population growth and globalization, our environment is under serious threat from degradation and losing its biodiversity. In the present century, environmental degradation has emerged as a major global concern for the survival of living species. Both developing and developed nations are facing serious environmental problems. However some of the problems are of global magnitude such as global warming of the planet earth, depletion of ozone layer, while the others are specially confined to localized region. Their divesting effects are on all the

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TITLE OF THE PAPER: AUTONOMOUS CAR— AN IMMINENT REALITY OF THE NEAR FUTURE

Authored By:

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Abstract:

An autonomous car is a vehicle capable of sensing its environment and operating without human involvement. A human passenger is not required to take control of the vehicle at any time, nor is a human passenger required to be present in the vehicle at all. An autonomous car can go anywhere a traditional car goes and do everything that an experienced human driver does. In the past five years, autonomous driving has gone from "may be possible" to "definitely possible" to "inevitable" to "how did anyone ever think this wasn't inevitable?" to "now commercially available." In December 2018, Waymo, the company that emerged from Google's self-driving-car project, officially started its commercial self-driving-car service in the suburbs of Phoenix. The details of the program—it's available only to a few hundred vetted riders, and human safety operators will remain behind the wheel. People are now paying for robot rides. Waymo will expand the

service's capability and availability over time. Also smaller startups like May Mobility and Drive.ai are running small-scale but revenue-generating shuttle services. Every significant automaker is pursuing the tech, eager to rebrand and rebuild itself as a "mobility provider". Ride-hailing companies like Lyft and Uber are hustling to dismiss the profit-gobbling human drivers who now shuttle their users about. Tech giants like Apple, IBM, and Intel are looking to carve off their slice of the pie. Countless startups have materialized to fill niches in a burgeoning ecosystem, focusing on laser sensors, compressing mapping data, setting up service centers, and more.

The Society of Automotive Engineers (SAE) currently defines 6 levels of driving automation ranging from Level 0 (fully manual) to Level 5 (fully autonomous). These levels have been adopted by the U.S. Department of Transportation.

- **Level 0:** All major systems are controlled by humans

*Corresponding Author

SPECIAL RADICALS WITH GENERAL CLASSES OF NEAR-RING MODULES

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Abstract:

We deal with Special Radicals in Near-ring modules. In this paper, we introduce the concept of Radicals with general classes of Near-Ring Modules for each near-ring R , let M_R be a class (possibly empty) of R -modules M with $RM \neq 0$ and study several features of this radicals with general classes in near-ring modules.

Introduction:

The study of Radicals with general classes of near-ring modules is done by Andrunakievich, G.F Birkenmeier, H. Heatherly introduced another notion of Radicals with general classes of near-ring modules. G.L. Booth and N.J. Groenewald extended the Andrunakievich-G.F. Birkenmeier definition to near-ring and defined a near-ring R to be classes. In this section, we generalize these ideas to any R -module M .

Preliminaries:

In this section, we recall some preliminary definitions and results to used in the sequel.

1.1 Definition:

For each near-ring R , let M_R be a class (possibly empty) of R -modules M with $RM \neq 0$. Then we define

$$\rho(R) = \bigcap \{(0:M)_R : M \in M_R\}.$$

Now let $M = \{M_R : \text{Risaneer is near-ring}\}$.

1.2 Definition:

The class M is called a general class of near-ring modules if it satisfies the following conditions.

(G1) If $I \triangleleft R$ and $M \in M_{\frac{R}{I}}$, then $M \in M_R$.

(G2) If $M \in M_R$ and $I \triangleleft R$ such that $I \subseteq (0:M)_R$, then $M \in M_{\frac{R}{I}}$.

(G3) If $\rho(R) = 0$ then $Mi \neq \phi$ for all nonzero ideals I of R .

(G4) If $\rho(R) = 0$ then $Mi \neq \phi$ whenever $0 \neq I \triangleleft R$, then $\rho(R) = 0$.

In view of the above definition, we record the following observations made by Veldsman in [7].

STUDY OF DC CONDUCTIVITY OF MUGA AND ERI SILK FIBRES FOUND IN ASSAM

Chandrama kalita

(Research scholar of Assam down Town University) Arup.J.D.Sarma
(Associate professor Assam down town University, Department of Physics)

3.5.1. Introduction:

Natural fibres, in general, are high polymeric dielectrics and possess a notably high amount of resistivity. As a rule their electrical conductivity should increase in temperature. For the study of dielectric properties normal Muga and Eri fibres is used.

The aim of this paper is to study the DC conductivity of Muga and Eri silk fibres found in Assam with the help of formula

$\rho = RA/L$, applying the value from LCR meter which is done in the IASST, Guwahati.

Materials and Method

Muga and Eri cocoons, the basic materials for the present investigation, were collected from central silk board (Regional Muga and Research station) of Boko and Nalbari Dhamdhama.

Result and Discussion:

DC CONDUCTIVITY OF ERI AND MUGA FIBRES:

Table 4.15- DC CONDUCTIVITY OF MUGA SILK

kgf	303	323	343	363	383	403	423
1.62	4.2×10^{-5}	3.5×10^{-5}	3.7×10^{-5}	3.5×10^{-5}	3.6×10^{-6}	2.9×10^{-6}	3.9×10^{-7}
2	2.2×10^{-5}	4.4×10^{-5}	4.3×10^{-5}	3.5×10^{-5}	4.2×10^{-5}	3.3×10^{-5}	7.2×10^{-5}
2.69	1.4×10^{-7}	4.2×10^{-4}	1.3×10^7	5.08×10^{-5}	1.3×10^{-5}	1.3×10^{-6}	1.3×10^{-7}
3	2.4×10^{-7}	2.2×10^{-4}	2.2×10^7	1.3×10^{-6}	2.3×10^{-7}	2.3×10^{-7}	2.3×10^{-4}
3.69	1.6×10^{-4}	6.3×10^{-4}	6.2×10^{-4}	$.0002 \times 10^7$	6.2×10^{-4}	6.3×10^{-4}	6.2×10^{-5}
4	1.2×10^{-3}	1.2×10^{-3}	1.1×10^{-3}	6.3×10^{-4}	9.0×10^{-3}	1.2×10^{-3}	1.2×10^{-2}
4.69	1.2×10^{-2}	1.2×10^{-2}	1.1×10^{-2}	1.1×10^{-2}	1.2×10^{-2}	1.2×10^{-2}	1.1×10^{-2}
5	2.1×10^{-2}	2.1×10^{-2}	2.2×10^{-2}	1.1×10^{-2}	2.2×10^{-2}	2.2×10^{-2}	2.2×10^{-2}
5.69	1.7×10^{-3}	1.7×10^{-3}	1.7×10^{-3}	2.2×10^{-2}	1.7×10^{-3}	1.7×10^{-6}	1.7×10^{-6}
6	2399×10^{-2}	2399×10^{-2}	1.4×10^{-6}	1.7×10^{-2}	4.1×10^{-6}	4.1×10^{-5}	4.2×10^{-5}



সুৱালকুছি বুদ্ধৰাম মাধৱ সত্ৰাধিকাৰ মহাবিদ্যালয়, সুৱালকুছি
SUALKUCHI BUDRAM MADHAB SATRADHIKAR COLLEGE, SUALKUCHI
Affiliated to Gauhati University

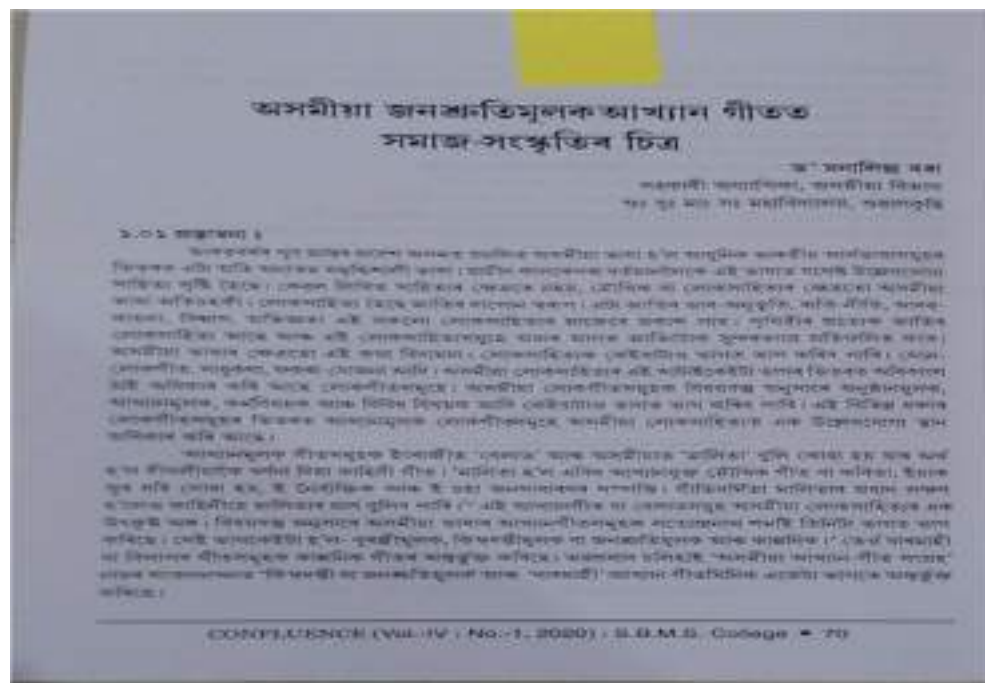
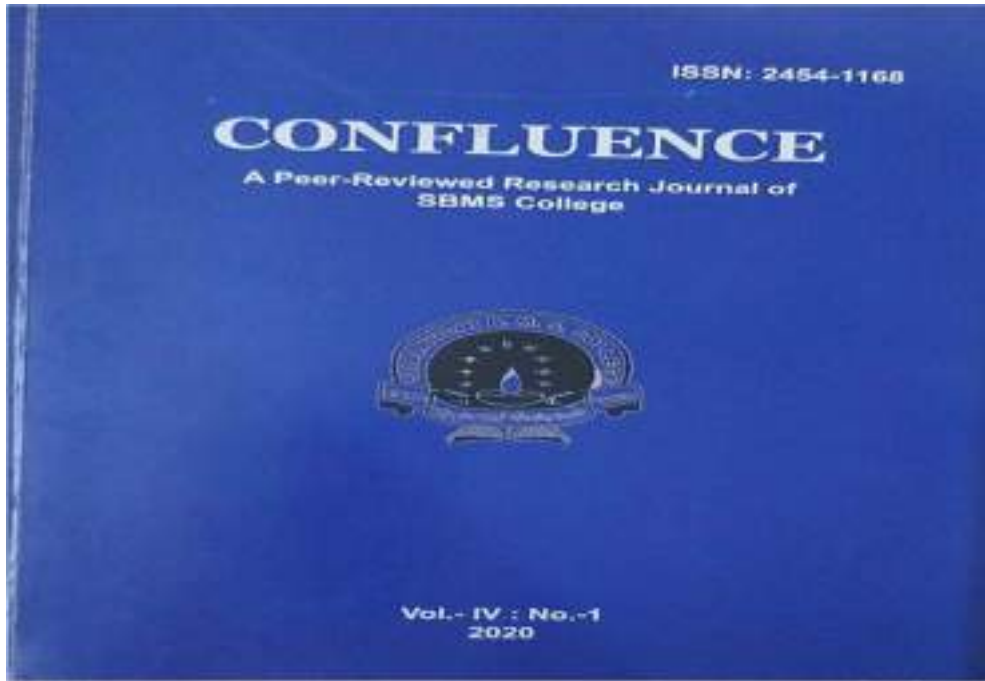


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Impact and Consequence of Superstition on Society Especially in the Field of Living Context

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ABSTRACT

Man cannot live without society. Man is generally described as a social animal. It is not possible for an individual to live without society. Individual is a unit of the society and he lives in society after having been born in it. Society is the vast field in which the individual lives and acts. So in our living society superstition is also remarkable aspect. In general concept superstition means totally opposite of the meaning of belief. Belief assert to the truth of something offered for acceptance. It is the attitude that something is the case or true. Superstition play vital role in the field of society averse of belief. Superstition is a belief which has no basis to believe. It is a belief in the supernatural, which is to say, a belief in the existence of forces or entities that do not conform to the laws of nature or a scientific understanding of the universe. Especially in Indian cultures superstitions are common phenomena in our human society. Superstitious beliefs can have a negative and positive impact on the social well-being of people in society because they are highly associated with gambling behaviors. In this paper we estimate the impact of superstition on negative and positive aspects on the society especially how can psychologically behave the people through believing superstition. Superstition can be great lost of the people if they are blindly diving in this aspect. Also in this study will clearly analyzed the causes, demerits as well as merits of superstition and an attempt has been made to some significant suggestion. As methodology of this paper will be descriptive-analytic one. And required information will collected from different secondary sources like - Books, Research articles, Internet, Journals, etc.

Keywords: Society, Superstition, Causes, Impact, Consequences, Suggestion.

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What Makes a Word Orthographically Difficult for Basic Assamese Medium Learners of English?

Dr. Anoma Balahya
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SBMS College, Sualkuchi

1. Introduction

Orthography or spelling is simply accepted as a part and parcel of learning English word. Spelling is simply putting together of a number of letters of the alphabet in order to form words. In an alphabet, every letter has a phonetic symbol representing one sound only and each sound has its appropriate symbol. But it is not so the case in English. It is a poor reflection of English pronunciation as we have not enough symbols to represent all the sounds of English. We will try to shed light on the difficulty level of learning to write a word from the point of view of spelling for the basic level Assamese medium learners of English. In order to do that, we have administered spelling test for upper primary level students of Assamese medium schools. We have chosen words analysed in the present study from the respective text books of English of upper primary level on the basis of their frequency and dictated them for the students and asked them to write so that we may check the errors committed by them. For homophonous words under dictation, we have provided them the Assamese meanings of the concerned words for their understanding since there are no contexts as such.

2. Objective

The present study has been undertaken

- To locate the intra-lexical difficulty of the written form of the vocabulary items
- To investigate the phoneme-grapheme and grapheme-phoneme correspondences of English vocabulary items
- To find out the problematic areas of spelling arising out of the inconsistencies and the related confusion

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NON-TARGET EFFECT OF MALATHION AND 2, 4-D ON TEA-GARDEN SOIL ALGAE

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ABSTRACT

In agricultural fields during the past few decades, pesticides have been used frenziedly though it is not an appropriate measure of sustainable practice. Microalgae easily become the first, in the list of non target organisms that are affected by pesticides. The present investigation deals with the studies on the effects of selected pesticides - Malathion and 2, 4-D on algae from the Tea Garden soils. Malathion is an organophosphate insecticide and 2, 4-D (Dichlorophenoxy acetic acid) is a herbicide which are commonly used for agricultural protection in our country. In control, total 29 algal species were observed, out of which 16 belongs to Cyanophyceae, 9 Chlorophyceae and 4 Bacillariophyceae. The tested concentrations of pesticides were 50, 100, 200, 400 and 600 ppm. Among the two pesticides Malathion is found to be more toxic than 2, 4-D. The toxic level of Malathion is higher in Bacillariophyceae than Chlorophyceae followed by Cyanophyceae. In case of 2, 4-D the Bacillariophyceae shows the same trend but Cyanophyceae is more toxic than Chlorophyceae. In this observation *Lyngbya limnetica* and *Chlorella vulgaris* were appeared as most tolerant species for both the pesticides. On the other hand *Aulosira fertilissima*, *Calothrix murchica*, *Oedogonium gracillius*, *Clostridium diane*, *Fragilaria brevistriata* and *Tubularia fenestrata* were found to be very sensitive to both the pesticides.

KEY WORDS : Microalgae, Tea-garden soil, Malathion, 2, 4-D, toxic level

INTRODUCTION

The loss of yields from agricultural production due to the presence of pests has been treated over the years with synthetic pesticides, but the use of these substances negatively affects the environment and presents health risks for consumers and soil organisms (Albaro and Costa, 2019). The agrochemicals use in agricultural field affects the dynamic equilibrium of soils (Padhy and Rath, 2015), by eliminating a part of non-target useful soil flora and fauna (Gallano *et al.*, 2011).

Since the start of global 'green revolution' in 1960s, commercial agriculture pursues the use of high-yielding varieties of crops, which need constant input of agrochemicals such as chemical fertilizers, pesticides and organic fertilizers. In soil, many algae contribute greatly to the nitrogen economy and add the availability of crop nutrients and ensuring the

better crop nutrient management (Manjunath *et al.*, 2016). They help in improving the soil structure and amend the chemical nature of soil which forms a rapidly multiplying cover crop of microscopic plants. Algal crusts on soil surface add organic matter, reduce evaporation from soil surface, and remove compaction.

Studies on the interaction of algal flora with agrochemicals have been widely conducted. Some remarkable contributions in this field are Islam, (2007); Ghadai *et al.*, (2010); Kumar *et al.*, (2012); Padhy *et al.*, (2014); Chaurasia, (2014); Kumar *et al.*, (2016); Shao and Zhang, 2017; and Shinde, 2018.

AIM OF THE STUDY

Large-scale use of pesticidal chemicals in tea gardens also cause contamination of soil and water and cause effect on non target microorganisms

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Classroom Application of TLM and ICT Equipment at the Secondary Level of Education and Teachers' Attitude towards Their Use

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Abstract

Use of Teaching Learning Material (TLM) including Information and Communication Technology (ICT) by the teacher in classroom situation makes the classroom interaction process lively, enjoyable and fruitful. TLMs can be heard, seen, tasted, touched, watched and thus leads to permanent learning. Apart from these, at present, Information and Communication Technology (ICT) also plays a vital role in teaching learning process and it has revolutionized the entire classroom communication process. The present author has conducted a descriptive survey study to find out the level of utilization of the TLMs by the teachers of Secondary Schools under the provincialized and private management and to find out their attitude towards the use of TLM and ICT equipment in classroom situation. The author has adopted stratified random sampling technique and accordingly 75 provincialized and 90 private school teachers have been selected. Self structured questionnaires rightfully standardized have been administered to collect data. Data analysis has been done by correlation

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The study of Bio-ethical Precepts in Buddhism: An Analysis

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ABSTRACT

With the emergence of Lord Buddha, Buddhism became one of the greatest religions of the world. The most ethical branch of this religion has, perhaps, in its ethical precept. Ethics is the key word in Buddhism. Bio-ethics means how higher priority to ethics. This expression 'ethics' have moral life-conscience in different background. But as far it is concerned with a sense of communication and a balanced mode of thought, ethics forms the epitome of moral principles and moral conduct in Buddhism. As commonly known, the word 'Bio' signifies life or matters relating to living things. But it may not be precise to surmised that bio-ethics refers to ethics of life only. Ethics in Buddhism, in particular, has a much wider connotation. Its sole purpose is to do away with Dukkha or suffering. It may be relevant here to add that a number of religious harbours abstract ideas of ethics. Buddhism is rather opposed to such abstract ideas and it endeavours to propose the practical use of ethics which is surely a unique contribution to bio-ethics.

Buddhism, a path from getting involved with profane philosophy of life, offers the creation of one's good and suffering through right action which has a permanent value. In Buddhism, priority is assigned to self-discipline and the self-discipline is to be exercised in both individual and collective form. Buddha stressed the principle of neo-ethical perception as to the guiding principle and he is evident right from the beginning of the Sangha Ethics, being an integral part of Buddhism. Buddha emphasized on both preaching and practice. Bio-ethics represents one's attitude towards living beings of all kinds, though, predominantly, it is the human life, which involves the preference. In general term, the paper may be an approach and discussion the bio-ethical precept in Buddhism and how Nirvana in human life is achievable through assimilation of these precept accordingly.

Keywords

Lord Buddha, Buddhism, Bio-ethics, precept.

Introduction

The founder of Buddhism is Gautama Buddha. He was born as a royal prince in 564 BC in a place called Lumbini, which was originally in northern India but is now part of Nepal. "Siddhartha" is the name of the royal family name, which he was born and "Maia" means "Milk Deer". His parents gave him the name Siddhartha and there were many wonderful prophecies about his future. In his early years he lived in a palace in his royal palace but when he was 29 years old he retired to the forest where he followed a spiritual life of meditation. After six years, he attained enlightenment under the Bodhi Tree in Bodhi Gaya, India. His mission in founding Buddhism was to lead living beings to permanent liberation from suffering. He realized temporary liberation from suffering and difficulties is not enough. Motivated by love and compassion his aim was to help living beings find lasting peace or nirvana, which is known as redemption in Buddhism.

The teaching of Buddha eventually develops on a moral code of conduct for human beings. The

most significant character of this religion is its ethical aspect. Buddha emphasised highest priority to ethics. This expression 'ethics' have moral life-conscience in different background. But as far it is concerned with a sense of communication and a balanced mode of thought, ethics forms the epitome of moral principles and moral conduct in Buddhism. As commonly known, the word 'Bio' signifies life or matters relating to living things. But it may not be precise to surmised that bio-ethics refers to ethics of life only. Ethics in Buddhism, in particular, has a much wider connotation. Its sole purpose is to do away with Dukkha or suffering. It may be relevant here to add that a number of religions harbour abstract ideas of ethics. Buddhism is rather opposed to such abstract ideas and it endeavours to propose the practical use of ethics which is surely a unique contribution to bio-ethics.

As it is commonly known the word 'Bio' signifies life or matters relating to living things. To start with, it is felt to be relevant to recall the definition of ethics which may be summed up as the branch of philosophy which is concerned with human



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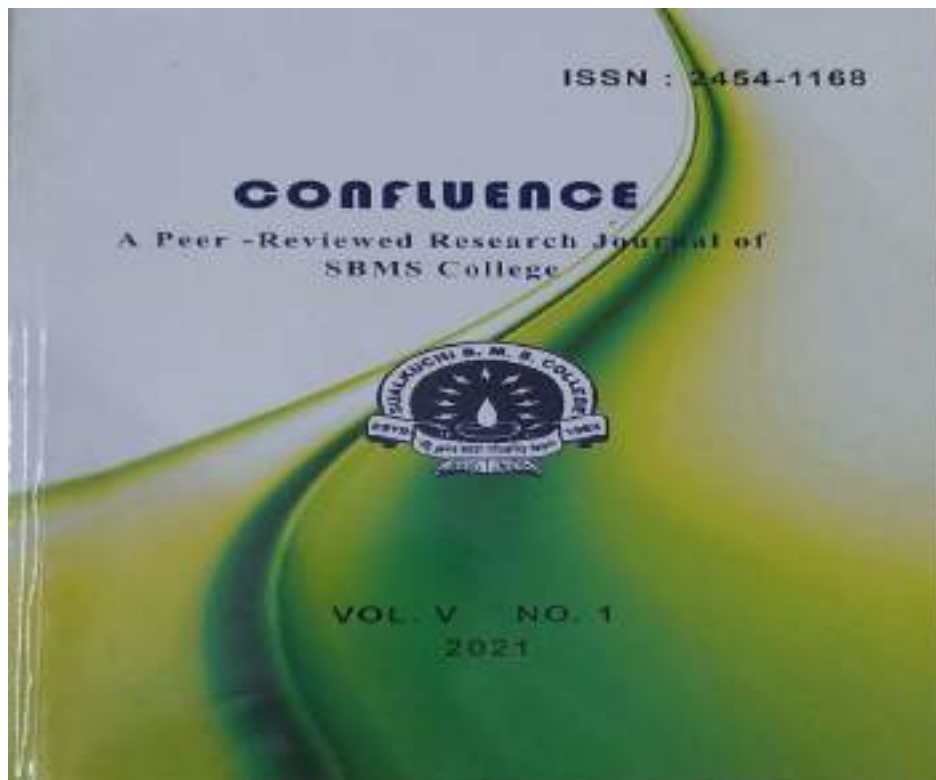


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Socioeconomic and Demographic Status of Tribal Communities of Assam: A Comparative Study

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Abstract- Tribal of Assam are mainly the Kirata people of Sino-Tibetan linguistic family of Tibeto-Burmese branch. These consist of Boro & Boro Kachari, Miri(Mlshing), Karbi, Rabha, Sonowal Kachari, Lalung(Thul), Garo, Dimas Kachari, Deori, Hajong, Kuki Tribes, Naga Tribes, Khasi, Jaintia, Synteng, Paar, War, Bhoi, Lynggam etc. To understand the part of population of our country, especially the backward section or a part, it is imperative to know their detail scenario, causes, consequences and circumstances of existing socio-economic condition. A successful study on them can enhance the efficiency of policy measures to carry out interventional as well as welfare measurement. The socio-economic status is based on qualitative as well as quantitative approach to make some inference regarding life standard of tribal community. To examine the socio-economic status of tribal and nontribal, their population should be investigate under the head of demographic, education, health, poverty and employment. This paper attempt to analyze the socio-economic status of tribal communities of Assam(India) based on NSSO and census data.

Key Words- Tribal, Assam, Socio-Economic, Population, Demography, Community.

1. INTRODUCTION

Socio-economic status is a way through which we can ascertain the measure of material upliftment of backward classes, who suffers poverty, vulnerabilities of all sort. Scheduled Tribes (Hereafter ST) are the major sub-set of these backward classes (Sagar & Pan 1994). So this study provides special focus on the study of the vulnerable sub-set (i.e. ST) in the neglected region north-east (hereafter N-E) from national perspective. The N-E region is far behind in developmental indicator like GSDP per capita, NSDP Per-Capita, life expectancy, health status etc. as compared to the national average of the same. The NSDP Per-Capita of Assam is lower than national average in 2009-10, which is lowest among the N-E states in the same year. On the other hand Assam is the gateway to N-E, which alone holds 68.61% (Census, 2011) population share of the north-eastern region with 3.7% (followed by Meghalaya with 2.5% on 2011) of national tribal population share, higher among N-E states. Therefore, the socioeconomic study on the life standard of tribal population of Assam is absolutely

Significant Role of Guidance and Counselling for Special Learners

Mr. Rajni Taku [1]

Abstract

We are human being. As human being man needs guidance throughout our life. So in that sense guidance is a lifelong process and he or she needs it even from his or her infancy. Especially he learns everything from society and the society guides the individual to learn, to adjust oneself to the physical and social environment. Likewise counselling is the intimate and vital part of entire guidance. Counselling helps every individual student to make more effective adjustments to the environment in which he or she lives. Actually special learners are those who stand out as a distinct set from other students in a class and therefore require special attention. Special learners in institutions may be classified like as Gifted, Creative, Slow learners and learners with learning difficulty. If we wants to overall development of the special learners then as a teacher as well as a parent must proper guide and counsel in proper time. In my analyzing paper would like to express about the concept, nature of guidance and counselling and special learners. Also an attempt has been made to significant role of guidance and counselling for overall development of the special learners.

Keywords: Guidance, Counselling, Special learner, Significant Role.

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I. INTRODUCTION

Generally we can say that guidance and counselling is not same. Counselling is a part of guidance, but not completely guidance. Guidance is relatively a broader term than counselling and counselling is one of the services under guidance programme. Also guidance includes orientation service, student information service and placement service apart from counselling service. Actually guidance and counselling are considered as two sides of the same coin. Both the process helps an individual in making a wise choice. Counselling helps us in selecting a potential choice or to modify, reinforce and give up it. On the other hand guidance is needed when we have to make any choice. So for the special learners the role of guidance and counselling is very significant. Because special needs children face a lot of emotional, social and psychological problems. A little help and concern from a teacher can help them stabilize their emotional, social and psychological levels into a more balanced learner in the classroom situation. Proper guidance and counselling can help students with special needs express their feelings and communicate their needs freely in the classroom.

The present study is mainly based on descriptive method which provides a method of analytical study. Through this descriptive method here have tries to analyse the concept, nature of special learners and significant role of guidance and counselling for overall development of the special learners. As methodology have used secondary data and required information are collected from different secondary sources like - Magazine, thesis, Books, Research articles, Internet, Journals, etc.

II. OBJECTIVE OF THE STUDY

The main objective of the present study is to how can identify

the nature of special learners as well as what will be their problems. An attempt has been made to how can solve the problems of special learners through proper role of guidance and counselling.

III. CONCEPT OF GUIDANCE

It is common sense that guidance is a process and it is concerned with the optimal development of the individual. In the context of education, guidance means providing assistance to students in selecting course of study according to their needs and interests, to achieve high level of academic excellence and derive maximum benefit of the resources and facilities available in the institution. If we want to analyze the wider meaning then it would be includes all types of education such as formal, non-formal, informal and vocational etc., which aims to help the individual to adjust with his environment in an effective way. It is an informative process of helping the individual to identify their potentials and maximize them also it is a process by which an individual solve his problems by his or her own efforts.

Generally as a process, guidance is not a simple matter but involves a series of actions or progressive steps which move towards a goal. It can be said to be a process which helps an individual to carry his or her own burden, which is beneficial both for himself or herself and the society. As dynamic process guidance is an individual understands himself, learn maximum use of his own capacities, interests and other abilities. It is helpful not only for student and teacher in an educational institution but also to the parents, administrators, partners, and community members. Guidance helps the person in his adjustment in different situations. This process allows learning to adjust to different types of problems. The nature of guidance also includes the characteristic of

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Macrophyte and Fish Diversity in the Urpod Beel of Goalpara District, Assam

Paper Submission: 15/01/2021, Date of Acceptance: 27/01/2021, Date of Publication: 28/01/2021



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Abstract

An investigation was carried out during the period of March, 2019 to February, 2020 in Urpod beel Goalpara district, Assam to evaluate the present status of Fish fauna and Macrophytic diversity of the beel. A total 66 fish species belonging to 42 genera under 19 families and 8 orders were recorded during the period of study. The members of order Cypriniformes were dominated by 31 species, followed by Perciformes and Siluriformes with 13 and 12 species respectively, Synbranchiformes with 4 species, Osteoglossiformes and Clupeiformes each with 2 species, Belontiiformes and Tetradontiformes with 1 species each. The Macrophytic diversity shows 87 species belonging to 61 genera and 32 families. Out of 87 species 4 species were from Pteridophytes belonging to 4 genera and 4 families and others from Angiosperms. Among Angiosperms 38 species were Dicotyledons under 23 genera and 17 families and 45 species were from Monocotyledons with 34 genera and 11 families. The study reveals that the fish diversity shows a combination of both lotic and lentic forms. During the summer season large parts of the beels are covered by aquatic vegetation like water hyacinth, aquatic grasses, water lilies and other submerged, emergent and floating vegetation. Thus this wetland has been able to prove its worthiness for its supporting many aquatic organisms and plays an important role in maintaining the environmental quality of the areas and its vicinity hence demands its conservation.

Keywords: Fish fauna, Macrophytes, Diversity, Urpod Beel.

Introduction

The flood plain lakes are commonly known as beels, chauris, tals, pats, moans and jheels in different parts of the country and are mainly distributed in Eastern Bihar, Uttar Pradesh, West Bengal and the North Eastern India. They comprise of an important component of inland aquatic resources of India covering an area of 0.20 million hectares of which north-east region cover a water spread area of 0.12 million hectare occur primarily in the Brahmaputra and Barak river basins of Assam and its surrounding areas.

These floodplain lakes or beels play vital role in socio-economic development of the north-east region in general and that of Assam in particular, because of their significant potential in fisheries which could be potentially increased through proper scientific management (Sugunan 1997).

The term aquatic macrophyte refers to macroscopic vegetation including angiosperms, ferns, mosses, liverworts and some freshwater macroalgae that occur in seasonally or permanently in wet environments (Kulsteshtra, 2005). The macrophytes of an aquatic ecosystem serve as a base of food chains and also actively contribute to the promotion and maintenance of aquatic food webs. The macrophytic vegetations may be classified into Submerged aquatic (SA), Floating aquatic (FA), Emergent aquatic (EA), Free-floating (FF) and Marshy amphibious (MA) (Sculthorpe, 1985).

Aquatic macrophytes diversity and its role in understanding the beel ecosystem have tremendous significance. Some notable works available on macrophytes are Lacoul and Freedman, 2006; Padial et al., 2008; Chambers et al., 2008; Rameshkumar et al., 2019; Noleto et al., 2019; Rawlekar, 2020. In Assam some works are done by Dey and Kar, 1989; Acharjee et al., 1997; Goewami et al., 1999; Sarma and Devi, 1999; Deka et al., 2010; Kalita and Choudhury, 2016.

Aquatic macrophytes represent an important habitat for fish. Many young fish need aquatic macrophytes as shelter and protection from

Page 1/10 pages

SCHEDULED MAINTENANCE

Maintenance work is planned for Tuesday 15 March 2022 from 07:00 to 09:00 (GMT).

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New Journal of Chemistry

Formation of sandwich and multidecker complexes between O₂ and alkali/alkaline earth metals: A DFT study

Check for updates

Sabari, Ramesh, Sushobh Chandra Babu, Subhanta Kumar Chakravarty and Siddhanta Kumar Bhattacharya

Abstract

Abstract: Feasibility of formation of sandwich and multidecker complexes between O₂ molecules and alkali/alkaline earth metal has been analyzed in the light of density functional theory (DFT). High value of stabilization energy (SE) confirmed strong interaction in such sandwiched and multidecker complexes. Total SE of the complexes increases with increase in size of the complexes, whereas the average SE exhibits an opposite trend to that of total SE. Solvent phase results further asserts even stronger complexation upon incorporation of solvent di-electric. NBO analysis indicated charge transfer upon complexation from metal to the antibonding σ^* orbital of O₂. The interaction can be assessed primarily as covalent in nature and the process of complexation is thermodynamically

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FDI INFLOW IN SELECT SECTORS: A PERIODICAL INSIGHT

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L.C.B. College, Guwahati

Kusambar Baishya
Asst. Prof., Dept. of Mathematics
S.B.M.S. College, Sualkuchi

Abstract :

Foreign investment has been playing a significant role in promoting economic development of the country and also in attracting foreign investment. The investment made in different sectors and the volumes of investment have been discussed in this article. It also focuses on the forms of FDI and the trends of foreign investment in recent years.

Introduction :

Investment is an essential ingredient for economic growth. So long a nation follows a close door economic policy it does not allow any capital movement either within or outside the nation. However, India came out of the close door confinement to a liberal environment since July, 1991 allowing off shore capital flight within the country. As a result, separate FDI policy has been formulated, a foreign investment promotion board (FIPB) has been set up to accord clearance to the FDI proposals. Hence it is felt prudent to undertake a research investigation to look into the policy matters as well as the extent to which such investment is flowing in India. In the light of this the present research article has been prepared with the following objectives.

Objectives of the study :

The main objectives of this study are-

1. To examine the different types and forms in which FDI is taking shape.
2. The periodic trend of inflow between 2001-02 to 2008-09.

Green Library: An Overview

Geetali Das

Librarian

S.B.M.S. College, Sualkuchi

Abstract:

The present paper discusses about Green Library, Standards for Green Libraries and Green Library Initiatives in India. Also points out steps involved in designing a good green library such as site selection, water and energy conservation, building material and indoor air quality. At the end some suggestions are given for designing a green library.

Keywords:

Library, Green Library and Green Library initiatives

Introduction:

Green Library is a new concept in library and Information Science and it is gaining popularity among the library professionals. It emerged in 1990's and took a momentum in 2003. Nowadays the world is very much concerned over global warming and its side effects. So we are trying to maintain green environment to save the earth. Libraries are also trying to maintain green environment. A Green library is also known as sustainable library. It is built with environmental concerns in mind. Now libraries are not considered as store house of books. They are becoming life-long learning centres for all groups of people. In recent time, library does not provide their services within the four walls, but they provide their services to the local communities also. Libraries take active part in raising environmental awareness among their users. Green libraries can educate the public about environmental issues by organizing different environmental related programmes.

Objective of the Paper:

The objectives of this paper are given below-

- To discuss about the concept of Green Libraries.

INFLUENTIAL WOMEN OF THE PRESENT TIMES

Mamani Devi

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Department Of Political Science
S.B.M.S. College, Suaikuchi

Abstract:

This article throws light on some of the influential women of the present times across the globe. These women have been trailblazers in the field of politics and economy, environment and with their grit and determination been able to bring about changes in many different spheres such as human rights violation, terrorism, ushering democracy or bringing a stop to gun violence and atrocities against immigrants.

As per the Ministry of Statistics and Program Implementation UN, India's female population stands at 48.2 percentage and the General Elections, which were held across the Indian states in the April 2019, the country saw a higher percentage of women exercising their political right by coming out of their homes to vote. Be it for the Modi government or the opposition; the local state party or the independent candidate; these women wanted to see a change and hence they decided to abandon their daily mundane duties for a few hours either from the daily chores of the house or an important meeting in the office, to come out and vote. These women knew that not opting to vote would only be giving way to any incompetent politician or a local muscleman an easy chance to win and assume power to an office, which will do little to uplift or remove issues that have plagued this country for decades. From terrorist threat of our neighboring countries to the safety of the women in cities and towns against violence and rapes, women everywhere are coming out to voice their opinion on things and issues; which matter. We have had two such women holding very powerful portfolios in India- Late Mrs. Sushma Swaraj, who was the External Affairs Minister of India from 2014-19 and Mrs. Nirmala Sitharaman, who held the position of Minister of Commerce and Industry and Defense and is the present minister of Finance and Corporate Affairs. Both these women have been able to win the approval of the masses and become icons of their times due to their sincerity in work and office.

Categorical Imperative and Niskama Karma

Dr Banti Borah
Associate Professor
Deptt. of Philosophy
S.B.M.S College, Sualkuchi

Abstract:

The German philosopher Immanuel Kant is one of the well-known western philosophers who contributed a lot to various branches of philosophy through his versatile and analytical thoughts. His moral theory is known as Duty for Duty's sake or Categorical Imperative. It can be regarded as an attempt to settle the opposite views between intuitionism and empiricism, idealism and hedonism. He wanted to find out the meaning of goodness, right and wrong, and duty and the implication of the moral knowledge. His moral theory seems to have some similarities with the famous *Gita's* theory of *Niskama Karma*, the most influential part of the *Mahabharata*. Both Kant and the *Gita* give importance on duty regardless of its result or fruits. It is quite natural to have some differences between these two as Kant gives more emphasis on the faculty of reason in determining the rightness of an action. But, the *Gita* recognizes that knowledge, feeling and will are different aspects of the movement of the soul. The *Gita* gives emphasis on non-attachment to action and dedication of all action to God.

Objectives of the study:

- To give an account of Kant's moral theory
- To make a detailed study of the *Gita's* '*Niskama Karma*'
- To find out the similarities and differences between Kant's moral theory namely '*Duty for Duty's sake*' and the *Gita's* '*Niskama Karma*'

Methodology:

Descriptive and Comparative

Higher Education Linkage with Rural Development: Some Reflections

Bhupen Chandra Barman
Associate Professor
Dept. of Economics
SBMS College, Suakuchi

Abstract:

Time has now come to redefine the aims of higher education. Today, higher education is not the fortune for somebody who has the opportunity of wealth and prosperity living in the urban concrete households but to be accessible who have the opportunity of talents who are living in the countryside of our nation. Therefore, villages to be developed by spreading out number of higher educational institutions. These institutions can throw light on the poverty stricken youths and arouse them from the darkness, ignorance, inability, unwillingness and mature them to be perfect man. Higher education improves capacity buildings skill formation, thinking, reasoning and remove misunderstanding and make a man democratic. Higher education provides people with an opportunity to reflect on the critical social, economic, cultural, moral and spiritual issues facing humanity. It contributes to national development through dissemination of specialized knowledge and skill. All these values and elements lack in rural areas due to low growth of higher education in our villages. Therefore higher education can play a better role in the development of rural areas. That is higher education has a linkage with rural development. Agriculture dominates the rural areas. About 65-75% people living in the rural areas and depends on agriculture as their livelihood, therefore, agriculture research centers, training institutions for the people living in the rural areas to be set up so that they can well equipped with modern method of production and it helps to grow productivity of the farmers and to increase per capita income and improve the standard of living. As far as possible and also feasible agricultural education, agriculture research and formation of agriculture policy should be prepared by those individuals, groups or associations who are either engaged or sufficient knowledge of agriculture and basically they are rural based people. Rural universities to be established to provide general education to the boys and

Raja Rammohan Roy : Concept of Religion and Secularism

Sailen Kalita

Asstt. Professor

Department of Philosophy

SBMS College, Suaikuchi

Abstract:

Raja Ram Mohan Roy was known as 'Father of Modern India', 'Father of the Bengal Renaissance and 'Father of Indian Renaissance'. Raja Ram Mohan Roy was a prominent Indian social reformer and the founder of the Brahmo Samaj. Raja Ram Mohan Roy is considered as the pioneer of modern Indian Renaissance for the remarkable reforms he brought in the 18th and 19th century India. The title 'Raja' was bestowed upon him by the Mughal emperor Akbar II, in 1831. Though Roy was modernist in his approach, he always tried to link modernity with tradition. He attempted the creative combination of secularism and spirituality, of Western and Eastern philosophy. He wanted to present the concept of universal religion by combining the best features of all leading religions of the world. He was of the opinion that rationality and modernity needed to be introduced in the field of religion and that "irrational religion" was at the root of many social evils. This concept of universal religion meant not merely religious tolerance, but also transcending all the sectarian barriers of separate religion. He was the founder of Liberal tradition in Indian political thought. The aim of this paper is to explore the concept of religion and secularism of Raja Rammohan Roy. In this paper, I would like to analyze critically about how Rammohan Roy linked modernity with tradition with different outlook.

Keywords: Raja Rammohan Roy, Religion, Secularism.

Introduction:

The modern period starts with the British domination in India. The British rule brought political unity to India of which she was deprived from many centuries. It also brought with it a new and expanding religion, a great culture and a vigorous civilization which made powerful impact on the life and the mind of the people all

Soya bean: Cultivation, Benefits and Effect

Dr. Utpala Baishya
Asstt. Professor
Department of Physics
SBMS College, Sualkuchi

Abstract:

Soya beans are used extensively by all the people of the north-east region. It is a very important plant bioresource in north-east whose potential is highly underutilized. It is being studied both by the research community as well as the state government to exploit the benefits that soya bean has to offer. Not only is it the only plant other than quinoa, that offers all the nine amino acids but it is one cash crop which can be used to boost the economy of the people that depends much on agriculture.

Keywords: Soya beans, Food, Bioresource, Cultivation.

Introduction:

The botanical name of soya bean is *Glycine max*. It belongs to Leguminosae family. According to literature, soya bean has originated from the East Asia, specifically Northern China. Ample literature evidence is available to suggest that soya bean is well-known as a good source of many essential dietary requirements. Although many animal proteins provide the full complement of amino acids, soya beans and quinoa are the only plant-derived foods that contain all nine essential amino acids, viz., lysine, methionine, leucine, isoleucine, valine, phenylalanine, tryptophan and histidine.

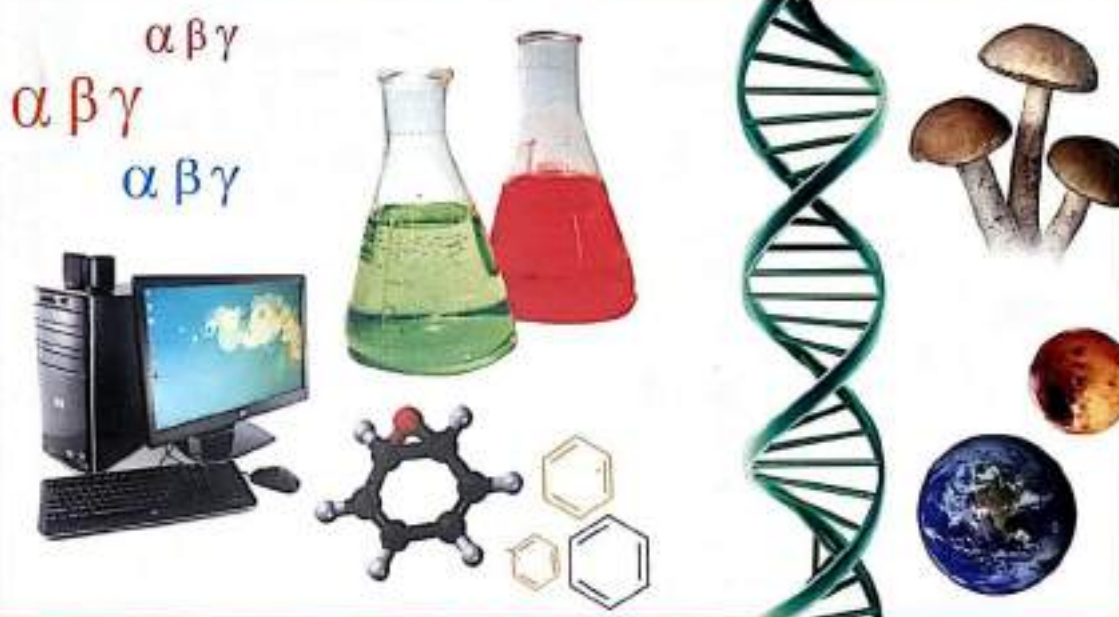
Soya beans also contain the secondary metabolite isoflavones, which serve a variety of biological functions. Isoflavones are structurally similar to mammalian oestradiol and are called phytoestrogens. Though, the isoflavones are not essential nutrients that are required to support life, still they exert many beneficial health effects, therefore, are of immense help for maintaining healthy life.

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INDIGENOUS MEDICINAL PLANT RESOURCES USED BY THE PEOPLE OF KAMRUP DISTRICT OF ASSAM, INDIA

Dr. Channamoi Das

Dept. of Botany, SBMS College, Sualkuchi, Kamrup

INTRODUCTION:

Since the evolution of human race, plants have fascinated them. With varied habit and habitats and floral diversity, plants have always tempted humans to exploit them. Traditional Knowledge (TK) or Indigenous Knowledge (IK) is the 'knowledge gained through long period of observations or experiences and trial and errors, being guided by the force of necessity'. TK though, is not subjected to scientific scrutiny, with value addition it has the potential for application in mass scale and achieves sustainable development. Kamrup district, as in other parts of Assam state, is a multiethnic setting whose inhabitants have different racial affinities and long history of

migration. Ethnobotany of Kamrup district has been scarcely investigated and particularly cross-cultural engagement has not been undertaken earlier. With globalization and loss of biodiversity, a major change in plant use pattern and transmission of the associated knowledge is expected.

The 19th century was ended with systematizing the works appeared on different aspects of ethnobotany as well as few case studies (how different tribes use plants). In the 19th century ethnobotany has been expanded to include several disciplines such as ethnoecology, traditional agriculture, cognitive ethnobotany, material culture, traditional phytochemistry and palaeoethnobotany.

DETERMINATION OF PERIODIC ORBITS WITH BIFURCATION VALUES, TIME SERIES ANALYSIS AND LYAP UNOV EXPONENTS ON TWO-DIMENSIONAL DISCRETE SYSTEMS

Kusambar Saidya

Assistant Prof., S.D.M.I. College, Badkhalid

1.1 INTRODUCTION :

Our main aim in this paper is to demonstrate three objectives of a two-dimensional discrete map:

$$T_{2D} = (f, g): \mathbb{R}^2 \rightarrow \mathbb{R}^2 \text{ defined}$$

$$\text{By } f(x, y) = p - qy - x^2, g(x, y) = x,$$

where p and q are adjustable parameters [1]. Firstly, we establish the Feigenbaum tree of bifurcation points leading to a chaotic region by developing some useful numerical algorithms and obtain the Feigenbaum universal constant $\delta = 4.66920141\dots$, a route from orbit to chaos and the accumulation point $a = 1.0524623567\dots$ beyond which chaotic region occurs. Our numerical methods are

easy comprehensible and found to be effective to measure the first five lower ν -sequences. Secondly, suitable graphs of the time series analysis are exhibited in order to support our periodic orbits of periods $2^k, k = 1, 2, \dots$ and thirdly, the rates of exponential divergence of nearby trajectories and the existence of chaos are confirmed by determining the Lyapunov exponents. These results have opened to further research work in other classic models of this kind.

1.2 OUR MAIN STUDY AND INVESTIGATION :

Our reversed map is

$$T_{2D}^{-1} = (f(x, y), g(x, y)) = (p - qy - x^2, x)$$

SYNTHESIS AND X-RAY ANALYSIS OF UNDOPED UNCAPPED ZNO, CATHARANTHUS ROSES CAPED ZNO AND CATHARANTHUS ROSEUS CAPED CU DOPED ZNO PARTICLES

Jayanta Deka¹, Pabita Sarma²,

¹Department of Physics, S.B.M.S. College

²Department of Chemistry, S.B.M.S. College

ABSTRACT :

In the present work focuses the synthesis of undoped uncapped ZnO, *Catharanthus roseus* capped ZnO and *Catharanthus roseus* capped Cu doped ZnO particles. The precursor used in this synthesis process was Zinc nitrate hexahydrate and leaf extract of *Catharanthus roseus* plant was used as capping agent. The synthesized samples were analyzed using XRD. The crystallite sizes of uncapped undoped ZnO, *Catharanthus roseus* capped ZnO and Cu doped *Catharanthus roseus* doped were found to be 16.16 nm, 14.27 nm and 13.98 nm respectively.

Keywords: Metal oxide, Nanoparticles, Green synthesis, XRD.

INTRODUCTION :

Metal oxide nanoparticles are of good attention, due to their unique optical, electronic and physiochemical properties. Metal oxides has been utilizing in variety of fields such as sensors, memory storage devices, photocatalytic, drug delivery, catalysis, magnetic resonance imaging and quite these days in treating cancer cells [1]. Among the metal oxide nanoparticles Zinc oxide nanoparticles was found to be popular metal oxide nanoparticles because of its unique optical, electrical as well as mechanical properties and that is why it has huge range of applications in different fields including electronics,

TOPIC : LIMIT WITH APPLICATION TO CALCULUS

Chander Kanta Verma
Asst. Professor (Department of Mathematics)

Abstract :

In this paper we will learn how to evaluate limits in different methods and how they are used in the basic problems of Calculus.

Introduction :

Limits are a basic and important concept in Mathematics. They can be regarded as one of the most fundamental concepts and influential instruments of general Mathematics because they are especially in the understanding of derivatives and integrals.

Keyword :

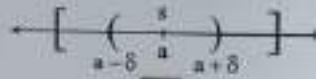
Limit of sets, limit of functions, Limit of sequence, techniques for evaluating limits.

Preliminaries :

We collect together preliminary definitions and techniques to evaluate limits which are needed in this paper.

Definition 1 :

Let $S \subseteq \mathbb{R}$ and $a \in S$. Then S is said to be a Neighbourhood of a if $\exists \delta > 0$ such that $(a - \delta, a + \delta) \subseteq S$.





সুৱালকুছি বুদ্ধবাস মাধৱ সত্ৰাধিকাৰ মহাবিদ্যালয়, সুৱালকুছি
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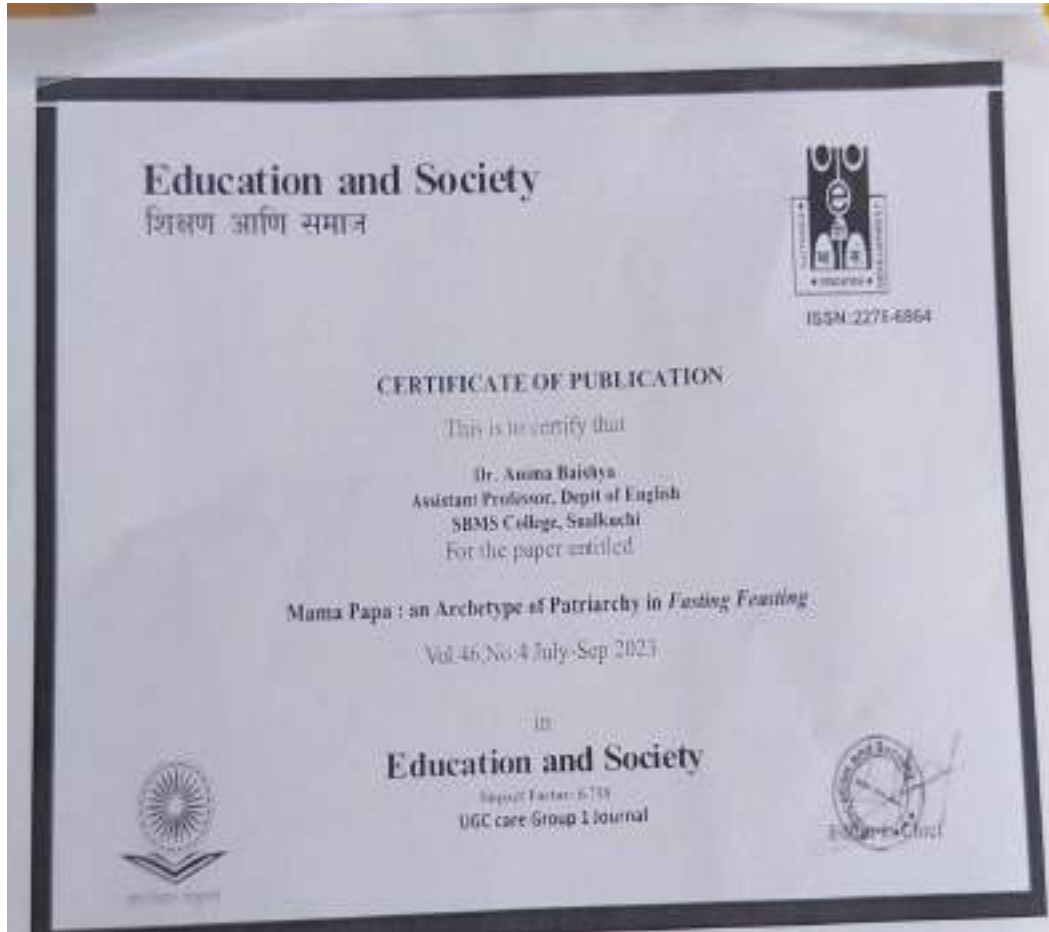


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সূচিপত্র

আগতীয়াঃ	১-১৪৯
• অসমৰ জননী বনটোল নগৰ-নগৰীয়াৰ অধ্যয়ন ড° দেৱেশ্বৰ নাথ শৰ্মা	১-১৪
• অসম-সোম্বাৰ নদী আৰু ব্ৰহ্মপুত্ৰ নদী অধিনায়কত্বক ব্যৱস্থা ড° অক্ষয় কুমাৰ বৰা জ্যোতিষ্মা নাথ	১৪-৩৪
• ঐতিহাসিক মুচিকোপেৰে ইয়াৰনী উপত্যকাত অগ্ৰীতি দেৱ কুমাৰ চক্ৰৱৰ্তী	৩৪-৪৩
• শাক্যবান্ধৱৰ সোম্বাৰী বৰ উপত্যকাত ঐতিহাসিক নগৰিকৃত পাতাল জীৱন ড° হাতী বিনয় সুপৰ শেখাৰেডা	৪২-৪৩
• শিৱেনী জনসংগঠন নগৰিকৃত পথক-সংস্কৃতি ড° কণী শৰ্মা	৪১-৬০
• অসমীয়া কৃষিসম্বন্ধ নদী অধ্যয়ন ড° নিশিমালা শৰ্মা	৬১-৭০
• অসমৰ লোকসংগঠন ঐতিহাসিক সোম্বাৰী সোম্বাৰী জীৱন-সংগঠন আৰু নগৰিকৃত সোম্বাৰী ড° সুপ্ৰসন্ন বৰা	৭১-৯৪
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IMPORTANCE OF ECONOMIC ANALYSIS FOR CREATING A STABLE ECONOMY

Authored By

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An environment-benign approach of bamboo pulp bleaching using extracellular xylanase of strain *Bacillus stratosphericus* EB-11 isolated from elephant dung

Rupak Kumar Sarma¹ · Anwesha Gohain⁴ · Tobiul Hussain Ahmed² · Archana Yadav³ · Ratul Saikia²

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Abstract

The use of microbial enzymes is highly encouraged in paper and pulp industries to reduce the excessive use of hazardous chemicals. During the study, xylanase of *Bacillus stratosphericus* EB-11 was characterized for pulp bleaching applications. The extracellular xylanase was produced under submerged fermentation using bamboo waste as a natural carbon source. There was fast cell division and enzyme production under optimized fermentation conditions in the bioreactor. The highest activity was 91,200U after 30 h of growth with K_m and V_{max} of 3.52 mg/mL and 391.5 μ mol/min per mg respectively. The purified enzyme with molecular mass ~60 kDa had conferred positive activity on native PAGE. The strong inhibition by ethylenediaminetetraacetate and SDS showed the metallo-xylanase nature of the purified enzyme. The bacterial xylanase reduces the use of hydrogen peroxide by 0.4%. Similarly, biological oxygen demand and chemical oxygen demand were reduced by 42.6 and 35.2%. The xylanase-hydrogen peroxide combined treatment and conventional chlorine dioxide-alkaline (CDE₁D₂D₂) bleaching showed almost similar improvement in physicochemical properties of bamboo pulp. Xylanase-peroxide bleaching reduces the lignin content to 4.95% from 13.32% unbleached pulp. This content after CDE₁D₂D₂ treatment was 4.21%. The kappa number decreased from 15.2 to 9.46 with increasing the burst factor (15.51), crystallinity index (60.25%), viscosity (20.1 cp), and brightness (65.4%). The overall finding will encourage the development of new cleaner methods of bleaching in the paper and pulp industry.

Keywords Xylanase · Elephant dung · Fermentation · Kappa number · Bleaching · Real-time qPCR

Introduction

The production of pulp and paper is uniquely an important manufacturing industry all over the globe for its pedagogic and packaging utilities. The paper industry is categorized almost as a yardstick for socio-economic development in developing countries. The Indian paper industry is the 15th largest in the

world, accounting for about 1.6% of global paper and paperboard and providing employment to 1.3 mn people in the country (Sharma et al. 2015). Although beneficial economically, the industry is one of the environmentally sensitive sectors due to the extensive use of chemicals in pulping and bleaching processes. The chemical bleaching agents, such as chlorine, chlorine dioxide, hypochlorite, sodium hypochlorite, are known to be toxic, mutagenic, and harmful to biological systems (Bajpai 1992). Therefore, the use of elemental chlorine is now not recommended for bleaching. Elemental chlorine-free (ECF) processes are more acceptable from environmental perspectives (Craciun et al. 2010; Gavrilescu 2010). Secondly, the pulp and paper industries are large consumers of process water (Ashrafi et al. 2015). The discharged wastewater is very much contaminated with high biological oxygen demand (BOD) and chemical oxygen demand (COD) (Pokhrel and Vitarughavan 2004). The wastewater generated after chemical bleaching contains chlorinated organic compounds including dioxin, furans, and other absorbable organic halides, which in turn pollute the groundwater, too. Therefore, the government of

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PHYTOCHEMICAL SCREENING AND BIOCHEMICAL ANALYSIS OF A FEW TRADITIONALLY IMPORTANT MEDICINAL PLANTS AGAINST DERMATOPHYTES

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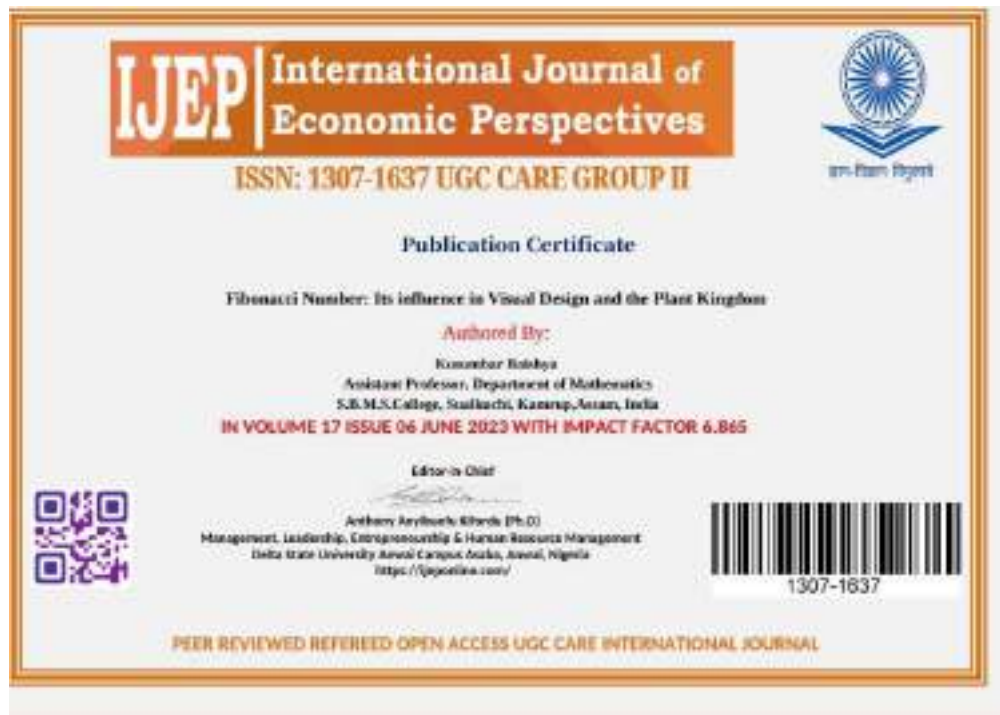
ABSTRACT

Human skin diseases, caused by dermatophytes, are common in North East India due to the high humid condition. The medicinal plants play the major role of treating the skin diseases in the region, especially among the ethnic people. The present study was undertaken to analyse different phytochemicals and biochemical properties of ten different medicinal plants used by traditional healers against dermatophytes. Based on the phytochemical constituents, four plants viz *Dendrocinide sinuata* (Blume) Chen, *Meyna laxiflora* Robyns, *Sterculia villosa* Roxb, and *Eugenia odoratum* L. were carried forward for further analyses. The result showed that the methanol, chloroform and aqueous leaf extracts of *D. sinuata*, *M. laxiflora*, *S. villosa* and *E. odoratum* hold promises as a source of pharmaceutically important phytochemicals like alkaloid, tannin, flavonoid and phenol. Methanol, chloroform and aqueous leaf extracts of *M. laxiflora* recorded higher content of phenol and flavonoid. Higher content of alkaloid was recorded in all the four selected plants. Total tannin content was found higher in *E. odoratum* followed by *S. villosa*, *M. laxiflora* and *D. sinuata*. Major biochemical compounds identified through GC-MS analysis are neophytadiene, linalool, indoles, terpenes, acetogenins, phenols, Z-28-Heptatriaconten-2-one, oxirane, hexadecyl, phytol, squalene and 2,4-Di-*tert*-butylphenol. These findings would be useful for further exploitation of the selected experimental plants for bioprospection.

Keywords: - Phytochemical screening, biochemical analysis, traditional use, medicinal plant, dermatophytes

INTRODUCTION

The incidence of dermatophytosis has increased considerably day by day (Jeonop *et al.*, 2000). It occurs in various forms as non-contagious and contagious diseases. The primary cause of skin diseases is fungal but sometimes bacterial, viral and parasitic infection also occurred. The subtropical humid condition in North East India facilitates the incidence of fungal diseases accounting 50% of total skin diseases (Das, 2003). Moreover, the majority of the people of Assam is engaged in agriculture and related activities and is thereby frequently exposed to different dermatological infections (Sainia *et al.*, 2006). Plants, animals and minerals are natural products that have been the basis in the treatment of many diseases from ancient time (Saitar, 2006). In India and other



Fibonacci Number: Its Influence in Visual Design and the Plant Kingdom

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1. Abstract:

The Fibonacci sequence is an amazing sequence followed by the nature itself. The Fibonacci sequence is a set of numbers that starts with one or a zero, followed by a one, and proceeds based on the rule that each number (called a Fibonacci number) is equal to the sum of the preceding two numbers. This sequence is actually very close ratio to the Golden Ratio. The Golden Ratio is a design concept that is to create visually appealing proportions in art, architecture, design and even the human body all throughout history. It's believed that the Golden Ratio has been in use for at least 4000 years in human art and design. However, it may be even longer than that – some people argue that the Ancient Egyptians used the principle to build the pyramids. Visual design gives an application its distinctive style, its thematic look and tonal identity. Here we will try to establish the influence of Fibonacci sequence, Golden Ratio and their contribution in the field of Visual design and will try to show how the Golden Ratio is applicable to the pattern of tree leaves and relation of Fibonacci sequence with the design of flower petals, color in nature.

2. Keywords:

Fibonacci number, Golden Ratio, Golden Rectangle, Golden Spiral.

3. Introduction:(1, 2, 3)

According to the famous mathematician Euclid, "The laws of nature are but the mathematical thoughts of God". Mathematics is all around of us. But most of us are not interested in going deep about what mathematical explorations are in nature. Mathematical formulations and justifications are inherent in nature; in the case of plants, animals, geographical observations, fractals, chaos, shapes and patterns and many more. Mathematical symmetry is inherent everywhere in nature. The human body would be an excellent example of a living being that has symmetry.

The Fibonacci sequence is a unique mathematical sequence followed by nature itself. Fibonacci sequence was proposed by the famous mathematician Fibonacci Leonardo Pisano who hailed from Republic of Pisa, is popularly known as Fibonacci. This sequence is a series of numbers from classical mathematics that has found applications in advanced mathematics, statistics, computer science etc.

The Fibonacci sequence is a series of numbers starting with 0 and 1 and the sum of the two preceding numbers form the next number. The mathematical rule to find any Fibonacci number (F_n) of the sequence is $F_n = F_{n-1} + F_{n-2}$, where $F_0=0$, $F_1=1, n \geq 2$. The sequence is then given by 0, 1, 1, 2, 3, 5, 8, 13, and so on. The sequence is commonly seen in nature. This pattern and sequence is

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**On the Stability of Period Doubling Bifurcations and the Existence of Chaos
in Nonlinear Discrete Systems**

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Abstract: In this paper, we consider a nonlinear discrete dynamical system as follows:
$$f(p) = r \left(p - \frac{p^2}{K} \right) - pK,$$
 where p is the biomass density, r is the maximum per-capita rate of change and K is the carrying capacity of population.
Here, we (i) evaluate the period doubling bifurcation points $\{p_n\}_{n=1}^{\infty}$ of periods $2^0, 2^1, 2^2, \dots, 2^k, \dots$, (ii) determine the accumulation point, (iii) highlight the stability analysis of periodic orbits, (iv) show the region of the existence of chaos, and (v) establish the Feigenbaum constant. Furthermore, some crucial roles of Immigration and Emigration are discussed, and a few open problems are posed.
Keywords: Feigenbaum Universality, Period Doubling Bifurcation, chaos, Immigration and Emigration

Keywords: Feigenbaum Universality, Period Doubling Bifurcation, Chaos, Immigration and Emigration

1. Introduction:

The initial universality discovered by the elementary particle theorist Mitchell J. Feigenbaum in 1975 and later in one dimensional iterations with the logistic map $x_{n+1} = \lambda x_n(1-x_n)$ and the trigonometric sine function $x_{n+1} = A \sin(x_n)$ has successfully led to discover that large classes of nonlinear systems exhibit transitions to chaos which are universal and quantitatively measurable. If X be a suitable function space and H , the hypersurface of co-dimension 1 that consists of the maps in X having derivative -1 at the fixed point, then the **Feigenbaum universality** is closely related to the doubling operator, F acting in X defined by

$$(F\psi)(x) = -\alpha\psi(\psi^{-1}x) \quad \psi \in X$$

where $\alpha = 2.5029078750957\dots$, a universal scaling factor. The principal properties of F that lead to universality are

- (i) F has a fixed point x^* ;
- (ii) The linearised transformation $DF(x^*)$ has only one eigenvalue δ greater than 1 in modulus; here $\delta = 4.6692016091029\dots$
- (iii) The unstable manifold corresponding to δ intersects the surface H transversally;

2. The Main Results:

We consider a one-dimensional map of the interval

$$x_{n+1} = f_p(x_n) = f(x_n, p)$$

where p is a control parameter. We are interested in the maps with quadratic maxima where, as the key system parameter p increases, a stable fixed point gives birth to a stable 2-cycle, which then gives birth to a stable 4-cycle, and so on until at $p = p_c$, all cycles of order 2^k are unstable and

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Job Satisfaction of College Librarians of North Kamrup Rural Area

Authored by

Mrs Gertali Das, Librarian

S.R.M.S. College, Sualkuchi, District: Kamrup, PIN-781003, Assam

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STUDY OF TENSILE PROPERTIES OF MUGA AND ERI SILK FIBRES IN WINTER SEASON.

-Dr. Chandrama Kalita.

Assistant Professor Dept. of physics, SBMS College, Sualkuchi

Abstract:

Muga and Eri silk is mostly composed of the insoluble protein fibroin, coated by a smaller amount of a water-soluble protective gum (sericin), including small amounts of other substances. The shining appearance of the silk is due to the triangular prism-like structure of the silk fibre, which allows silk cloths to refract incoming light at various angles, so producing different colors. In addition to clothing silk is used for a variety of uses, including upholstery, wall coverings, rugs, bedding and wall hangings. The aim of this paper is to study of tensile properties of Muga and Eri silk in Winter season. The value of tensile strength of Muga and Eri silk in winter season is 295.4×10^{13} dyne/cm² and for Eri silk it is 636.94×10^{13} dyne/cm².

Index Terms :- Tensile, Shinning

INTRODUCTION:

Tensile strength

- Capacity of a material or structure to without loads bending to elongation, resists tension (being pulled apart) measured by the maximum stress that a material can withstand while being stretched or pulled before breaking.
- It is a measurement of the force required to pull something, such as rope wire or a structure such as rope wire or a structural beam to the point where it breaks.
- The tensile strength of a material is the maximum amount of tensile stress that it can take before failure for example breaking. There is three typical definition of tensile strength.

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সাহিত্য-শিল্পক
অধিনায়কবন্দন
আরও যাদুনায়কবন্দন



শ্রী অক্ষয়চন্দ্র

স্বদেশপুস্তকালয়ের প্রচারিত 'অধিনায়ক বন্দন' শ্রেণীভুক্ত
সিদ্ধান্তিক দুইটি, অর্থাৎ যাদুনায়কী আরও যাদুনায়কী
নামক দুইটি গ্রন্থের সংকলন হিসেবে প্রকাশিত।
এই দুইটি গ্রন্থই 'অধিনায়ক বন্দন' নামে পরিচিত।
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তুংগভদ্রা প্রণত

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অধিনায়ক বন্দন শ্রেণীভুক্ত দুইটি গ্রন্থের সংকলন হিসেবে প্রকাশিত।
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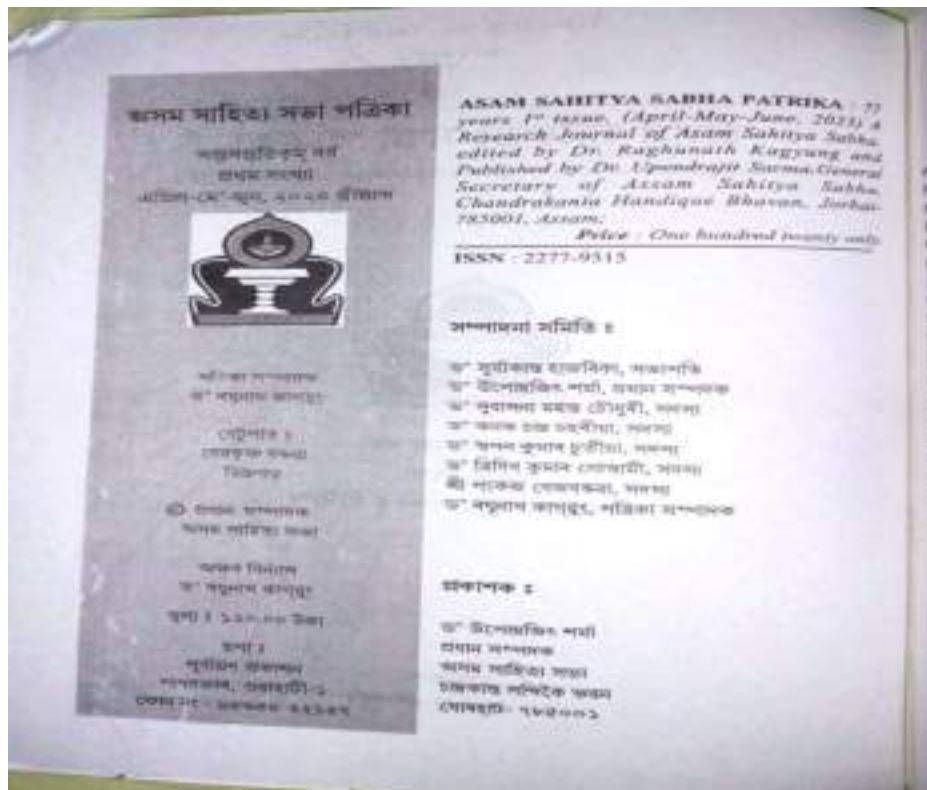


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- (৫) ভূপেন হাজৰিকাৰ বীতৰত সাময়িক প্ৰসংগ
● শিবামণি দেৱী/৩২
- (৬) মিডিং ভাষা শিক্ষাৰ সাংস্কৃতিক স্থিতি
● ড' বিজয়কান্ত দত্ত/৩৮
- (৭) 'বামধেনু' আলোচনীত প্ৰকাশিত প্ৰবন্ধ-সাহিত্য (বীৰেন্দ্ৰ কুমাৰ ভট্টাচাৰ্য্য সম্পাদিত 'বামধেনু' আলোচনীৰ আধাৰত)
● ড' নিবেদিতা শইকীয়া/৪৭
- (৮) চাহ জনগোষ্ঠীৰ উৎসৱ-পাৰ্বন : এটি পৰিচয়মূলক আলোচনা
● কল্পিতী বৰা/৫৫
- (৯) বাস্তৱবাদ : ইতিহাস আৰু স্বৰূপ— এটি আলোচনা
● শেখাৰী গোস্বামী ● ড' বৈশাখ মাহতাব/৬৪
- (১০) প্ৰত্নতাত্ত্বিক গৱেষণাৰ আধাৰত 'মনৰ পথী উভতি উৰে'ত ব্যৱহৃত উপভাষাগত সমন্বয় স্বৰূপ (ঋনিতাত্ত্বিক দিশৰ বিশেষ উল্লেখসহ)
● বনশ্ৰী নাথ/৭৩





গুৱাহাটী বিশ্ববিদ্যালয়ৰ প্ৰাক্-স্নাতক অসমীয়া বিষয়ৰ পাঠ্যক্ৰম

© ড° বিজয়ানন্দ মলৈ, মহাসচিব, অসমীয়া বিজ্ঞান, তথ্যসংগ্ৰহীত্ব বিভাগৰ মাকৰ শত্ৰুবিলাস
মহাবিদ্যালয়, কেল / ৭৮১০৭৪৪৪২৮

বৰ্ষ ২০১৯-২০ আৰু প্ৰত্যেকখন বছৰত অসমৰ মহাবিদ্যালয় আৰু বিশ্ববিদ্যালয়সমূহত এই শিক্ষাবৰ্ষৰ
পৰা বৰ্ষীয় শিক্ষানীতি-২০২০ আৰম্ভ হৈছে। যিহেতু এই শিক্ষাবৰ্ষৰ পৰা প্ৰাক্-স্নাতক পাঠ্যক্ৰম
হিচাপে লক্ষ্যৰ পৰিৱৰ্ত্তিত হ'ব, সেয়ে অসমৰ আন আন বিশ্ববিদ্যালয়সমূহৰ দৰে গুৱাহাটী
বিশ্ববিদ্যালয়ৰ চৰকাৰীয়া প্ৰাক্-স্নাতক পাঠ্যক্ৰম সুভাৱত কৰিছে আৰু এই অনুমতি সন্দৰ্ভত
বিশ্ববিদ্যালয়খনৰ অধীনত চলা মহাবিদ্যালয়সমূহত পাঠদানৰ প্ৰক্ৰিয়া আৰম্ভ হৈছে। আশা কৰা
হৈছে, চৰকাৰীয়া প্ৰাক্-স্নাতক পদ্ধতিয়ে ইতিপূৰ্বে চলি থকা তিনিবছৰীয়া প্ৰাক্-স্নাতক পদ্ধতিৰ
অন্যৰ অগোচৰে যাক সীমাবদ্ধতা হূৰ কৰি অসমৰ উচ্চ শিক্ষা ব্যৱস্থাতোক এক নতুন মাত্ৰা
প্ৰদান কৰিব। গুৱাহাটী বিশ্ববিদ্যালয়ে আন আন বিদ্যালয়ৰ দৰে অসমীয়া বিষয়ৰ পাঠ্যক্ৰম
(২০২০-২১ শিক্ষাবৰ্ষৰ বাবে) বৰ্ষীয় শিক্ষানীতি-২০২০ৰ আধাৰত প্ৰস্তুত কৰিছে। সেই
অনুসৰি ইতিপূৰ্বে চলি থকা পাঠ্যক্ৰমৰ ওচৰ ভেজা দি কিছু সালসলনি কৰিছে। লক্ষ্যীয় কথাটো
হ'ল, নতুনকৈ সুভাৱত কৰা এই চৰকাৰীয়া প্ৰাক্-স্নাতক অসমীয়া বিষয়ৰ পাঠ্যক্ৰমত দুই-এক
অগোচৰে সন্নিবেশ পোৱা গৈছে। অসম সাহিত্যিকৰ 'অসমীয়া ভাষা আৰু সাহিত্যৰ ইতিহাস
(১৯২০ চনপৰ্য্যন্ত)' পাৰ্ব্বিক কালতকৈ Major আৰু Minor দুয়োটাতেই বাধ্যতামূলক, ই হ'ল

PHILOSOPHICAL IMPLICATIONS OF THE STUDY ON SILK HANDLOOM WEAVING IN ASSAM WITH SPECIAL REFERENCE TO THE NATIONAL MOVEMENT IN BANGLADESH

Dr. Dipendra K. Sarma¹, Dr. Dipendra K. Sarma²

Abstract

Silk Handloom industry plays an important role in the economy of Assam, generating income and employment particularly in the rural areas as well as expanding the base of trade and commerce. A recent study of Assam economy has a major perspective of the commercial silk handloom weaving activities in the state which determines role of the sector workers in the light of the above proposition. The present study intends to investigate the prospects of improvement of the sector workers engaged in the silk handloom weaving activities in the Kamrup District of Assam, by studying their status in the Kamrup (North) District of Assam. The analysis of the empirical data based on the sample survey provides ample evidence of the effect of improvement in enhancing the status of sector workers within their households in comparison to their non-weaving counterparts. In other words, in the present study it is found that the employment of women in the silk handloom industry has empowered them through an enhancement in their relative status within their households by increasing their say in the three spheres of decision-making as well as leading them to a realization in the growing their degree of education in traditional systems and facilities.

Keywords: Handloom industry, women workers, self-empowerment, participation, silk

1. Background of the Study

Silk industry plays an important role in the economy of Assam, generating income and employment particularly in the rural areas as well as expanding the base of trade and commerce. Silk industry in the state greatly influences the silk handloom weaving activities silk handloom weavers traditionally by handloom weaving (Sarma, 1989, 1990, Sarma, 2009). As per the latest census report of handloom registered by the National Council of Applied Economic Research (NCAR), 2010-11, Assam accounts for 77.4 percent of the total loom value as a share of total production and 48.18 percent of the total handloom workers in the country.

Silk Handloom industry of Assam encompasses silk rearing as well as hand weaving. Silk rearing priority is given for and Assam location. Since the golden time is produced only in Assam having high export potentiality. Traditionally, the industry is a monopoly of the women folk and all the workers are practically women. However, the gradual modernization of this industry has progressed the technological up-gradation as well as participation of male workers along with female (Kapur, 1990; Kapur, 1990; 1974; Kalia, 2010; Choudhary, 2011). Even then, the sector workers discuss the

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SIGNIFICANCE OF HANDLOOM WEAVING IN ASSAM: AN STUDY IN THE NATIONAL CONTENT

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ABSTRACT

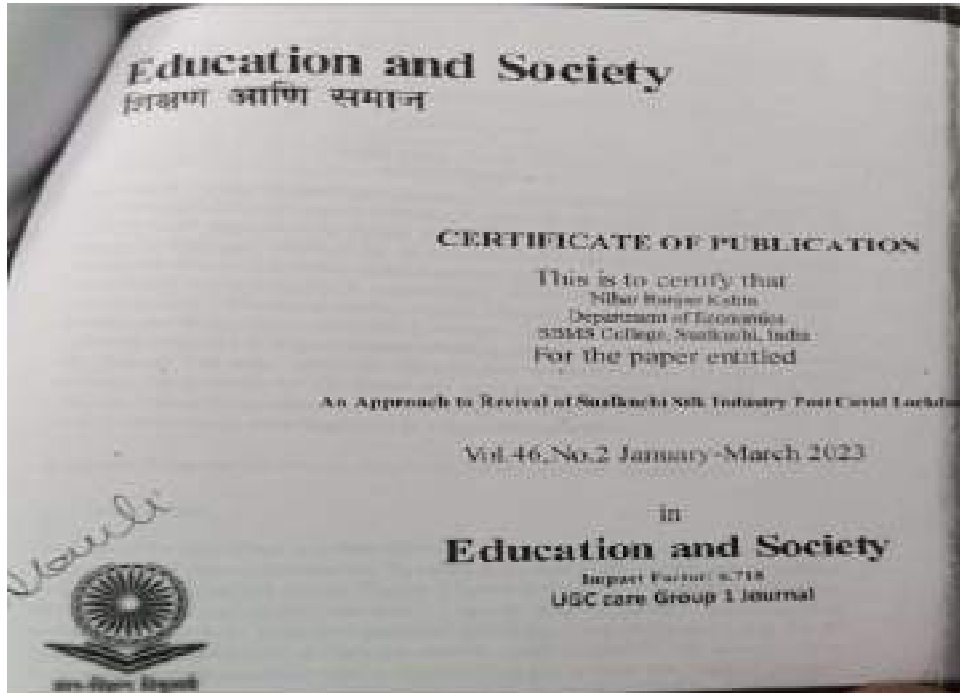
Handloom industry is an ancient cottage industry in India with decentralized set up, spreading throughout the length and breadth of the country. The industry is an age old sector of handloom the lakh of people in the country. The state of the industry is quite significant in meeting the clothing requirements of the masses. Indian cotton textile industry can be broadly divided into two sectors namely self-aided and decentralized sector. The decentralized sector can further be classified into two sectors, handlooms and power looms. Handlooms are closely associated specifically with the rural sector of the economy. The share of handlooms in the decentralized sector is overwhelming producing of more one third of the total cloth production in India. Under this circumstance the handloom industry has received considerable attention of the planners' right from the inception of the planning era in the country.

The handloom weaving activities have a glorious tradition in the economy of Assam as well, along with the rest of the north east region. Such activities are intimately linked with the culture and tradition of the Assamese people since long past. In terms of impact and coverage, handloom weaving stands next only to agriculture particularly in the rural areas of the state. The unique aspect of the handloom weaving in Assam is that the tradition of weaving is widely dispersed to each and corner of the state and presently it is practiced by all sections of the people irrespective of caste, creed and community.

Although the traditional handloom sector is gradually facing severe competition in recent years from the modern power looms it can be made competitive through modernity with its facilities an status. Moreover, there is a wide scope of modernization of this sector in the state. Under the above circumstances the present study has the following objectives: a. to explore the tradition of handloom weaving in Assam and b. to study the necessary status of handloom workers in the state. The weaving industry has a promising future. If the industry is systematically organized it can absorb many unemployed youth of northeast Assam.

1. Introduction

Handloom industry refers to the ancient cottage industry wherein various kinds of traditional cloths are woven by the weavers with the help of hand looms. As an ancient cottage industry in India, handloom is having a decentralized set up, spreading throughout the country. It is perhaps the most important industry among the hundreds of small scale and cottage industries that have evolved up till now in India. It is noteworthy that although this sector has been replaced in most of the countries by modern textile industry, it has been able to survive to witness the competition from the power looms and mill sectors in India and still it occupies a strategic position in her socio-economic set up. It has been possible as a result of effective intervention of the Government through financial assistance and implementation of various developmental and welfare programs since independence. It is remarkable that in no other country in the world hand weaving is spread on such a nation wide basis (Das Vidyalaxmi, 2011). India's fine handloom handloom industry has remained unscathed preserving the ancient tradition of weaving and carrying on sustainable improvements in the use of tools and accessories even in the wake of the growing mechanization as well as scientific and technological revolution during the post independent era. However, handlooms have a great potential with respect to the preservation of the traditional skills of





Socio-Economic Status of Mising Women and Their Significant Role in the Society

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Abstract: *There are the indigenous people in India who have been inhabiting since the primitive period and on the contrary, those people who have come from different places at different times due to different reasons, living inaccessible regions without any light of civilization and who have identified themselves as primitive inhabitants are, in a word, called the "Tribes". Among these tribes Mising community is one of them. Misings are the second largest Scheduled Tribe Communities of Assam. They belong to Mongoloid race and Tibeto-Burman speakers of the greater Sino-Tibetan group of languages. Presently concentration of the Mising population is mostly found in the districts of Lakhimpur, Dimaaji, Dibrugarh, Jorhat, Majuli, Golaghat, Sonitpur, and Kamrup (metro) districts of Assam. Though originally a hill-tribe, many members of this community migrated to settle in the Brahmaputra Valley of Assam. They took agriculture as the primary source of livelihood after experiencing the fertile plains of the Valley. Besides cattle rearing, weaving and fishing became secondary occupational source of the community. Women in the Mising society play a vital role in these economic activities and are inseparable partners of the entire production and distribution process. Women also take part in development and welfare activities of the society. Being part of the patriarchal society, such differentiation is noticed in most of the communities of Assam. In the Mising society the multifarious role played by women for development and welfare activities of the society.*

Key words: *Tribe, Women, Socio-Economic, Development.*

Introduction:

As per census of 2011 the Tribal who constitute 8.6 percent of the total population of the country are regarded as the oldest ethnic group. Their distinctive socio-cultural made them a



SUSTAINABLE PRACTICES AND ETHNOBOTANICAL CONSERVATION OF PLANT RESOURCES OF TRIBAL PEOPLE OF SOUTH KAMRUP DISTRICT, ASSAM

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ABSTRACT:

Sustainable utilization of natural resources is an essence of all traditional societies in different parts of the world. Resources are extracted in a meaningful approach so that it is not exhausted. Indigenous people have acquired a sound knowledge system of activities of plants and animals (phenology) and have successfully employed these traits to harvest resources. Field study design included Rapid Ethnobotanical Appraisal method, village walks and walk along forest, transect with key informants, group discussion with women and interview of traditional healers. These phenological traits are also used by them to time their activities pertaining to agricultural operations. Long-term ethnobotanical engagements with cultural societies expose researchers with an array of opportunities about people-plant interactions in day-to-day life pertaining to (in addition to other activities) diversity of plant resources (crops, etc) utilized and their conservation.

Keywords: Plant resources, conservation, utilisation.

Introduction: Agriculture is the main occupation of the people residing in reserve forest areas of South Kamrup District of Assam (Rabha, Garo, Boro and Tea-Tribes). The practice however, is subsistence in nature as the production is mainly for consumption and only surplus products are traded for cash benefits or bartered. Agricultural land is scarce so farmers make optimum use of land available to them. Indigenous people have acquired a sound knowledge system of activities of plants and animals (phenology) and have successfully employed these traits to harvest resources. Any conservation initiative must be holistic that respect local culture and practice. The natural resources are mindfully utilized by traditional societies in different part of the world. It is almost like a trade mark quality of these societies. The Kamrup district is home to many tribes/communities/groups of diverse racial affinities. Major groups are Rabha, Garo, Boro Tea-Tribes and many non-tribal groups. This high ethnic and cultural diversity provide suitable platform or a natural laboratory for ethnobotanical research. Field study design included Rapid Ethnobotanical Appraisal method.