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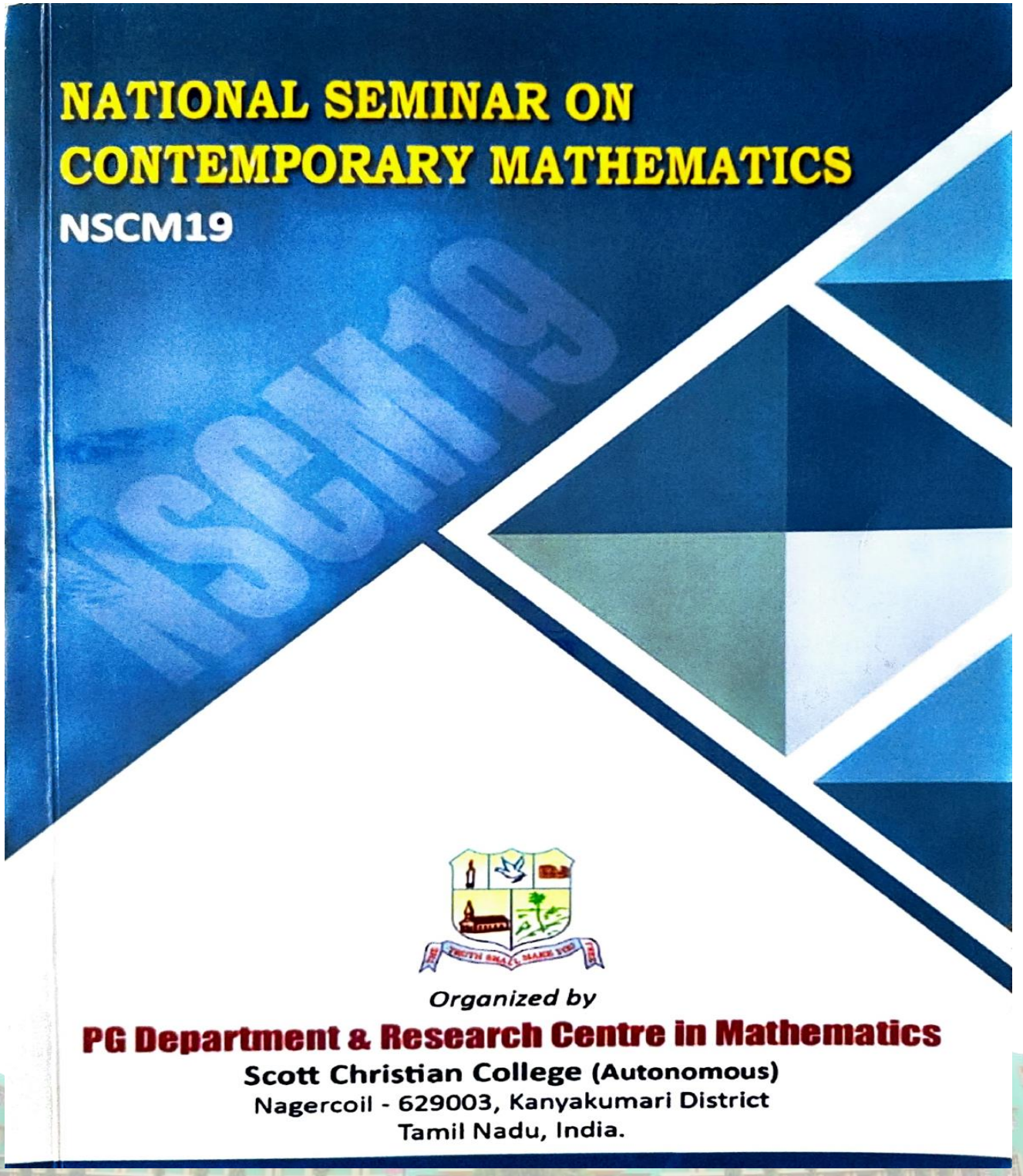

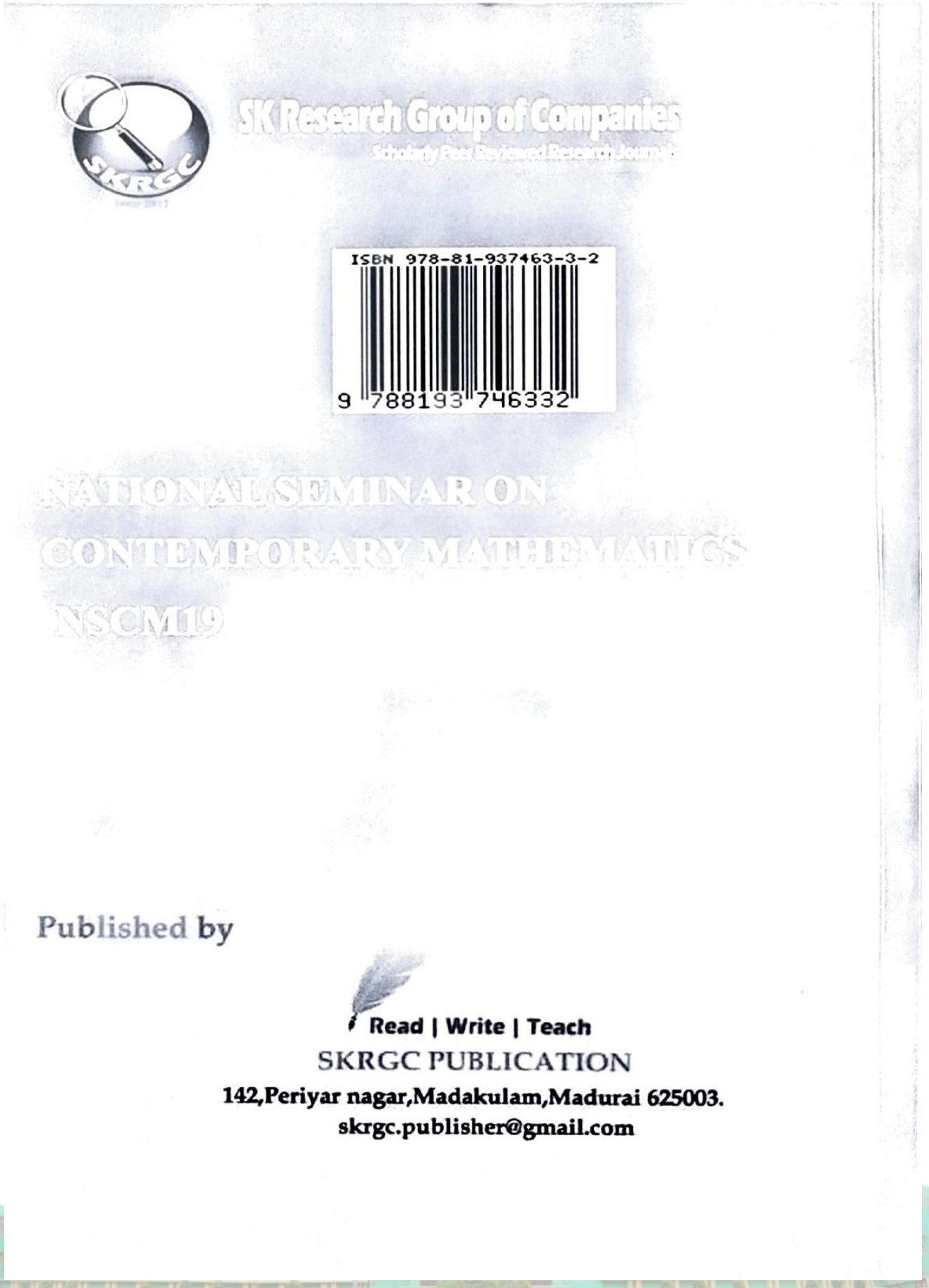
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Some Results on Perfect Mean Cordial Graphs

A. Annie Lydia,
Department of Mathematics
MS University, Tirunelveli 627 012
e-mail:annielydia25@gmail.com

M.K. Angel Jebitha,
Department of Mathematics
Holy cross college (Autonomous)
Nagercoil, 629 004
e-mail: angeljebitha@holycrossngl.edu.in

Abstract

A vertex labeling $f : V(G) \to \{0,1,2,3\}$ is said to be perfect mean cordial labeling of a graph G if it induces an edge labeling f^* defined as follows :

$$f^*(uv) = \begin{cases} 1 & if\ 2|(f(u)+f(v)) \\ 0 & otherwise \end{cases}$$

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Keywords - perfect mean cordial graph , perfect mean cordial labeling.

AMS Subject Classification 05C78.

Introduction

In 1987 Cahit introduced the concept of cordial labeling as a weaker version of graceful and harmonious labeling. In [1] perfect mean cordial graph was introduced and proved that some standard graphs are perfect mean cordial graphs.

Definition 1.1 [1] A vertex labeling $f : V(G) \to \{0,1,2,3\}$ is said to be a perfect mean cordial labeling of G if it induces an edge labeling f^* defined as follows :

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Example 1.2 [1] The graph G which is shown in Figure 1.1 is a perfect mean cordial labeling.

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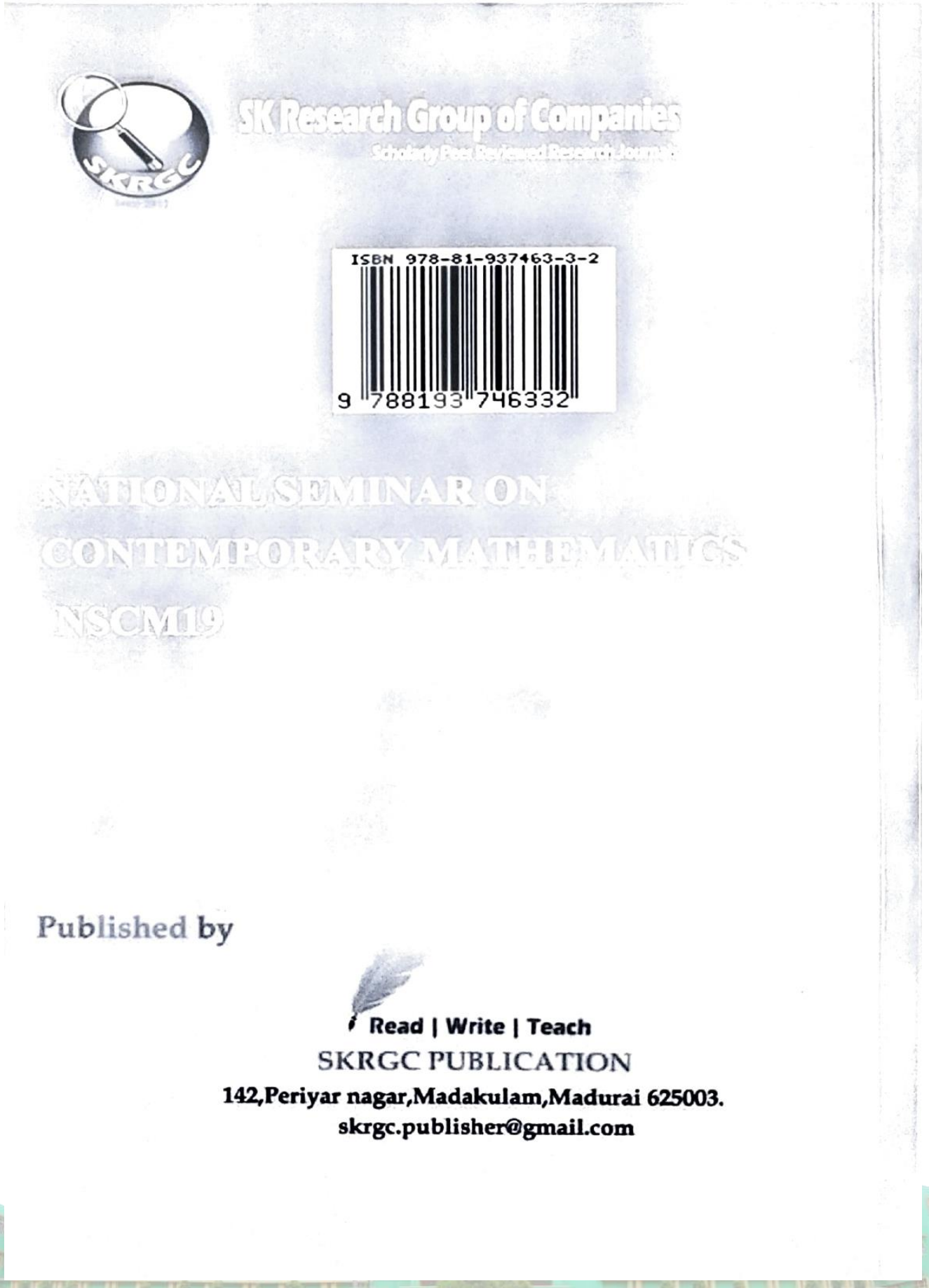
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Relatively Prime Dominating set of some Graphs

C. Jayasekaran[1] and A. JancyVini[2]

[1]Department of Mathematics, *Pioneer Kumaraswamy College, Nagercoil-629003.
E- mail:jaya_pkc@yahoo.com
[2]Department of Mathematics, *Holy Cross College(Autonomous), Nagercoil-629004, E- mail:
jancyvini@gmail.com
[*Affiliated to ManonmaniamSundaranar University, Abishekapatti, Tirunelveli]

Abstract

Let G be a non–trivial graph. A set $S \subseteq V$ is said to be a relatively prime dominating set if it is a dominating set and for every pair of vertices u and v in S such that (d(u), d(v)) = 1. The minimum cardinality of a relatively prime dominating set is called the relatively prime domination number and it is denoted by $\gamma_{rpd}(G)$. In this paper, we find relatively prime domination number of union of two complete graphs, union of a star and a complete graph, Double star $B_{m,n}$, Jelly fish J(m, n), Jump graph $J(P_n)$, P_n^{---} and P_n^{+++}.

Keywords: *Dominating set, relatively prime dominating set*

AMS Subject Classification: (2010): 05C69

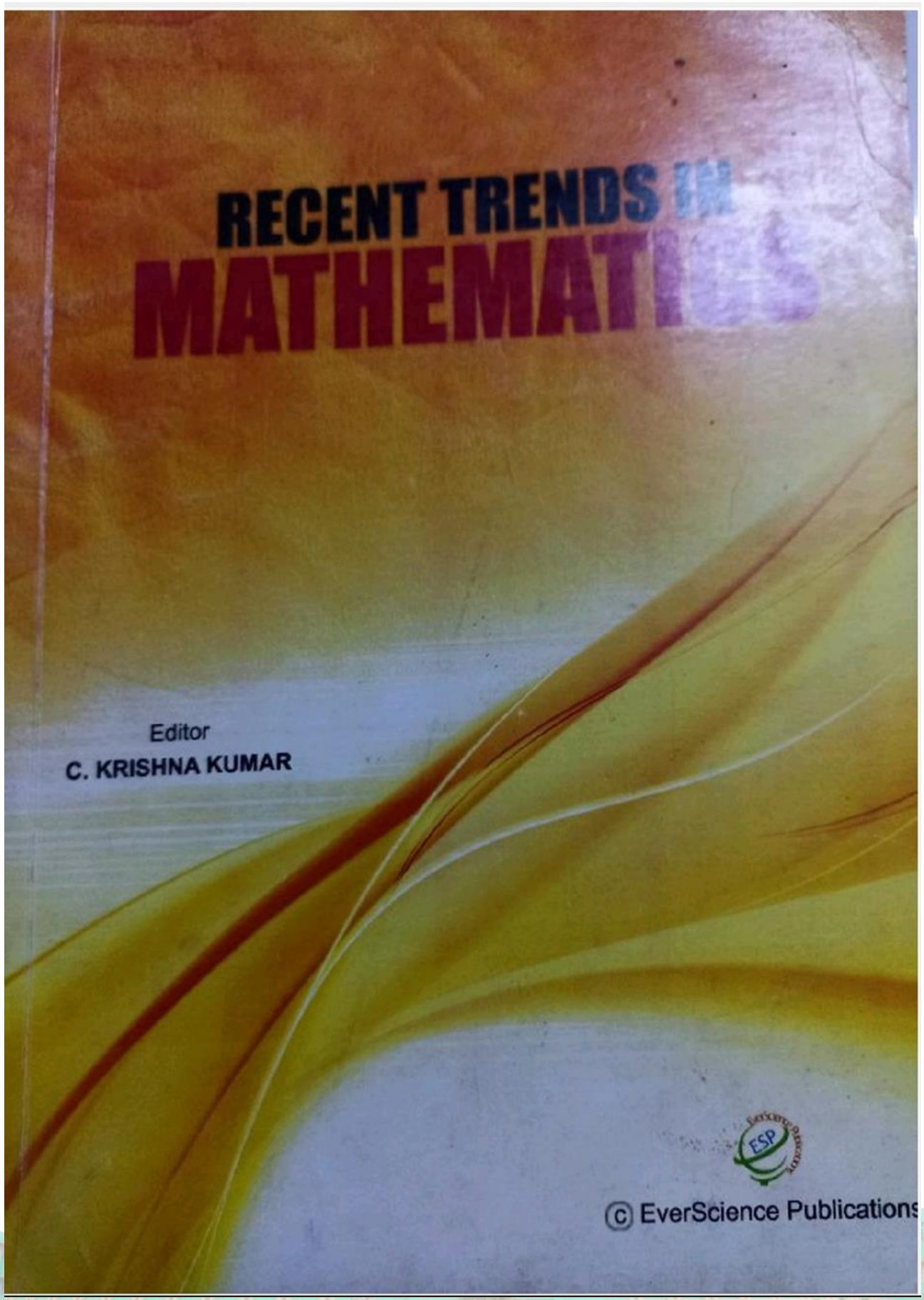
1. Introduction

By a graph G = (V, E) we mean a finite undirected graph without loops and multiple edges. The order and size of G are denoted by p and q respectively. For graph theoretical terms, we refer to Harary[3] and for terms related to domination we refer to Haynes [4]. A subset S of V is said to be a dominating set in G if every vertex in V- S is adjacent to at least one vertex in S. The domination number $\gamma(G)$ is the minimum cardinality of a dominating set in G.

Berge [1] and Ore [9] formulated the concept of domination in graphs. It was further extended to define many other domination related parameters in graphs. Let G be a non – trivial graph. A set $S \subseteq V$ is said to be a relatively prime dominating set if it is a dominating set and for every pair of vertices u and v in S such that (d(u), d(v)) = 1. The minimum cardinality of a relatively prime dominating set is called the relatively prime domination number and it is denoted by $\gamma_{rpd}(G)$ [5].

2. Definition and Examples

For the present investigation, we give basic definitions and results which are related to this paper.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Star Related Perfect Mean Cordial Graphs

A. Annie Lydia
Department of Mathematics
MS University
Tirunelveli 627 012
Tamil Nadu, India
e-mail: annielydia25@gmail.com

M.K. Angel Jebitha,
Department of Mathematics
Holy cross college(Autonomous),
Nagercoil 629 004
Tamil Nadu, India.
e-mail:jebidom@gmail.com

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with the condition that $|\, e_f(0) - e_f(1)\,| \leq 1$ and $|v_f(i) - v_f(j)\,| \leq 1$ *for all* $i, j \in \{0,1,2,3\}$.where $e_f(m)$ is number of edges label with m $(m = 0, 1)$ and $v_f(k)$ denote the number of vertices labeled with k $(k = 0, 1, 2, 3)$. A graph G is said to be perfect mean cordial graph if it admits a perfect mean cordial labeling. In this paper, we prove that some star related graphs are perfect mean cordial graphs.

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Example of Perfect Mean Cordial labeling is shown in the figure 1.1

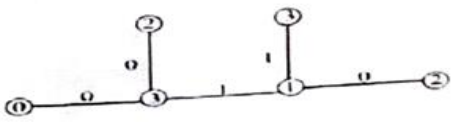

figure 1.1

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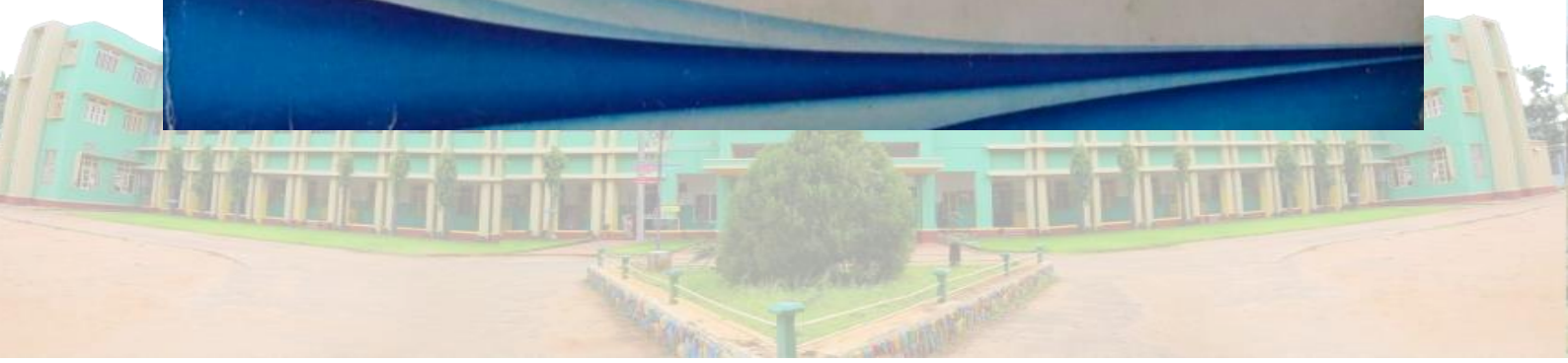

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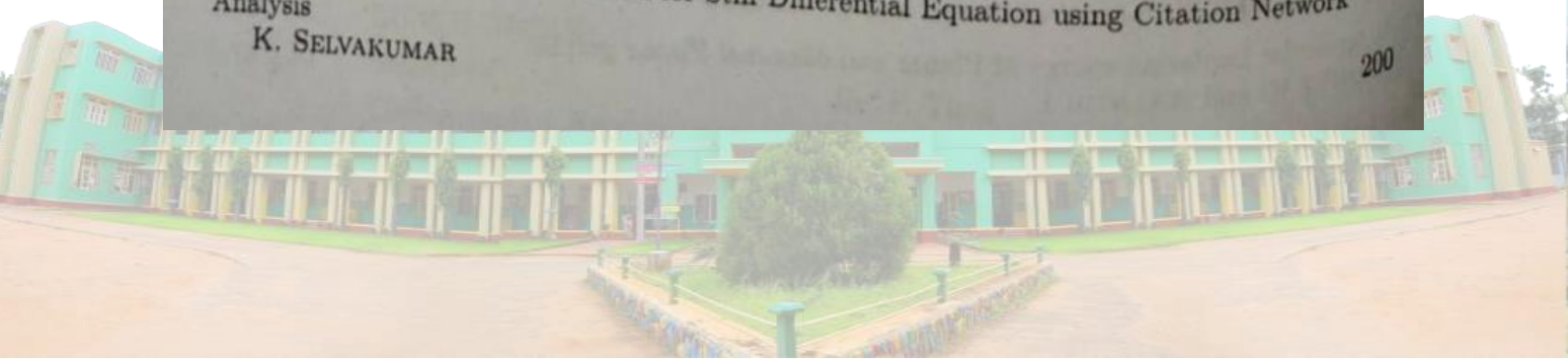

Perfect Mean Cordial Labeling of Certain Graphs

A. Annie Lydia and M.K. Angel Jebitha[1]

Reg.No.18223112092007, Department of Mathematics,
Manonmaniam Sundaranar University,Tirunelveli 627 012, Tamil Nadu, India
[1]Department of Mathematics, Holy cross college(Autonomous),
Nagercoil 629 004, Tamil Nadu, India.
e-mail : annielydia25@gmail.com ; angeljebitha@holycrossngl.edu.in

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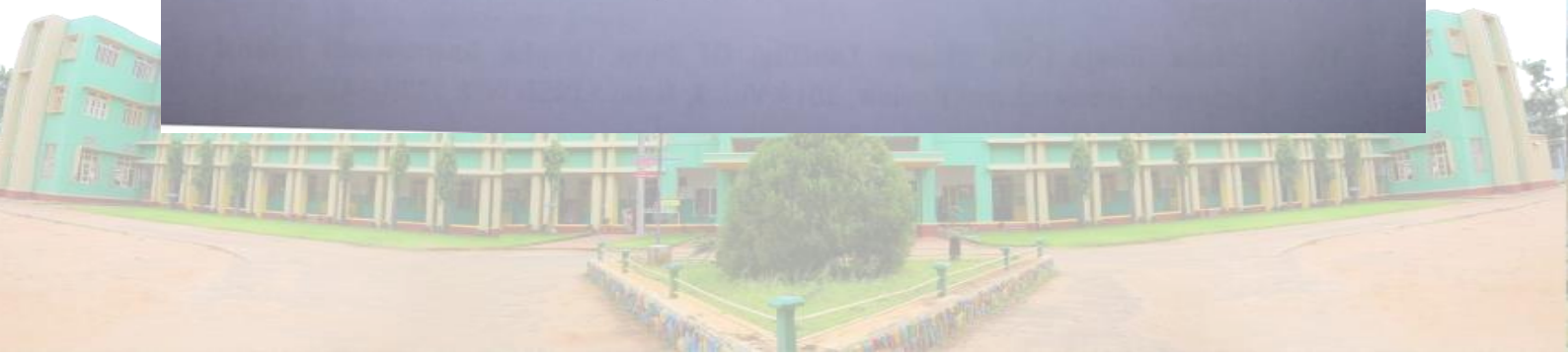
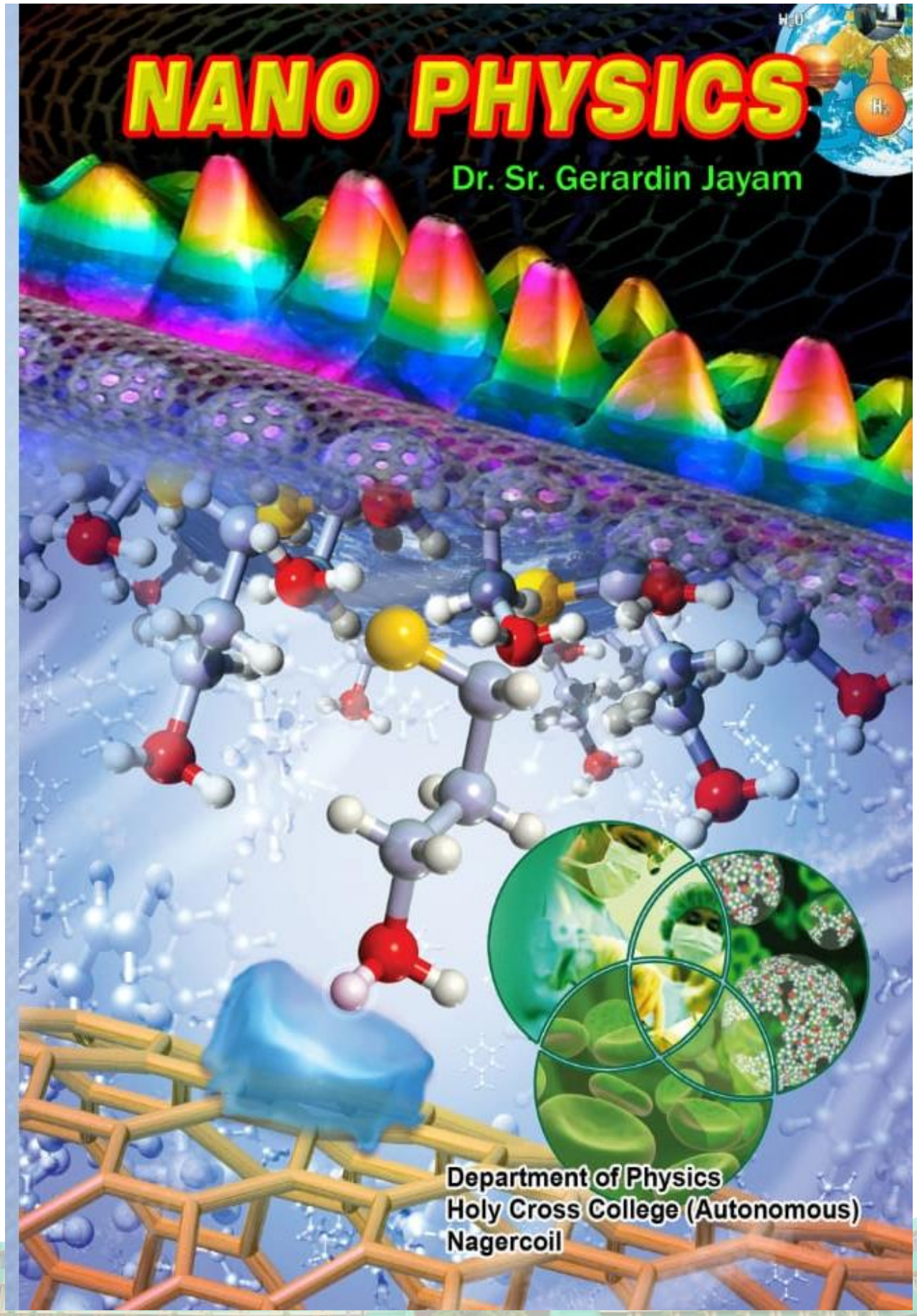
Definition [3] **1.2**A **Globe** is a graph obtained from two isolated vertex are joined by n paths of length two.It is denoted by G*l*(n).

Definition [2]**1.3**Graph obtained from a path P_n, by joining each end vertices of an edge with two isolated vertex. It is denoted by $C_2(P_n)$

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Dr. Sr. Gerardin Jayam
Department of Physics
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Dr. Sr. GERARDIN JAYAM M.Sc., M.Phil., Ph.D
and
Dr. S.SONIA M.Sc., Ph.D
Department of Physics,
Holy Cross College (Autonomous),
Nagercoil – 629004.

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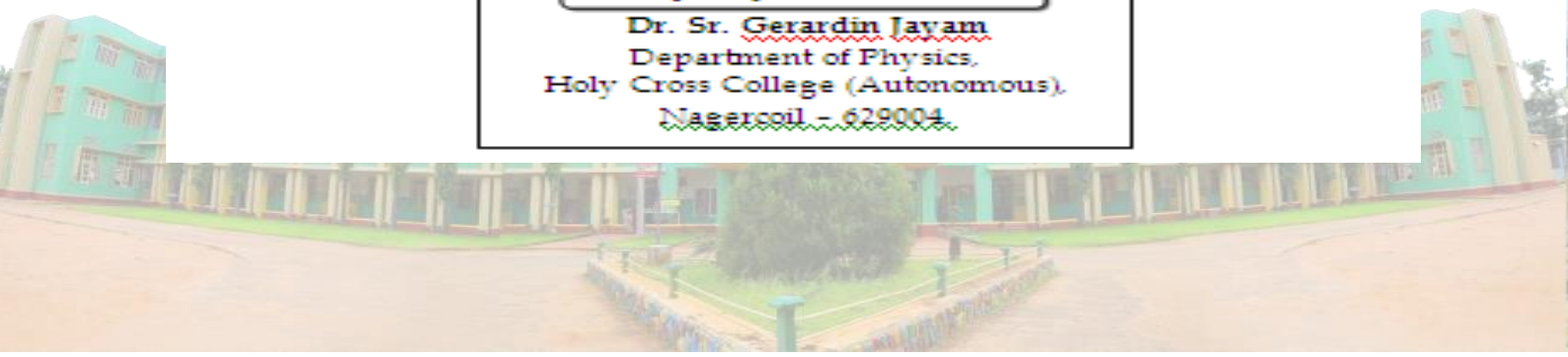

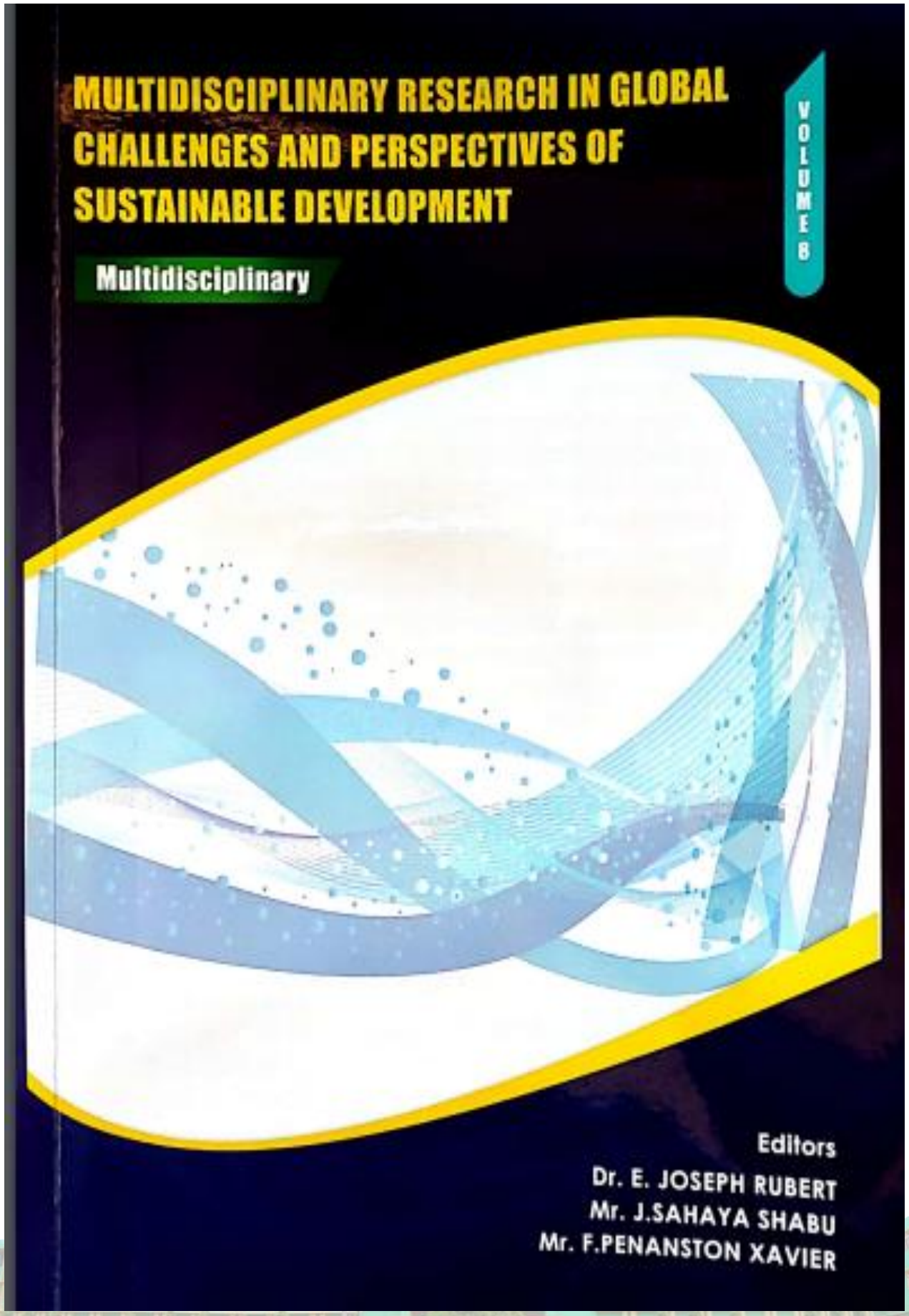
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Surfactant free super hydrophobic cupric oxide (CuO) thin film for self cleaning activity

P. Princeya Mary[a], S. Sonia[a*], Jinitha. G[a], Naidu Dhanpal Jayram[b]

[a] Department of Physics
Holy Cross College (Autonomous) Nagercoil-629004
[b] Department of Physics
Kalasalingam Academy of Research and Education, Krishnan Koil - 626126
[a] Department of Nanoscience and Technology
Bharathiar University, Coimbatore-641046

Abstract

Superhydrophobic surfaces stir up the present researchers and the industrial employers to recalibrate our world not only by shrinking but by changing the surface structure of compounds. Due to its promising applications, in the present research work, the simple and more effectual SILAR technique is employed for the preparation of CuO thin film without any surfactants. Floral nanostructured super hydrophobic surfaces of CuO were fabricated by utilizing $CuCl_2.2H_2O$ as precursor and by varying the number of deposition cycles for the self cleaning process. X-ray diffraction pattern confirms the formation of pure CuO with monoclinic phase. The morphological studies via SEM basically showed the nanopetals and it assembled closer to each other to yield floral morphology. XRD analysis confirmed the improved crystallinity of CuO nanostructures. The conical shaped edges and surface roughness of CuO nanostructured thin film were pre-owned as excellent water and soil repellent.

Keywords: Nanoflowers; SILAR; Superhydrophobic; Soil repellant

1. INTRODUCTION

Metal oxide nanoparticles are rich resources in global contemplating and revolutionary approach in present technology. Among various metal oxides, Cupric Oxide (CuO) had acquired particular attention due to its simplest member in the family of copper compounds and showed a range of advantageous physical properties such as high temperature, super conductivity, lower surface potential barrier, and surface plasmon resonance with silver, superhydrophobicity and many more [1-3] . Due to these fascinating properties, CuO is implemented as auspicious applicant for multifarious application like self cleaning, gas sensors, solar cells, field emitters, heterogeneous catalysts, magnetic storage material, drug delivery, anti corrosion and lab-on-chip [4-8].

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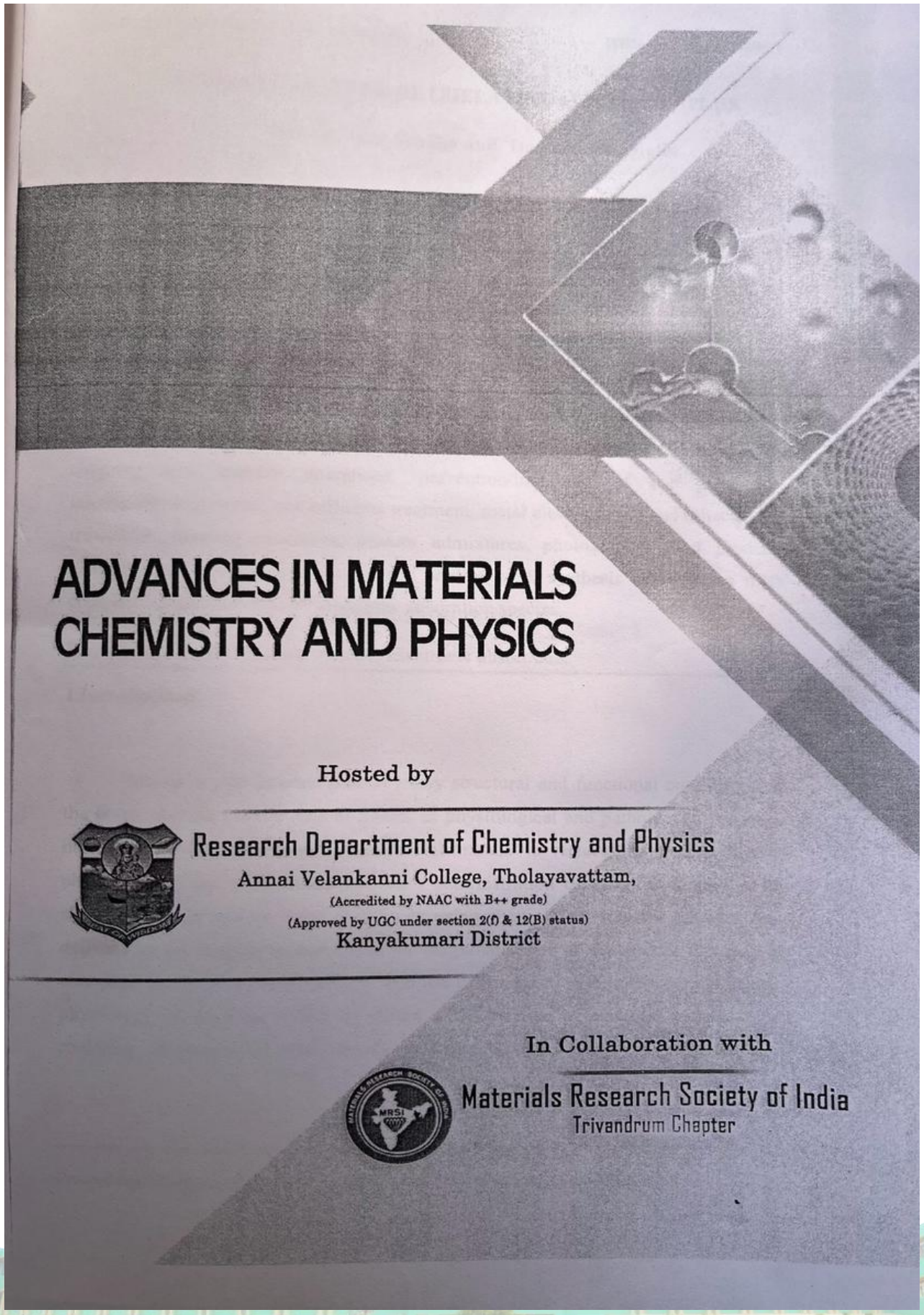
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SYNTHESIS AND CHARACTERIZATION OF ZINC DOPED COPPER OXIDE NANOSTRUCTURES FOR PHOTODEGRADATION OF ORGANIC DYES

S. Sonia[A*], P. Abisha[A],
[A]Department of Physics, Holy Cross College (Autonomous), Nagercoil, India
*Corresponding Author: S. Sonia (sonia.s@holycrossngl.edu.in)

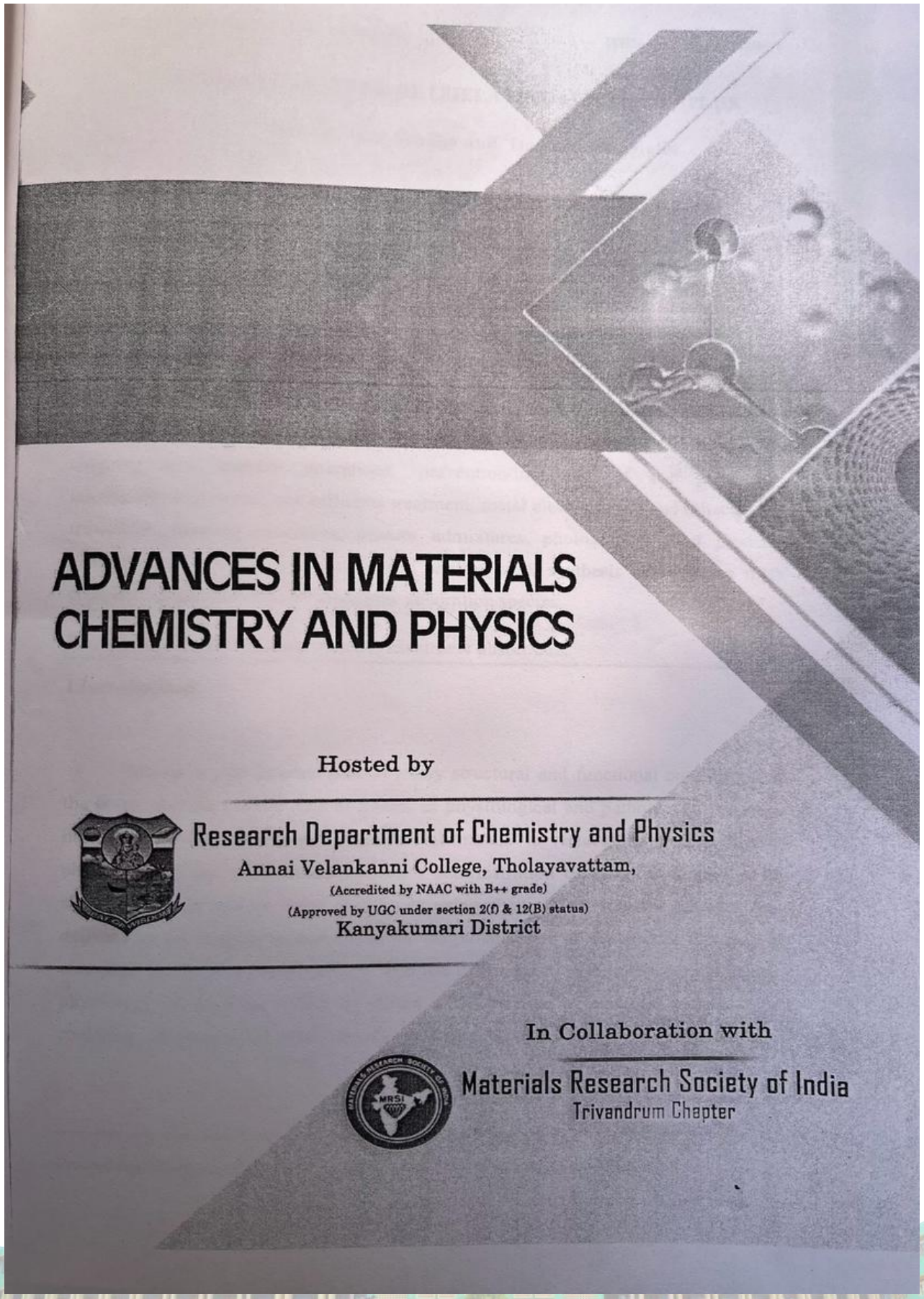
ABSTRACT

Transition metal with semiconductor nanostructures is an effective way for promoting photocatalytic activity. In this paper, we demonstrated the successful doping of Zn with cupric oxide (CuO) nanorods and their photocatalytic properties. Three different concentrations of Zn with CuO nanoparticles were synthesized by hydrothermal method. The crystalline structure and the optical properties of the obtained nanostructures were characterized using XRD and fluorescence spectrometer. The photocatalytic performance of the prepared nanostructures was examined for the degradation of methylene blue (MB) and methylene violet (MV) under UV irradiation. It was found that even at very low concentration (0.7M) of Zn can greatly influence the photocatalytic activity of CuO.

Keywords: Nanoparticles, semiconductors, structural.

1. Introduction

Semiconductor-based photocatalytic degradation of organic pollutants has attracted great interest in recent years since it provides a hypothetical solution to the environmental pollution [1-2]. Among the variety of semiconductor photocatalysts applied to remove toxic or hazardous pollutants, CuO is one of the most important photocatalyst, owing to its high photosensitivity, physical and chemical stability. Some studies have proved that CuO can degrade certain organic pollutants under UV irradiation [3-7]. However, the fast recombination rate of the photo-generated electron–hole pairs formed in photocatalysis process limits the effective degradation. Recently, coupled semiconductors composed of CuO and other metals and metal oxides or sulfides have also been studied [8]. For example, noble metals like Ag can be deposited on the semiconductor surface and suppressing the recombination of charge carriers thereby leading to remarkably enhanced photocatalytic property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ELECTRONIC SPECTRA OF CHELATING METAL COMPLEX

[1]Mrs.M.Jaya Brabha and [2]Dr.M.Anitha Malbi

[1]Research Scholar, Research Centre: Department of Chemistry, Holy Cross College, Nagercoil. Affiliated to Manonmanium Sundaranar University, Tirunelveli.

[2]Research Supervisor, Department of Chemistry, Holy Cross College, Nagercoil.

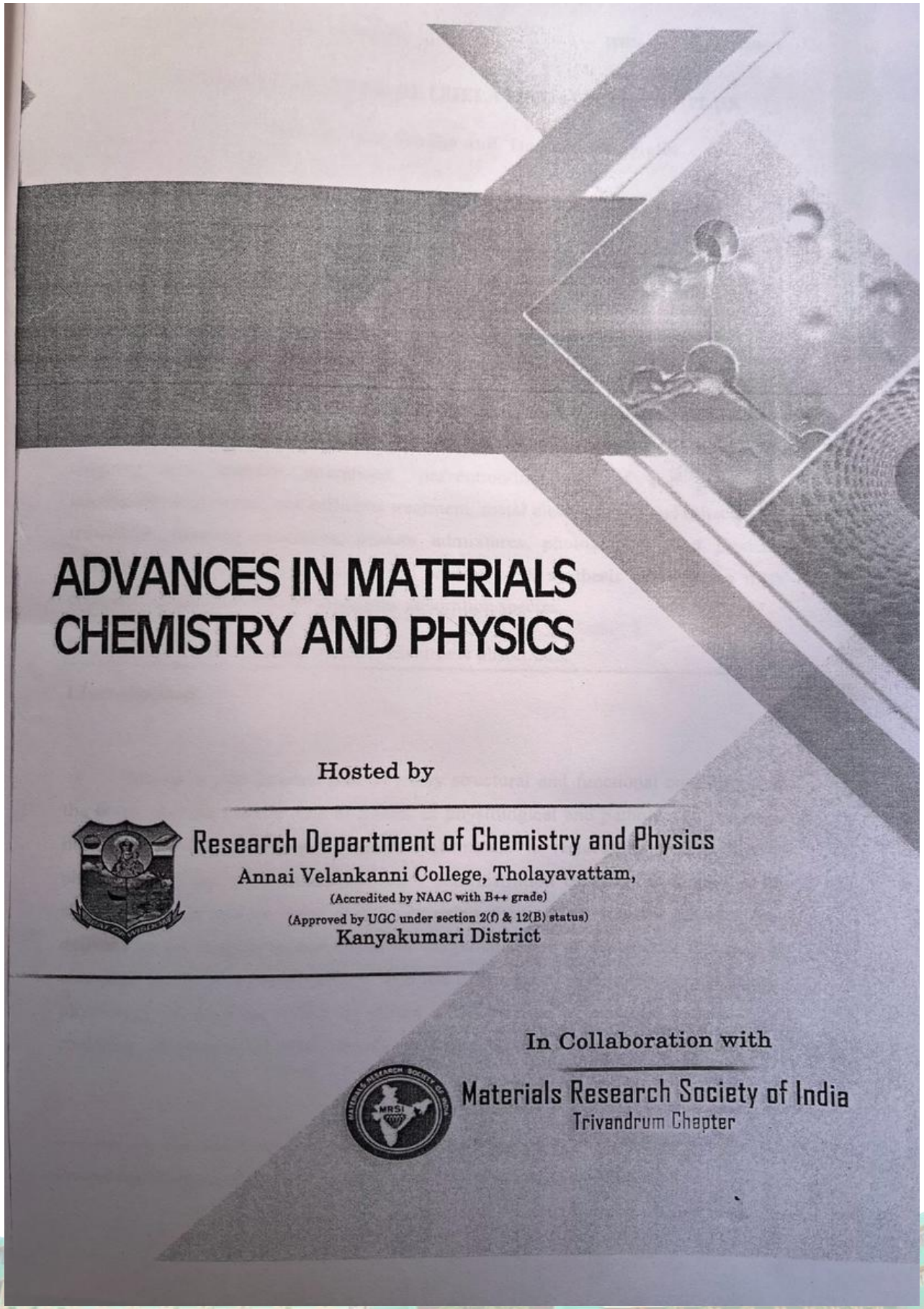
ABSTRACT

Chelating complexes are widely used in many industrial, domestic, medicine and agriculture applications. Over the last decades, they have been used in several applications, such as scale and corrosion inhibitors, pulp, paper and textile production, cleaning and laundry operations, prevention/inhibition of the growth of microorganisms, waste and effluents treatment, metal electroplating and other surface treatments, tanning processes, cement admixtures, photography, food products, pharmaceuticals and cosmetics. In the present work synthesis of chelating metal complex and characterise by electronic absorption spectra.

Key words: Chelate; Poly dentate; Electronic absorption.

1.Introduction

Metals are an internal part of many structural and functional components in the body, and the critical role of metals in physiological and pathological processes has always been of interest. The use of metals to restore the normal healthy physiology of the body either by direct administration of essential metals, or by chelating out excess or toxic metals, or using them as carriers for targeted drug delivery or for tagging biomolecules for diagnostics, are all techniques that may be classified as Metallo-pharmacology. The use of metals to restore the normal healthy physiology of the body either by direct administration of essential metals, or by chelating out excess or toxic metals, or using them as carriers for targeted drug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Santhiya S[1] and Sheeba Daniel[2]*

[1]Research Scholar (Reg.No:18213042032009), Department of Chemistry, Holy Cross College (Autonomous), Nagercoil. Affiliated to Manonmanium Sundaranar University, Tirunelveli.
[2]*Department of Chemistry, Holy Cross College (Autonomous), Nagercoil - 4.
Email: sheebadaniel@holycrossngl.edu.in

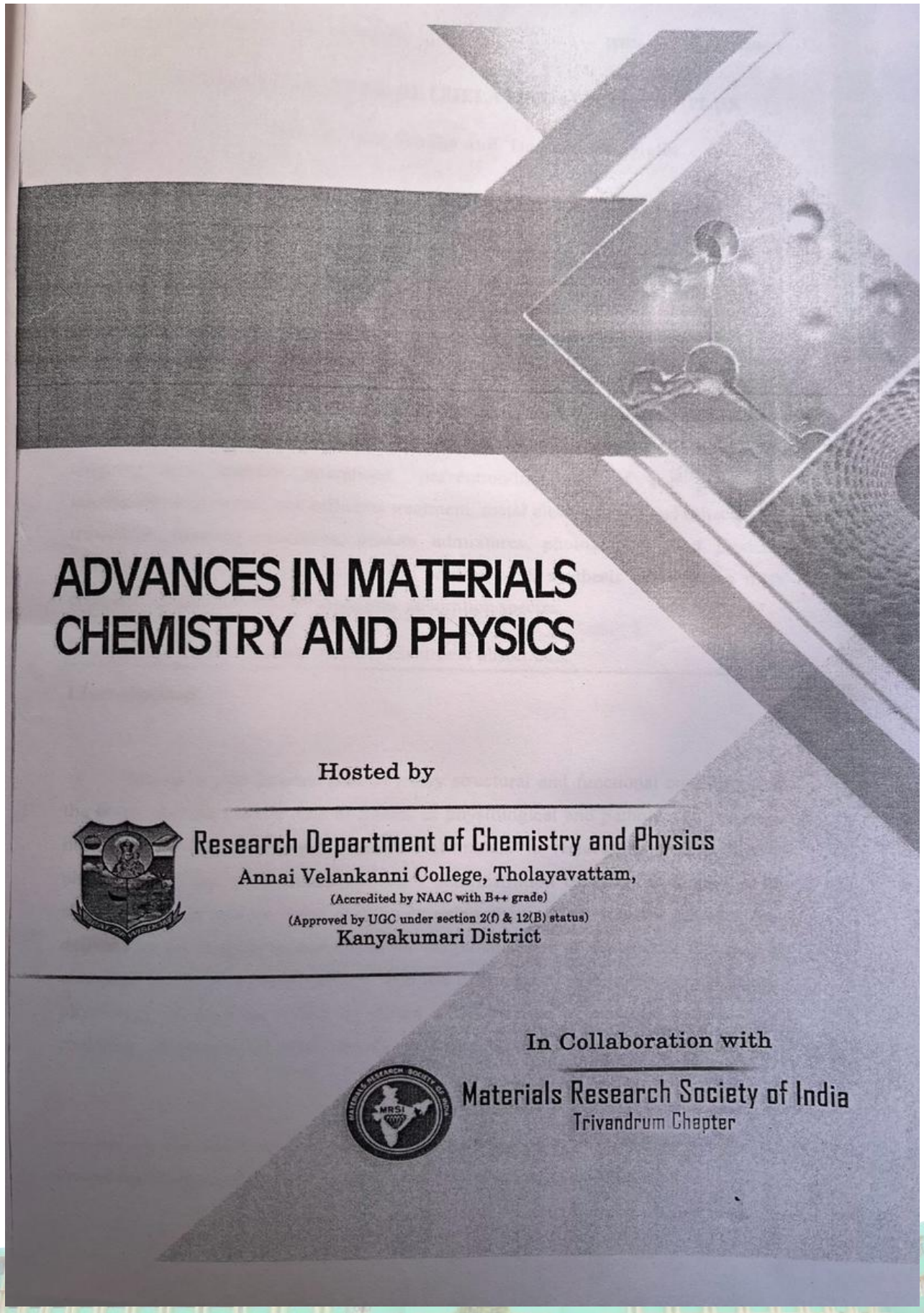
ABSTRACT

Anticancer activity of $[Ru(phen)_2(phendione)]^{2+}$ (phen = 1,10-phenanthroline and phendione = 1,10-phenanthroline-5,6-dione) complex on SK-MEL-28 (skin cancer) cell line is investigated. The morphology of the SK-MEL-28 cell line at various concentrations of the $[Ru(phen)_2(phendione)]^{2+}$complex is assessed by two-fold dilution method and the *in vitro* anti-proliferative effect of the complex on the cell line is analysed by direct microscopic observation. The percentage cellular viability of various concentrations of the complex in cancerous SK-MEL-28 cell line against the control is calculated by MTT assay method. The IC_{50} value of this complex against the SK-MEL-28 cell is found to be 52.648 µg/ml and shows good anti-proliferative effect. The percentage of growth inhibition of the cell decreases with increase in the concentration of the complex and this is indicated by the formation of formazan crystals. The results revealed that the synthesised $[Ru(phen)_2(phendione)]^{2+}$ complex shows anti-skin cancer activity.

Keywords: $[Ru(phen)_2(phendione)]^{2+}$ complex, Anticancer activity, SK-MEL-28 cell line,
Anti-proliferative effect, MTT assay

1.Introduction

Ruthenium(II) complexes with polypyridine ligands is of great interest due to their therapeutic values and pharmacological applications. Some Ru(II) complexes are structural analogues of cisplatin and show promising antitumor activity [1]. Hence the Ru(II) complexes, owing to possessing several favourable properties suited to rational anticancer drug design and biological applications, as an alternative to platinum complexes in cancer therapies [2]. Malignant melanoma is the most lethal form of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[1]Research scholar (Reg.No:18123042032016), Department of Chemistry, Holy Cross College (Autonomous), Nagercoil, Affiliated to Manonmanium Sundaranar University, Tirunelveli.

[2]Assistant Professor, Department of Chemistry, Holy Cross College, Nagercoil.

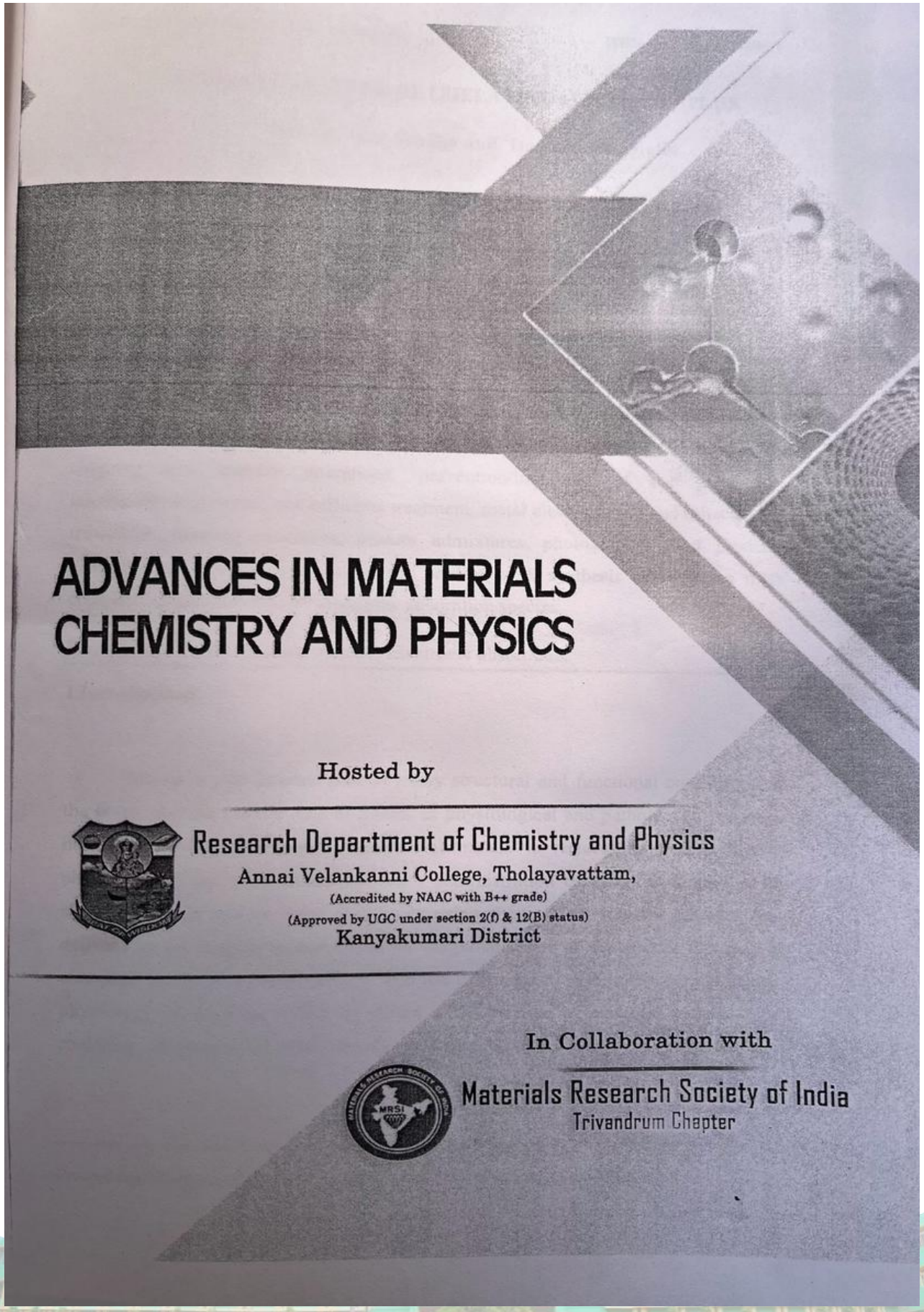
ABSTRACT

This study describes the synthesis of zinc oxide nanoparticles using Glycyrrhiza glabra extract and the plant extract act as both reducing and capping agent. The formation of the nanoparticles is confirmed by UV-Vis spectrophotometer. XRD shows particles are crystalline in nature and the average grain size of the nanoparticles is 25nm. SEM-EDAX shows morphology and elemental composition of the nanoparticles.

Keywords: Green synthesis, *Glycyrrhiza glabra extract*, Zinc oxide nanoparticles

Introduction

Nanomaterials are particles having nanoscale dimension, and nanoparticles are very small-sized particles with enhanced catalytic reactivity, thermal conductivity, non-linear optical performance and chemical steadiness owing to its large surface area to volume ratio. NPs have started being considered as nano antibiotics because of their antimicrobial activities. Nanoparticles have been integrated into various industrial, health, food, feed, space, chemical, and cosmetics industry of consumers which calls for a green and environment-friendly approach to their synthesis[1] Various chemical methods have been proposed for the synthesis of zinc oxide nanoparticles (ZnO NPs), such as reaction of zinc with alcohol, vapor transport, hydrothermal synthesis, precipitation method etc. The use of green synthesis method by the researchers is rapidly increasing due to usage of less toxic chemicals, eco-friendly nature and one-step synthesis of nanoparticles. The biological system involved in the green synthesis of nanoparticles is plants and their derivatives, microorganisms like bacteria, fungi, algae, yeast [2]. Glycyrrhiza glabra contains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[1]L.Deva Vijila, [2]G. Leema Rose, [3]S.Aavila Thanga Bhoosan

[1]Research Scholar (Reg.No.11089), Women's Christian.College, Affiliated to Manonmanium Sundaranar University, Thirunelveli.
[2]Department of Chemistry, Holy Cross College (Autonomous), Nagercoil.
[3]Department of Chemistry, Women's Christian College, Nagercoil.

ABSTRACT

Green methods of synthesis of nanoparticles have various advantages over chemical methods. Nickel oxide nanomaterials are biosynthesized from Nickel (II) chloride hexahydrate using medicinal plant extracts *Ecbolium ligustrinum* and *Euphorbia hirta* as reducing agents. The resulting nanoparticles are characterized using UV- Vis and FTIR spectroscopy. The UV- Vis absorbance peak indicates the formation of Nickel oxide nanoparticles. The FTIR results of the samples confirm the formation of Nickel oxide nanoparticles.

Key Words: Nickel oxide, green methods, reducing agents, *Ecbolium ligustrinum*, *Euphorbia hirta*

Introduction

Environmental pollution motivates us to think of an alternative way of synthesizing nanoparticles that can be carried out in an environmentally friendly manner. Plant extracts can play a vital role in synthesizing nanoparticles. Hundreds of plant extracts are found to have the capacity of reducing metal salts to their corresponding metal oxides. Plant mediated synthesis reduces the expense of synthesizing nanoparticles and follows green methods [1,2,3]. Medicinal plant extracts using alcohol as solvent posses a large number of organic compounds which helps in reducing metal salts to the corresponding nano metal oxides. Leaves of medicinal plants, *Euphorbia hirta and Ecbolium ligustrinum* were selected for the study.

Materials and methods

MULTIDISCIPLINARY RESEARCH IN GLOBAL CHALLENGES AND PERSPECTIVES OF SUSTAINABLE DEVELOPMENT

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Dr.A.Amalraj

DEPARTMENT OF CHEMISTRY

St.Jerome's College

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Synthesis and Antimicrobial Evaluation of Chalcone Derivatives from Naphthaldehyde and Acetophenone : A Grind-Stone Chemistry Approach

V. Anu Praba, K. Anu Sheeba Daniel
Department of Chemistry
Holy Cross College (Autonomous)
Nagercoil - 629 004

Abstract

Chalcones are synthesised by base-catalyzed Claisen-Schmidt condensation reactions. The objective of the present investigation deals about the green synthesis of two chalcone derivatives from 2-methoxy-naphthaldehyde and 4-methoxy-naphthaldehyde. The two chalcone derivatives have been synthesised by grinding the corresponding naphthaldehyde with acetophenone in the presence of NaOH. This method avoids the use of hazardous chemicals and the formation of by-products. The synthesised chalcone derivatives are characterized by UV-Visible and FT-IR spectroscopy. The antimicrobial activity of the two chalcone derivatives is tested against bacteria and fungi and it shows activity on *Escherichia coli*, *Pseudomonas aeruginosa*, *Bacillus cereus*, *Staphylococcus aureus*, *Candida albicans* and *Aspergillus flaves* The synthesised chalcones affect / interact directly with the outer membrane of the human pathogens, causing the membrane to rupture and thus it kills the microbes. The presence of reactive α, β- unsaturated keto group in chalcone is found to be responsible for their biological activity. The results revealed thatthe synthesised chalcone derivatives may have a potential use in the biomedical applications due to its antimicrobial activity. Compared with traditional methods, this solvent free grinding method is more convenient, cost effective, simple to run, provide higher yield and shows maximum efficiency with reduced reaction time.

Keywords: Solvent free synthesis, Grinding technique, Chalcone derivatives, Antimicrobial activity

INTRODUCTION

The environment endowed by nature, needs to be protected from increasing chemical pollution. Large scale production of pesticides, pharmaceuticals and petrochemicals are responsible for causing chemical pollution leads to the development of the concept of "green chemistry". Green chemistry is an area of chemistry focuses on the designing of products and processes that minimize or eliminate the use and generation of hazardous substances [1]. It encourages the use of economical and eco-compatible techniques that not only improve the yield but also bring down the cost of disposal of wastes at the end of a chemical process [2].

In recent years, the development of efficient green chemistry methods has received more attention as suitable alternative to conventional chemical procedures. Toda *et al.* has described

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Dr.A.Amalraj

DEPARTMENT OF CHEMISTRY

St.Jerome's College

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GREEN SYNTHESIS OF ZINC OXIDE NANOPARTICLES FROM MANGI FERA INDICA SEED EXTRACT AND THEIR ANTICANCER ACTIVITY AGAINST SKMEL-28 CELL LINE

B.T.Delma
Research scholar
(Reg.No:18123042032016)
Department of Chemistry
Holy Cross College (Autonomous), Nagercoil
(Affiliated to M .S.University, Tirunelveli)

Dr. M.Anitha Malbi
Research Supervisor
Assistant Professor
Department of Chemistry
Holy Cross College (Autonomous) Nagercoil
(Affiliated to M .S.University, Tirunelveli)

Abstract

This study describes the synthesis of zinc oxide nanoparticles by using *Mangiferaindica* seed extract as a reducing and capping agent. The synthesized nanoparticles were confirmed by UV-Vis spectroscopy and the average grain size of the nanoparticle is 34nm found by using XRD.FT-IR showed the presence of organic molecules capped in synthesized nanoparticles. The morphology of the nanoparticles was analyzed using SEM and the presence of zinc oxide nanoparticles was confirmed through elemental analysis. The synthesized ZnO nanoparticles have good anticancer activity against the SKMEL-28 cell line and showed IC50 at 44.309.

Keywords: *Mangiferaindica* seed extract, Zinc oxide nanoparticles, Anti-cancer activity, Green synthesis

INTRODUCTION

Zinc oxide nanoparticles (ZnO NPs) have large bandwidth and high exciton binding energy and it showed good antibacterial, antifungal, anti-diabetic, anti-inflammatory, wound healing, antioxidant and optic properties. So it has been used as nano-optical and nano-electrical devices, in food packaging and medicine as antimicrobial and antitumor agents in industries [1]. Instead of toxic chemicals plants, fungus, bacteria, and algae have been used as reducing and stabilizing agents. Compare to microorganism the plants are easily available and more cost-effective. Several plant extracts have been used for the preparation of zinc oxide nanoparticles and the zinc oxide nanoparticles showed good anti-microbial activity against bacteria, fungi and also cytotoxicity against various cell lines. The chemical constituents proteins, amino acids, enzymes, vitamins, alkaloids, phenolics, saponins, tannins, and terpenoids present in plant extract can act as reducing and capping agent. Gold nanoparticles synthesized from Mangiferaindica seed Aqueous extract was already reported and showed good antibacterial, anticancer and anti-angiogenic properties [2].

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Green synthesis of Manganese oxide nanoparticles and characterization using UV- Vis and FTIR spectroscopy

L.Deva Vijila
Research Scholar
(Reg.No.11089), Department of Chemistry
Women's Christian.College, Nagercoil
(Affiliated to M.S. University, Thirunelveli)

G. Leema Rose
Assistant Professor
Department of Chemistry
Holy Cross College (Autonomus), Nagercoil.
(Affiliated to M.S. University, Thirunelveli)

S. Aavila Thanga Bhoosan
Assistant Professor
Department of Chemistry
Women's Christian College, Nagercoil
(Affiliated to M.S. University, Thirunelveli)

Abstract

Green methods of synthesis of nanoparticles have various advantages over chemical methods.Manganese oxide nanomaterials are biosynthesized from manganese (II) chloride using medicinal plant extracts *Acalypha indica, Cassia occidentalis, Cleome viscosa, Euphorbia hirta and Ecbolium ligustrinum* as reducing agents. The resulting nanoparticles are characterized using UV- Vis and FTIR. The UV- Vis absorbance peak from 265 – 269 nm indicates the formation of Manganese oxide nanoparticles. The FTIR results of all the samples confirm the formation of manganese oxide nanoparticles.

Key Words: Manganese oxide, green methods, reducing agents, *Ecbolium igustrinum,Cassia occidentalis.*

INTRODUCTION

Medicinal plant extracts play very important role in our daily life [1] The increase in environmental pollution motivates us to think of an alternative way of synthesizing nanoparticles that can be carried out in an environmentally friendly manner. Plant extracts can play a vital role in synthesizing nanoparticles. Hundreds of plant extracts are found to have the capacity of reducing metal salts to their corresponding metal oxides. Plant mediated synthesis reduces the expense of synthesizing nanoparticles and follows green methods [2,3,4]. Medicinal plant extracts using alcohol as solvent posses a large number of organic compounds which helps in

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Synthesis, Structural Characterization and Pharmacological studies of novel Schiff base metal(II) complexes derived from Isoniazid and 2-(4-hydroxy-phenyl)-2H-isoquinolin-1-one

R. Vijimalar[@], G. Leema Rose[$], Avila Thanga Bhosan[#] and J. Joseph[*]

[@]Department of Chemistry, Womens' Christian College, Nagercoil. Tamil Nadu, India. (Affiliated by Manonmaniam Sundaranar University, Abisekapatti, Tamil Nadu, India)
Corresponding author: E-mail: rvijisubash@gmail.com
[$]Department of Chemistry, Holy Cross College (Autonomous), Nagercoil, Kanyakumari District, Tamil Nadu.
[#]Department of Chemistry, Womens Christian College (Autonomous), Nagercoil, Kanyakumari District, Tamil Nadu.
[*] Department of Chemistry, Noorul Islam Centre for Higher Education, Kumarakoil, Kanyakumari District, TamilNadu.

Abstract

Novel series of complexes of Cu(II), Co(II), Zn(II) and Ni(II) with isoniazid derivative (derived from 2-(4-hydroxy-phenyl)-2H-isoquinolin-1-one and isoniazid) were synthesized and characterized by different analytical and spectral techniques such as elemental analysis, molar conductivity, magnetic susceptibility measurements, IR, UV-Vis., ^{1}H-NMR, ^{13}C-NMR, FAB Mass spectra, EPR and thermal analysis. Further, the prepared metal complexes were subjected to DNA binding studies using electrochemical method. The synthesized metal complexes showed significant antibacterial activity against the organisms like *Escherichia coli, Staphylococcus aureus, Klebsiella pneumoniae, Proteus mirabillis* and *Salmonella typhi* when compared with the standard antibiotic (Streptomycin). The *in vitro* antimycobacterial activity against *Mycobacterium tuberculosis* was also evaluated and summarized.

Keywords: Isonizaid, Antioxidant, *Escherichia coli, Staphylococcus aureus, Klebsiella pneumoniae, Proteus mirabillis, catalyst.*

1. Introduction

Transition metal complexes with their tunable coordination geometry, versatile redox and spectroscopic properties are suitable for designing metal-based therapeutic agents [1]. Metal coordination leads to an improvement of the pharmacological activities of the ligands and synergistic effects involving both metal and the ligands have been reported. The organic ligands

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Sustainable Manufacturing Process in Crepe Rubber

LUCKY CHANDRA PAUL
Reg: No: 18113042032014
Research Scholar
Holy Cross College, Nagercoil.
Affiliated to M.S. University, Tirunelveli
Dr.M.ANITHA MALBI
Assistant Professor
Holy Cross College, Nagercoil.

ABSTRACT

Hevea Brasiliensis is a tree which discharges white colored latex that is utilized to produce natural rubber. Among the different types of Natural Rubber (NR), crepe rubber holds a significant position, as it is used to produce pharmaceutical and surgical rubber products, and also articles that are in contact with food materials. At present, the crepe rubber manufacturing has been challenged by low productivity, rising cost of production, and environmental issues. Therefore, this study was aimed to assess the feasibility in the adoption of sustainable manufacturing practices in the crepe rubber production. They are used for the production of huge end products like tyres, condoms, surgical gloves, balloons, adhesive, rubber band, carpet backing etc. It is produced by applying few steps named as latex collection by tapping process, preservation, coagulation, sheet formation and smoke drying process. Thus this study explains the formation of various types of crepe rubber.

Keywords: Natural Rubber production, Rubber products, Crepe Rubber

INTRODUCTION

Crepe rubber is coagulated latex that is rolled out in crinkled sheets and commonly used to make soles for shoes and boots but also a raw material for further processed rubber products. Crepe rubber is processed from fresh latex coagulum or cutting of Ribbed Smoked Sheets (RSS). These materials are passed through a set of crepe making machines, to get crinkly, lace- like rubber. This when dried is called Crepe rubber. Processing into crepe rubber was one of the method to upgrade low quality field coagulum materials such as earth scrap, shell scrap and tree lace. Materials selected from different types of field coagulum are blended in appropriate proportion to make crepe rubber of desired quality thorough soaking, agitation, cleaning and machining are required to produce good quality crepe from field coagulum materials. Processing of low quality field coagulum into crepe rubber is now replaced by Technically Specified Rubber (TSR) because it yields a better quality material.

Crepe Rubber Processing: Colloidal latex is first mixed with formic acid to causes coagulation. The coagulum is processed in a "creping battery", a series of machines that crush, press and roll the coagula. The sheets are hung in a heated drying shed and then sorted by grade and packed for shipping.

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Anandhanadarkudy, Nagercoil

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SYNTHESIS AND CHARACTERIZATION OF SILVER NANOPARTICLES USING HPα-CD AS AN ENCAPPING AGENT

M.Shirly Treasa
Assistant Professor
Department of Chemistry
Holy Cross College, (Autonomus)
Nagercoil – 629003

J. Prema Kumari
Associate Professor
Department of Chemistry
Scott Christian College (Autonomous)
Nagercoil – 629003

Abstract

Nanoparticles of noble metals, especially the silver nanoparticles, have been widely used in different fields of science. Different preparation methods have been reported for the synthesis of the silver nanoparticles, such as electron irradiation, laser ablation, chemical reduction, biological artificial methods, photochemical methods and microwave processing. A simple and novel method of synthesis of silver nanoparticles from their salt solutions by reduction in the presence of HPα-CD as capping and stabilizing agent has been successfully carried out. This involves synthesis of silver nanoparticles by capping with different concentration of HPα-CD. The optimum condition for obtaining silver nanoparticles was at pH11. . The synthesized nanoparticles were characterized by UV – VIS spectroscopy and X– ray Diffraction studies. UV – VIS spectroscopy and X– ray Diffraction studies confirmed the formation of nanoparticles. Antibacterial activity of uncapped and capped AgNPs were investigated. It was found that capped AgNPs exhibited more antibacterial activity when compared to uncapped one. The silver nanoparticle-encapsulated HPα-CD inclusion complex displayed considerable antimicrobial activity and stability.

Keywords : Silver nanoparticles; capping agent; HPα-CD; UV – VIS spectroscopy; X– ray Diffraction studies; Antibacterial activity.

INTRODUCTION

Nanotechnology is being used in diverse areas like chemistry, biology, catalysis, medicine, photonics, electronics, bio-labelling and information storage[1]. Due to their unique physicochemical characteristics of nanoparticles, including catalytic activity[2]optical and electronic properties[3] as well as cytotoxic and antimicrobial properties[4] in recent year's scientists showed gaining interest towards the development of novel methods for synthesis of nanoparticle.Nanoparticles are under active research because they posses interesting physical properties differing considerably from that of the bulk phase. It comes from small sizes and high surface/volume ratio[5].

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INVITRO ANTI-PROLIFERATIVE EFFECT OF RUTHENIUM(II)-BIPYRIDINE-PHENDIONE COMPLEX ON SK-MEL-28 CELL LINE

S.Santhiya
Research Scholar
(Reg.No:18213042032009)
Department of Chemistry
Holy Cross College (Autonomous)
(Affiliated to M.S.University, Tirunelveli)

Sheeba Daniel
Assistant Professor
Department of Chemistry
Holy Cross College (Autonomous)
Nagercoil
(Affiliated to M.S.University, Tirunelveli)

Abstract

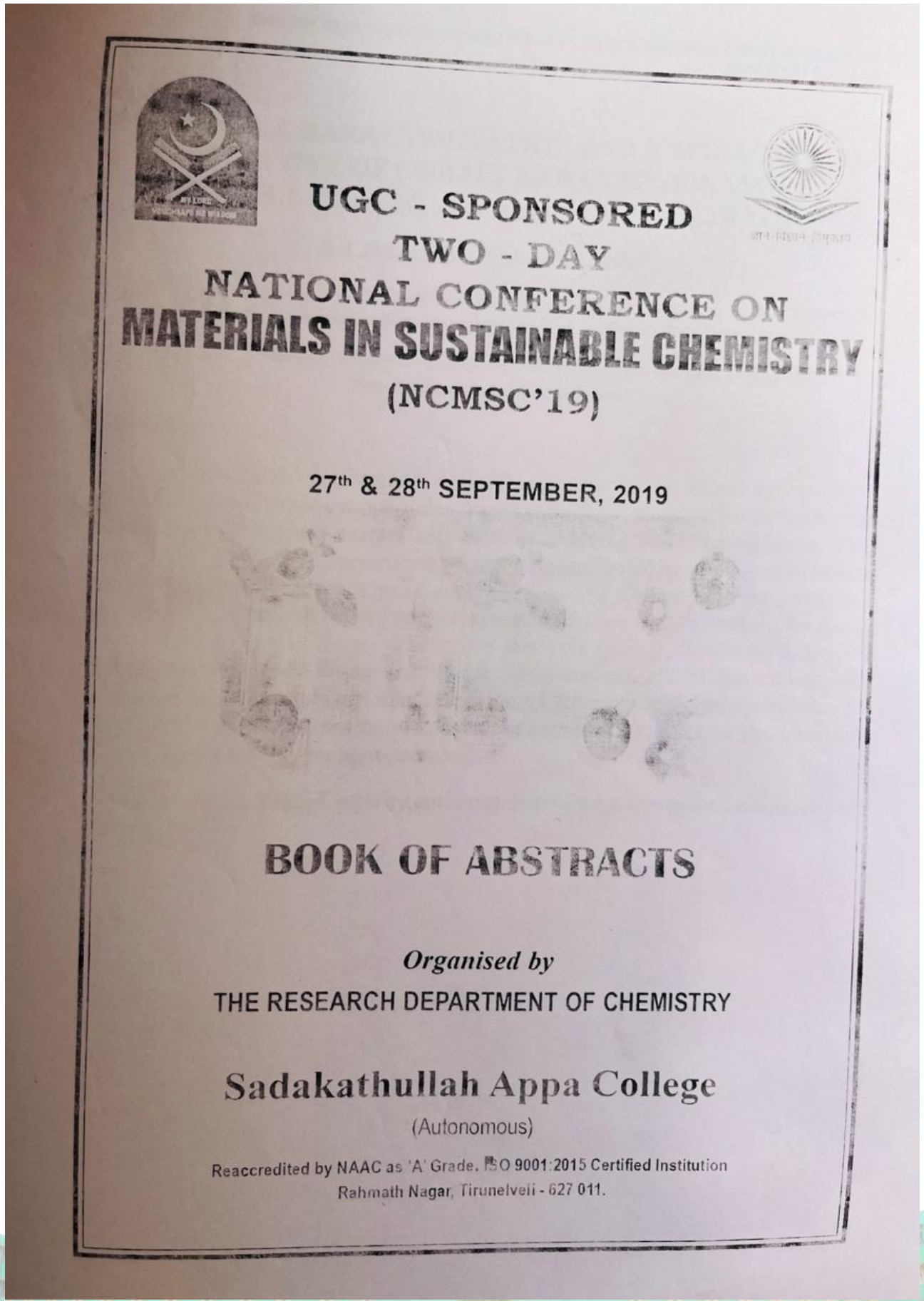
Melanoma is the most aggressive and chemoresistant form of skin cancer.SK-MEL-28 cell line is one of a series of melanoma cell lines.The objective of the present investigation is to study the anticancer activity of Ruthenium (II) - bipyridine-phendionecomplex{$[Ru(bpy)_2(phendione)]^{2+}$ (bpy = 2,2'-bipyridine and phendione = 1,10-phenanthroline-5,6-dione)} on SK-MEL-28 cell line. Themorphology of the SK-MEL-28 cell line at various concentrations of the $[Ru(bpy)_2(phendione)]^{2+}$complex is assessed by two-fold dilution method and the *invitro* anti-proliferative effect of the complex on the cell line is analysed by direct microscopic observation.The percentage viability of various concentrations of the complex in cancerous SK-MEL-28 cell line against the controlis calculated by MTT assay method. The IC_{50}value of this complex against the SK-MEL-28 cell is determined and it is found to be 28.600 µg/ml, which shows good anti-proliferative effect. The results revealed that the percentage of growth inhibition of the cell decreases with increase in the concentration of the complex and this is indicated by the formation of formazan crystal. Hence it is evident and clear that the synthesised $[Ru(bpy)_2(phendione)]^{2+}$ complexshows anti-skincanceractivity and shows late apotosis which is observed by double staining fluorescence microscopy.

Keywords:$[Ru(bpy)_2(phendione)]^{2+}$ complex, Anti-skin cancer activity, SK-MEL-28 cell line, Anti-proliferative effect,MTT assay, Fluorescence microscopy

INTRODUCTION

Ruthenium complexes have received increasing attention in the field of medicinal chemistry, especially in the development of chemotherapeutics that present minimal side effects and immunity to the acquisition of drug resistance than platinum based complexes [1].Therefore, ruthenium based drugs may be delivered more efficiently to cancer cells, without exhibiting any specific interaction with the DNA [2].

Ruthenium (II) complexes with polypyridine ligands is of great interest due to their therapeutic values and pharmacological applications. Polypyridine ligand such as 1,10-Phenanthroline-5,6-dione (phendione), has a structure similar to 1,10-phenanthroline with the addition of two carbonyl groups attached at positions 5 and 6. The bi-functional character of phendione made it an extremely versatile ligand, with special reactivity arising from its quinonoid and diiminic sites, the quinonoid functionality of phendione confers redox capability,



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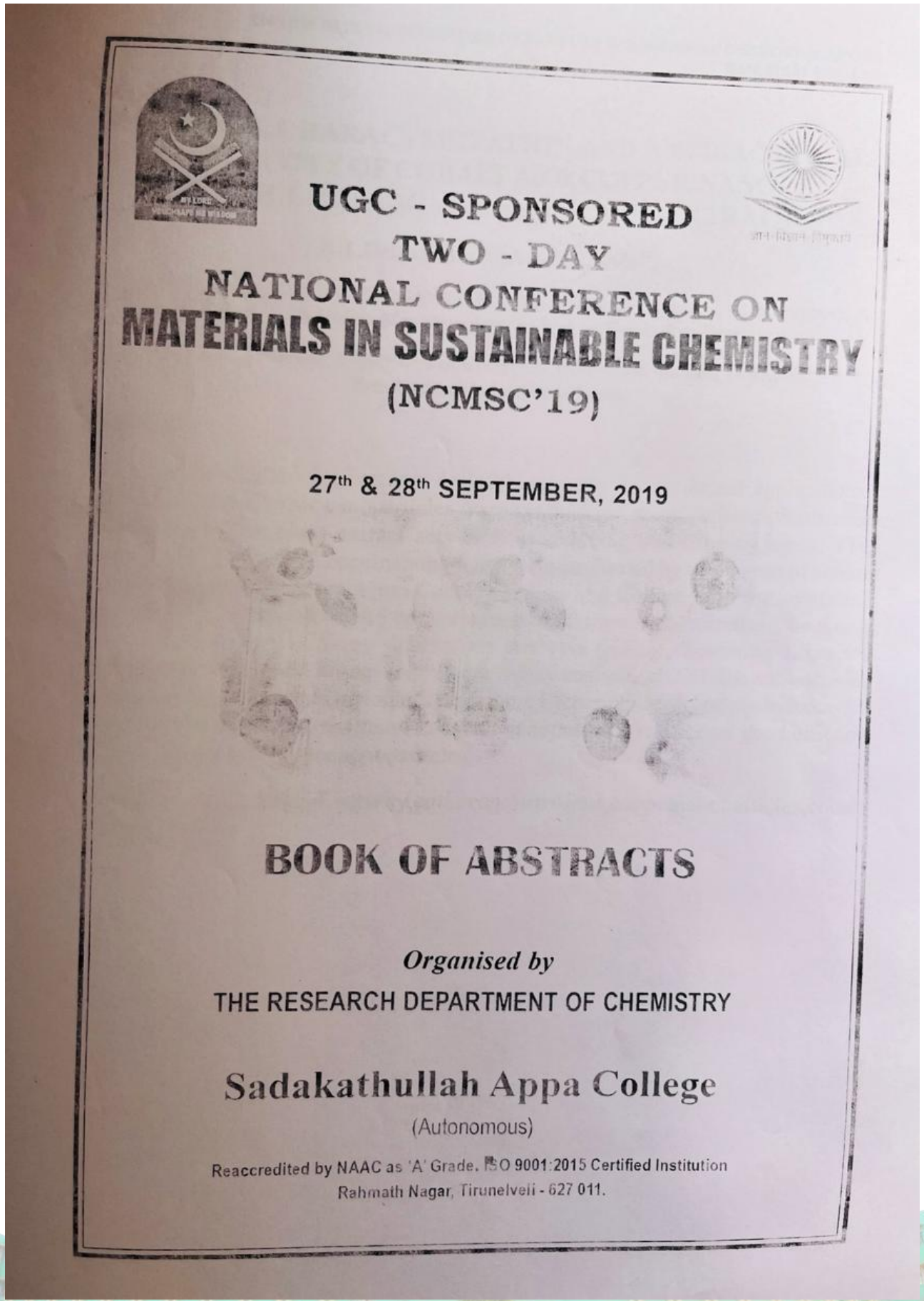
Sheeba Daniel*, K. Saraniya, P. Vinitha and T.R. ScotlinBlessy
Department of Chemistry, Holy Cross College (Autonomous), Nagercoil-4

Abstract

Green synthetic approach reduces various harmful by-products during the synthesis of common organic compounds. Natural catalyst such as fruit and vegetable extracts are employed for organic synthesis, which effectively catalyses various organic transformations. Dihydropyrimidinones are widely used in pharmaceutical industries as calcium channel blockers and antihypertensive agent. The objective of the present research consists of green methodology for the synthesis of dihydropyrimidinone derivative using gooseberry extract. Thus, the present study focuses on the synthesis, characterization and biological evaluation of dihydropyrimidinone derivative from vanillin, ethylacetoacetate and urea using gooseberry extract. The synthesised dihydropyrimidinone derivative is characterized by UV-Visible and FT-IR spectral techniques. Dihydropyrimidinone shows absorption peaks at 209, 250, 279 nm due to π-π^* and n-π^* transitions. FT-IR spectrum of the dihydropyrimidinone derivative shows IR bands at 3395, 3050, 2923, 2850, 1672, 1589, 1509, 1380, 1300, 1164, 1010, 883, 756 and 674 cm^{-1} respectively. The anti-helminthic assay of the synthesised dihydropyrimidinone derivative is performed *in-vitro*onthe earth worm *Pheretimaposthuma* and it shows good activity. The result revealed that the dihydropyrimidinonesynthesised from gooseberry extract shows higher anti-helminthic activity than the control.This natural acid catalysed synthesis is safe, eco-friendly, does not employ any toxic materials and quantifying it as a green approach for the synthesis of organic compounds.

Keywords: Green synthesis;Dihydropyrimidinone derivative;Anti-helminthic activity



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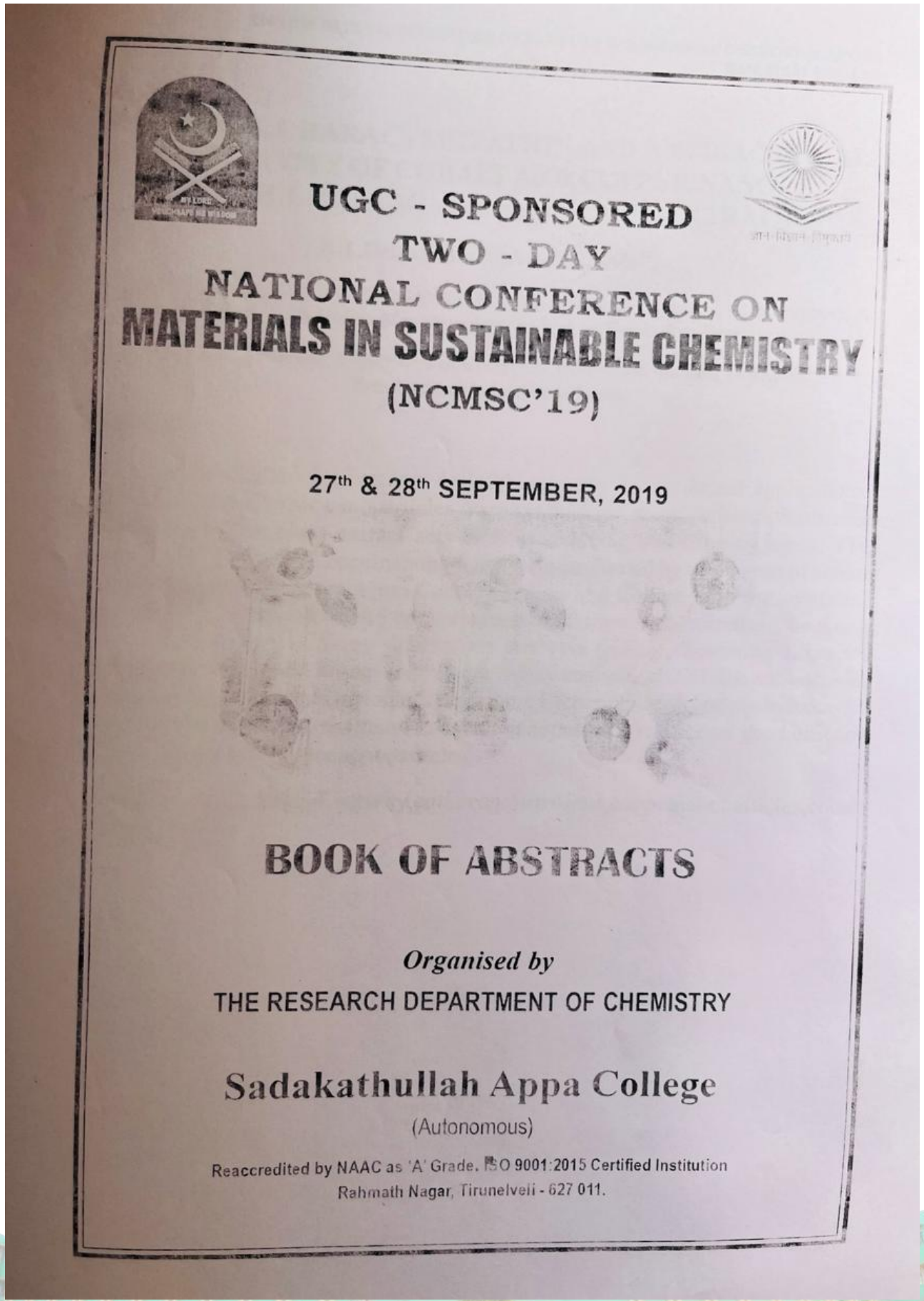
[1]Research scholar (Reg.No:18123042032016), Department of Chemistry, (Autonomous), Nagercoil, Affiliated to ManonmaniumSundaranar University, Tirunelveli.

[2]Assistant Professor, Department of Chemistry, Holy Cross College, Nagercoil.
Email:delma.chem5@gmail.com

Abstract

The antibacterial effect is a desirable property for medicinal applications. The Cobalt and Copper nanoparticles were synthesized using *catharanthusroseus* plant extract. The plant extract acts both as reducing and capping agent. The synthesized Cobalt and Coppernanoparticles were confirmed by the change of colour after addition of plantextract into Cobalt Sulphate and Copper Sulphate solutions. The biosynthesized cobalt and copper nanoparticles were characterized by using UV-Visible analysis, X-ray diffraction analysis (XRD), Scanning Electron Microscopy (SEM) and Energy Dispersive X-Ray analysis (EDX).The antibacterial activity of the synthesized nanoparticles against Escherichia coli andstaphylococcus aureus was found to be maximum in cobalt nanoparticles and shows good efficacy when compared to copper nanoparticles.

Keywords: antibacterial activity,*catharanthusroseus*,coppernanoparticles,cobalt nanoparticles etc.



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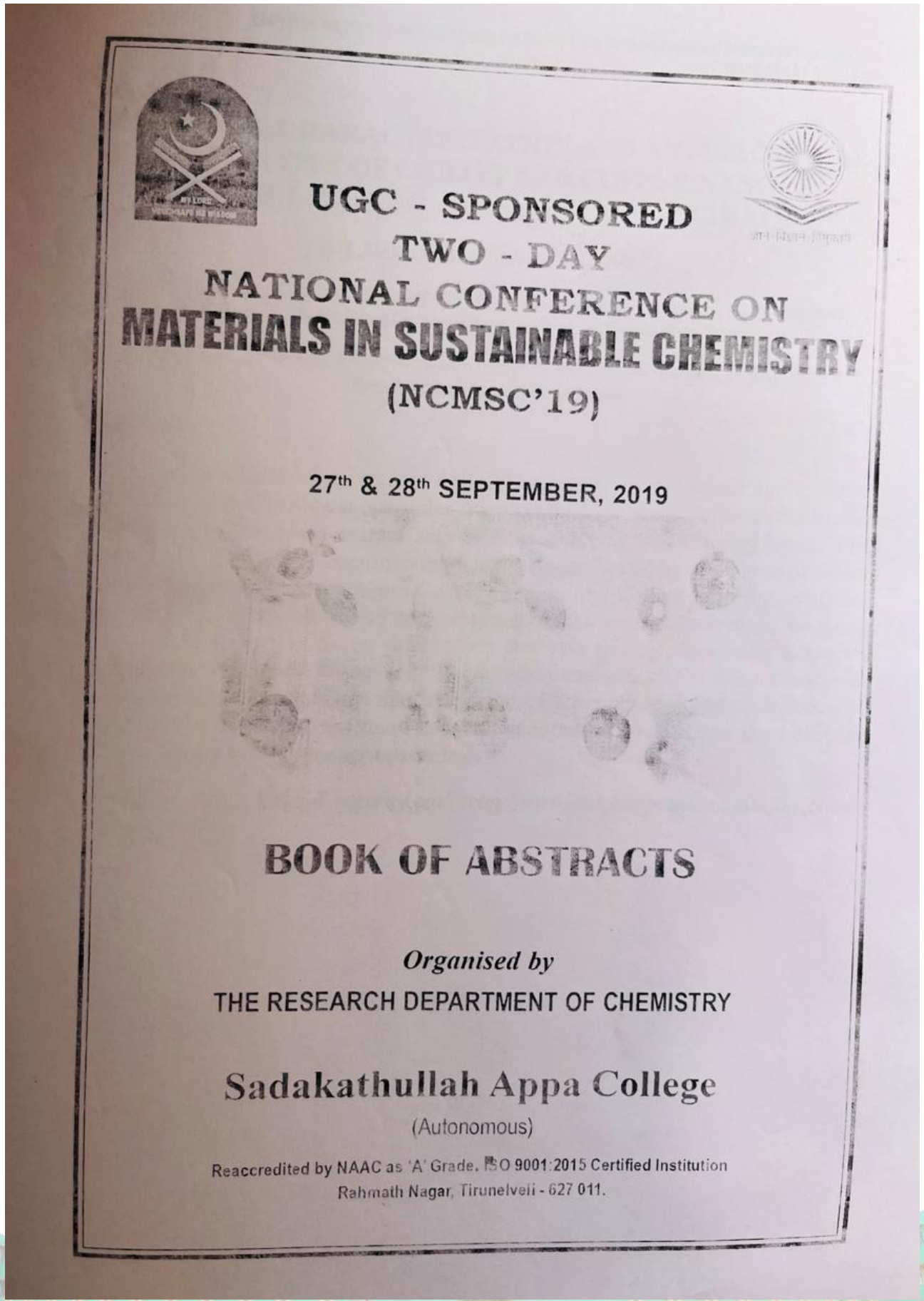
[2]Department of Chemistry, Holy Cross College (Autonomous), Nagercoil.

[3]Department of Chemistry,Women's Christian College, Nagercoil.

Abstract

Iron oxide nanoparticles have been synthesized in a green method using some medicinal plant extracts. Most of the medicinal plant extracts contain important constituents like alkaloids, glycosides, organic acids, resins, volatile oils, sugars, amino acids, proteins and enzymes, tannins, plant pigments oils and waxes, and inorganic ingredients. These constituents present in plants help in reducing metal salts to their corresponding nano particles. In the present study some of the medicinal plants like *acalypha indica, euphorbia hirta, cleome viscose, cassia occidentalis and Ecbolium lingustrinum* were collected, shade dried and extracted using ethyl alcohol. The plant extracts were characterized using FTIR spectroscopy. These extracts were used to reduce anhydrous iron (III) chloride to iron oxide nanoparticles. The resulting iron oxide nanoparticles were characterized using XRD spectrum. The results shows the formation of iron oxide nanoparticles.

Keywords Nanoparticles, green method, resins, metal salts, euphorbia hirta.



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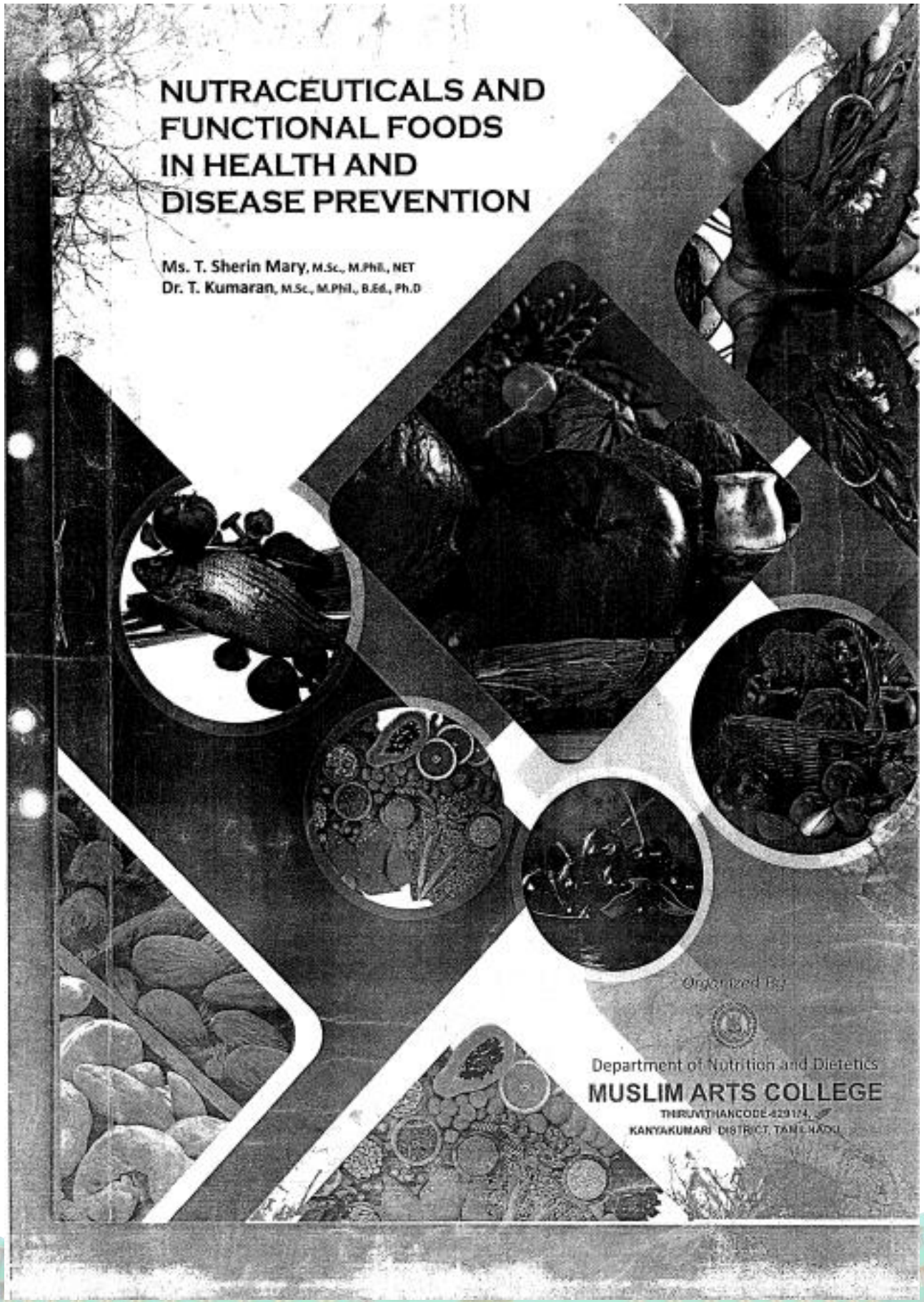
[2]*Department of Chemistry, Holy Cross College (Autonomous), Nagercoil - 4.

tract

Binding of amino acids (L-Alanine, L-Valine, L-Histidine and L-Tyrosine) h $[Ru(bpy)_2(phendione)](PF_6)_2$ complex in aqueous medium at pH 12.5 has been estigated by UV-Visible absorption spectral techniques.The complex shows a al to ligand charge transfer (MLCT) absorption peak at 439nm in aqueous dium.The binding constant (K_b) for this complex with each amino acids is ermined from Benesi-Hildebrand plots. Among the four amino acids taken in the sent study, L-Tyrosine shows higher K_b value.The K_b of L-Histidine with $(bpy)_2(phendione)](PF_6)_2$ complex is $3.36 \times 10^3\ M^{-1}$ whereas for L-Tyrosine is $77 \times 10^4\ M^{-1}$. L-Tyrosine shows better binding property with $(bpy)_2(phendione)](PF_6)_2$ complex based on the factors of aromatic planarity l hydrophilicity. L-Tyrosine and L-Histidine are aromatic and polar in nature ereas L-Alanine and L-Valine are aliphatic and non-ploar in nature.The obtained ults show that the nature of amino acids side chain and the polarity plays a major e in the binding of amino acids with this complex.

eywords: $[Ru(bpy)_2(phendione)]^{2+}$complex;Aminoacids; Benesi-Hildebrand uation; Binding constant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Dr. T. Kumaran, M.Sc., M.Phil., B.Ed., Ph.D
Organized By
Department of Nutrition and Dietetics
MUSLIM ARTS COLLEGE
THIRUVITHANCODE-629174,
KANYAKUMARI DISTRICT, TAMILNADU

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Nutraceuticals and Functional Foods on Health and Disease Prevention

UNCULTIVATED NATIVE PLANTS USED AS SOURCES OF FOOD FOR INDIGENOUS PEOPLE OF AGASTHEESWARAM TALUK, KANYAKUMARI DISTRICT, TAMILNADU, SOUTH INDIA

Jerlin Deletta. G[1*] & *B. Parthipan*[2]

[1]*Assistant Professor, Department of Botany, Holy Cross College (Autonomous), Nagercoil-2, Tamilnadu, India. (Affiliation of Manonmaniam Sundaranar University, Abishekapatti, Tirunelveli - 627 012, Tamilnadu, India)*

[2]*Associate Professor, P.G & Research Department of Botany, S.T.Hindu College, Nagercoil-2*

Abstract

High cost and unreliable supply of healthy food in the developing and underdeveloped countries have resulted in the find out the cheap and alternative source of healthy and nutritiou sfood. Some of the underutilized wild edible plants have been analyzed and found to possess high nutritional value. The results of floristic analysis of plant diversity of Agastheeswaram taluk were 53 species of wild plants used as food were documented. Out of these 53 plant species, 45 species belongs to Dicotyledons and 8 species belongs to Monocotyledons. The most dominant family in the present study is Leguminosae with 5 species, followed by Cucurbitaceae and Poaceae (4 species each), Arecaceae and Phyllanthaceae (3 species each). Of the 53 species native plants, 39 species were used as medicine and 2 species were used as fodder. The dominant habits were herbs (21 species), trees (19 species) shrubs (7 species) and climbers (6 species). The major plant parts indigenously used are Fruits (26 species) followed by leaves (23 species) seeds (12 species), stem (6 species) and roots (5 species). 46 species of wild plants were used in Folk medicine and it's followed by Siddha and Ayurveda (44 species each), Ethnomedicine (40 species), Unani (28 species) and Homeopathy (13 species). Wild plant species are specific to the environment quality and it's used for indigenous people for various purposes therefore can be used as agent in biomediation.

Keywords: Native plants, Indigenous people, Ethnomedicine, Floristic analysis.

Introduction:

Global food security and economic growth now depends on a declining number of plant species. In human history, 40- 100,000 plant species have been regularly used for food, fibers, shelter, industrial, cultural and medicinal purposes (Magbagbeola *et al.*, 2010). Many neglected and underutilized species are nutritionally rich and adapted to low input agriculture. The erosion of these species can have immediate consequences on the nutritional status and food security of the poor (Dansi *et al.*, 2012). In reality, local communities have used these plant species for generations but the current loss of local knowledge means that their traditional uses are being forgotten. Many underutilized species can make an important contribution to a better diet for local communities (salvi and Kaetewa, 2016). In worldwide some of the reviews related in the field of native plants used as a food (Svanberg, 2012; Kuma and Shibru, 2015; Lulekal, 2015; Marshaly, 2015; Berihun and Molla, 2017; Shikov *et al.*, 2017: Ojelel *et al.*, 2019) In India, there are limited work related to native wild plants and their

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Impact of Coir Retting Effluent on the Growth Attributes of Lycopersicon Esculentum Mill

Dr. J. Celin Pappa Rani[1]

1. *Assistant Professor, Department of Botany and Research Centre, Holy Cross College (Autonomous), Nagercoil-4.Tamilnadu, India*

E-mail:celinpapparani@gmail.com

Abstract

Coir industry is one of the major agro-based industries in India. Coir pith industry require large amount of water and consequently generates an equally huge amount of wastewater which contains cellulose, lignin, soluble tannin and also contains phenolic compounds. The present study has been undertaken to assess the impact of coir retting effluent on morphological, biochemical and physiological characteristics of *Lycopersicon esculentum*. The effluent was analysed for various physicochemical parameters. Coir retting effluent is characterized by its strong colour (reddish orange), high BOD, COD, TDS, EC and total hardness. Pot culture experiments were conducted with *Lycopersicon esculentum* plants at different concentrations (20%, 40%, 60%, 80%, 100%) of coir retting effluent along with control using ground water. The morphological parameters such as shoot length, root length, number of leaves, leaf length and height of the plant, biochemical parameters such as carbohydrate, protein, aminoacid content were analyzed at 10, 20, 30,40,50, 60, 70, 80 and 90 days after sowing. The yield parameters of tomato plants were recorded at the time of harvest. All morphological, biochemical, were found to increase at 20% effluent concentration and it decreased from 60% concentration onwards. Yield was maximum in 20% effluent treated plants. At 60% effluent concentration detrimental effect on the plant growth was observed when compared to control. The results showed that the coir effluent is toxic to plant growth at higher concentration, thus it can be used for irrigation after proper dilution.

Keywords: Lycopersicon esculentum, Coir retting effluent, Growth parameters

1. Introduction

Industrial wastes are major sources of pollution in all environments and require on-site treatment before discharge into sewage system [1].Industrial revolution is a great boon to mankind but there is a wide range of environmental impacts created by industries [2]. Pollution is one of the problems presently facing in India and several efforts are being vigorously persued to control it [3].Various industries have been continuously adding lot of waste water containing high level of nutrients, heavy metals and hazardous substances to the cultivable land [4]. The utilization of industrial effluent for irrigation of agricultural crops is one of the highly beneficial prepositions of wastewater disposal [5]. Coir pith is also an highly ligno cellulosic waste that has high lignin content. It is an excellent soil conditioner with high water holding capacity and is being extensively used as soilless medium for agri-horticultural purposes [6].The coir industry is one of the major agro-based industry. Coir pith industry require a large amount of water and generates an equally large quantity of waste water, which contains 27.8% of cellulose, 28.5% of lignin and 8.12% of soluble tannin like phenolic compounds [7]. Since there has been an increased interest in alternative and innovative technologies which will prone to be of low cost, low maintenance and energy efficient techniques [8]. Effects of various industrial effluents on seed germination, growth and yield of crop plant have captivated the attention of many workers [9]-[11]. So various researchers have carried out studies concerning the effects of different concentration of industrial effluents on different crop species [12]-[14]. The present investigation was conducted to evaluate the impact of different concentration coir retting effluent on the growth of *Lycopersicon esculentum* and to assess the coir effluent on morphological, biochemical and physiological content of the plants.

2. Materials and methods

2.1 Collection of effluent and seed material:

Coir retting effluent samples were collected from the point of discharge at Kallimar coir industries cholachel. The effluent was analysed for its various physicochemical parameters. Seeds of *Lycopersicon esculentum* were purchased from Agricultural Extension Centre, Marthandam. Seeds free from visible defects and uniform size were surface sterilized with 1% sodium hypochlorite and sown in circular earthern pots (25cm height and 28 cm diameter) filled with a mixture of garden soil, sand mixture and farmyard manure in the ratio of 1:2:1.

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Screening and Characterization of Escherichia Coli from Boreholes

J. Albino Wins, M.Arunachalam[1] and M.Murugan[2]

Research Scholar, SPKCES, Anwarkurichi, (Affiliated to Manonmaniam Sundaranar University), Tirunelveli, Tamilnadu, India.

[1] Associate Professor, Central University of Kerala, Kasaragode

[2] Associae Professor, Dept. of Biomedical Engineering, Noorul Islam university, Kumaracoil, Tamilnadu, India.

Abstract:

Water is essential for sustaining all life forms and access to clean and safe drinking water is a basic human need. The present study was investigated to screen and characterize Escherichia coli from boreholes. The coliform bacteria were identified by the MPN technique and Escherichia coli were confirmed by Eijkmans test. Further antibiotic sensitivity screening was performed. This study clearly indicates the presence of E.coli contamination.

Keywords: *Coliform bacteria, Escherichia coli, Drinking water, MPN analysis, Antibiotic resistance.*

Introduction:

Drinking water usually comes from surface water and ground water. The surface water includes rivers, lakes and reservoirs, while ground water is pumped from wells or boreholes, which are drilled into aquifers. Due to the presence of microorganisms, the water becomes contaminated and that leads to water borne diseases. Mostly, the Enterobacteriaceae family contaminate the sources of water and among that *Escherichia coli* is common [(1)]. *E.coli* is widely distributed in the gastrointestinal tract of human, pests, ruminants, non – ruminants and animals.E. coli has been the foremost indicator of faecal contamination in water quality monitoring for many decades. During rainfalls, these coliforms may be washed into creeks, rivers, streams, lakes, or ground water. Untreated drinking water coming from these sources contains coliforms including *E. coli*. The microbes exchange between borewells and toilets or septic tanks, and cause severe diseases to mankind [(2)]. So, microbiological examination of potable water is essential to reduce the contamination of water borne diseases. Antibiotics are arguably the most successful form of chemotherapy developed in the 20th century and save innumerable human lives every day. The emergence of antibiotic-resistant bacteria limits the clinical use of antibiotics and, as resistant bacteria become more prevalent, there is increasing concern that existing antibiotics will become ineffective against these pathogens and more expensive[(3)].

Methodology:

Sample Collection:

.About 200ml of water samples were collected in sterile bottles from boreholes in Kanyakumari District. The collected samples were transported to laboratory with a cool box. Prior to water sampling, important observations were made around the sampling sites. These observations included the sanitary conditions as well as possible sources of contamination, which could influence water quality from the sources sampled.

MPN Analysis:

Inorder to determine the presence of coliform bacteria, MPN method was performed with presumptive test, confirmation test and completed test. Three bottles each with 10ml of double strength Macconkey broth were inoculated with 10ml of water, three bottles with 5ml of single strength Macconkey broth were inoculated with 1ml of water, three bottles with 5ml of single strength Macconkey broth were inoculated with 0.1ml of water. Durhams tube was introduced to check the gas formation. The inoculated samples were incubated at 37°C for 24 – 48 hours. After the incubation, check for gas formation (bubbles) and fermentation (yellow colour). The positive results were compared with MPN table. The organism can be identified by microscopic, macroscopic and biochemical characterization. Further, the presence of *E.coli* was confirmed with Eijkmans test.

Screening of antibiotic resistance:

The *E.coli* isolates were subjected to antibiotic resistance screening by Kirby – Bauer disc diffusion method. The isolates were swabbed over the entire surface of Muller Hinton agar medium. Then, different antibiotic discs (Ampicillin, Amoxicillin, Ceftaxidime, Ceftriaxone, Trimoxazole, Vancomycin, Fosfomycin, Chloramphenicol) were placed on the agar surface and incubated at 37°C for 24 – 48 hrs. The zone of inhibition was measured and compared to that of Kirby – Bauer Chart. The highest concentration of an antibiotic showing growth was taken as the resistance level of the strain for that particular antibiotic.

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Elucidation of insecticidal activity of extracellular polysaccharide (EPS) from *Pseudomonas aeruginosa* B01 isolated from wastewater

N. Benit*, Sr. Clara Jenifer[1] and A. Stella Roslin

* Asst. Prof., Department of Botany, Holy Cross College (Autonomous), Nagercoil

[1]Department of Botany and Research Centre, Holy Cross College (Autonomous), Nagercoil

E-mail: benitdhadeusraj2003@gmail.com

ABSTRACT

Introduction

EPS producing bacterial isolate was screened from the municipal wastewater and was identified as *Pseudomonas aeruginosa* B01.

Materials and Methods

The bacterial isolate was cultured in the nutrient broth medium and the culture supernatant was used as the source of EPS. EPS was purified by the combination of ethanol precipitation, TCA precipitation and dialysis. The purified EPS appeared as a white precipitate after solvent precipitation and dialysis. The serial dilution of partially purified EPS was carried out in double distilled water that gives final concentrations of 2 mg/ml, 4 mg/ml, 6 mg/ml, 8 mg/ml and 10 mg/ml in to 100 ml glass beaker. The mosquito larvae were fed with a diet of finely ground biscuits and brewer yeast at 3:1 ratio. Mortality was recorded after 24 h and LC50 values were calculated.

Results

The lethal concentration of mosquito larvae after 24 h of exposure in EPS was described. The LC50 value of EPS after 24 h was 6.13 mg/ml.

Keywords: *Pseudomonas aeruginosa*, EPS, TCA precipitation, dialysis, mortality, LC 50

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Aquatic and semi aquatic medicinal plants against skin diseases in Agastheeswaram Taluk, Kanyakumari District, Tamilnadu, South India

Jerlin Deletta. G[1]* and B. Parthipan[2]

[1] Assistant Professor, Department of Botany, Holy Cross College (Autonomous) Nagercoil, Tamilnadu, India(Affliated to Manonmaniam Sundaranar University, Tirunelveli)
[2] Associate Professor, P.G. & Research Department of Botany, S.T.Hindu College, Nagercoil, Tamilnadu, India.
*Corresponding author- E.mail: jerlindeletta@gmail.com

ABSTRACT

Introduction

Plants which grow in wet places or in water either partly or wholly submerged are called hydrophytes. Aquatic hydrophytes are very remarkable forms of plant life and they find a more or less precious footing in pond ecosystem. Most of them are covered by means of weeds and plants became useless. The present study is to analyze the medicinal use of such weeds and plants and make aware the public about the importance of pond plants.

Objectives

To collect and survey the vascular species of wetlands. The main objective was to assess and document the potential of floral resources and how it's used to cure skin diseases.

Materials and Methods

The floristic survey of aquatic medicinal plants carried out during 2014- 2016 in 21 ponds of Agastheeswaram Taluk and collected specimens were deposited in the Herbarium of the Botany Department, ST. Hindu College Nagercoil. Nomenclature of genera and species was studied according to the APG IV Classification. Field study consisted of plant collection and interview with local traditional healers. Botanical name, Tamil name, family, life form, habit, parts used, used in various medicinal system, ailments of species are provided in this paper.

Results

The result revealed that 45 aquatic and semi aquatic plants under 41 genera and 28 families were under use by the local inhabitants against skin diseases and various ailments too, 7 species used as food, one species used as craft, fodder and ornamental respectively. Out of total taxa, 40 species are Dicotyledons under 36 genera and 23 families, 4 species are monocotyledons under 4 genera and 4 families and only one species Pteridophytes. Further the aquatic hydrophytes classified in morphological group viz., under Shore plants (16), Wetland plants (15), Emergent amphibious hydrophytes (10) free floating and Floating submerged anchored hydrophytes (2 species each). Method of preparation high in the form of paste (17) followed by juice (16), extraction (8), decoction (4) and oil (2 species).

Conclusion: The survival of these native wetland species is threatened and hence continuous monitoring and conservation of wetlands and wetland plants of Agastheeswaram Taluk is important to safe guard the biological wealth of the study area.

Key words: Skin diseases, Agastheeswaram Taluk, Aquatic hydrophytes.

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Preliminary Phytochemical Screening of *Solanum nigrum* L. leaf extracts

A.R. Florence[1], S. Preethi, F. Celin Pappa Rani[1], L. Dyona[1]
[1]Assistant Professor, UG Student, Department of Botany, Holy Cross College (Autonomous),
Nagercoil, Kanyakumari District- 629 004, Tamilnadu, India
Corresponding author E-Mail: florencedavid28@gmail.com

ABSTRACT

Background

Preliminary screening of phytochemicals is a valuable step, in the detection of bioactive principles present in medicinal plants and subsequently may lead to drug discovery and development. Medicinal plants have been considered as healthy source of life and used empirically as drugs for centuries, initially as traditional preparations then as pure active principles and this knowledge has passed on from generation to generation. Plants not only provide the nutrients but also have the medicinal values which are used for curing various diseases.

Solanum nigrum is an important medicinal plant and commonly known as "Black night shade" belonging to Solanaceae family. It is called as Manathakkali in Tamil. It has been extensively used in traditional treatment for various ailments such as pain, inflammation, ulcer, piles, dysentry fever etc.

Objective

This study was carried out to analyse the phytochemical constituents of the plant *Solanum nigrum* L. leaf extracts.

Method

Aqueous, petroleum ether, ethanol and benzene extracts of the leaves were prepared by adding 100 g of leaf powder to 1000 ml of these solvents and subjected to soxhlet extraction. The extracts were concentrated by using vacuum evaporator and dried at 60°C. Preliminary phytochemical screening was performed by Harborne method.

Result

Different leaf extracts of *Solanum nigrum* showed the bioactive constituents such as alkaloids, carboxylic acids, coumarins, flavonoids, glycosides, proteins, phytosterols, resins, saponins, steroids, tannins, terpenoids and essential oils. The presence or absence of the phytoconstituents depends upon the solvent medium used for extraction and the physiological property of leaves.

Conclusion

The finding of the study revealed that the leaf extracts of *Solanum nigrum* have a potential source of useful drugs due to the presence of various phytochemicals and can be utilized in the treatment of many diseases and also be exploited for use in the pharmaceutical and traditional systems of medicine.

Key words: Medicinal plants, phytochemicals, traditional medicine

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Impact of cashew nut industry effluent on the growth attributes of *Lycopersicon esculentum* Mill.

J. Celin Pappa Rani [1]*, A.R. Florence[1], L. Dyona[1], M.Mini Felicia[2], S. Bricilla Maria[2]
[1]Assistant Professor, [2]PG student, Department of Botany and Research Centre,
Holy Cross College (Autonomous), Nagercoil-4.
*E-mail:celinpapparani@gmail.com

ABSTRACT

Introduction

Cashew nut processing industry is one of the major agro-based industries in India. Cashew nut industries are mostly in small scale and cottage sector without any effective pollution abatement system. Wastewater is generated from the quenching operation of the roasted cashew nut discharged. Cooking process also discharges wastewater from the steam cooker. Cashew nut shell liquid (CNSL) contains mainly cardanol, cardol, polymeric material, and traces of methyl-cardol, is the most abundant by-product of this process. The high level of CNSL in the effluent generated during production is a potential environmental toxin.

Objectives of the study

The present study has been undertaken to assess the impact of cashew nut industry effluents on morphological, biochemical and physiological characteristics of *Lycopersicon esculentum*.

Materials and methods

Effluents were collected at a cashew nut processing plant located in Karungal, Tamilnadu, India. Tomato seeds were purchased from Agricultural Extension Centre, Nagercoil. The effluent was analyzed for various physicochemical parameters. Cashew nut industry effluent is characterized by its strong colour (black), high BOD, COD, TDS, EC and total hardness. Pot culture experiments were conducted with *Lycopersicon esculentum* plants at different concentrations (20%, 40%, 60%, 80%, 100%) of cashew nut processing industry effluent along with control using ground water. The morphological parameters such as shoot length, root length, number of leaves, leaf length and height of the plant, biochemical parameters such as carbohydrate, protein, aminoacid content, chlorophyll content were analyzed at 10, 20, 30, 40, 50, 60, 70, 80 and 90 days after sowing. The yield parameters of tomato plants were recorded at the time of harvest.

Results

All morphological and biochemical parameters were found to increase at 20% effluent concentration and it decreased from 60% concentration onwards. Yield was maximum in 20% effluent treated plants. At 60% effluent concentration detrimental effect on the plant growth was observed when compared to control.

Conclusion

Data from this study suggested the cashew nut industry effluent is toxic to plant growth at higher concentration, thus it can be used for irrigation after proper dilution.

Keywords: Cashew nut industry effluent, *Lycopersicon esculentum*, Growth parameters

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Floristic spectrum analysis of Holy Cross College, Nagercoil botanic garden floras

S. Ani Besant[1*] and **A. Anami Augustus Arul[2]**

[1]**Reg No. 18113042262003, Research Scholar, Department of Botany, Holy Cross College (Autonomous), Nagercoil.** (Affiliated to Manonmaniam Sundaranar University, Abishekapatti, Tirunelveli - 627 012, Tamilnadu, India.) [2]**Assistant Professor, Department of Botany, Holy Cross College (Autonomous), Nagercoil.*Corresponding Author - Email:** anibesant23@gmail.com

ABSTRACT

Introduction

Conservation of biodiversity is essential for the protection and functioning of a normal ecosystem. Ex-situ conservation is the preservation of components of biological diversity outside their natural habitats. Conservation of genetic resources through botanical garden draws on a diverse body of techniques and facilities. This investigation presents a unique survey on the role of botanical gardens that communicate plant diversity and conservation.

Objectives

Holy Cross College botanical garden flora survey was carried out to document the floras on habit wise distribution. The edible and medicinal plants were recorded.

Methods

The collection of data on botanical garden was done systematically. The plants collected were identified on the basis of common names, published articles, regional floras, available herbaria etc.

Results

In the present investigation, about 117 plant species were identified and documented. The relevant information like botanical name, family name and common name was documented. Most of the plants present in the garden are ornamental plants. Few are edible and medicinal plants were also recorded. Some are exotic plants and few are endangered plants.

Conclusion

The conservation of plants through botanical gardens in institutions is not only based on conservation but it also gives aesthetic value and gardening practice to the students

Keywords: Conservation, Biodiversity, Botanical garden.

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A preliminary study on dominant microbes of dental caries

J.Albino Wins[1], Sr. Antony Rincy[2] and M. Murugan[3]

[1]Assistant Professor, Department of Botany and Research Centre, Holy Cross College (Autonomous), Nagercoil-4. Tamilnadu, India,
[2]PG student, Department of Botany and Research Centre, Holy Cross College (Autonomous), Nagercoil-4. Tamilnadu, India
[3]Dept. Of Biomedical Engineering, Noorul Islam University, Kumaracoil.
E-mail ID: winsbt@gmail.com

ABSTRACT

Introduction

Tooth decay, also known as dental caries is an epidemic, microbiological contagious disease of the teeth that ends in localized dissolution and damage of the calcified structure of the teeth. Dental caries is one of the most common chronic infectious diseases in the world. There are three major hypotheses for the etiology of dental caries: the specific plaque hypothesis, the non-specific plaque hypothesis and the ecological plaque hypothesis. The time factor is significant for the commencement and development of caries in teeth. Microorganisms play important roles in caries progression and *Streptococcus sps* possess significant role in infection.

Objective of the study

The aim of the present study is to identify the possible bacterial species that affects the teeth, associated with health and disease, especially early on its infection.

Methodology

In the present investigation, samples were collected from the infected area of the teeth, diluted tenfold with phosphate buffered saline and then inoculated in Mitis Salivarius agar medium supplemented with 1% potassium tellurite and incubated at 37°C for 24 – 48 hours. Following incubation, the grown colonies were streaked into the agar slants and maintained as pure culture for further investigations. From the pure culture, the colonies were microscopically, macroscopically and biochemically analysed for the detection of bacterial species.

Results

The microorganisms were analyzed microscopically, macroscopically and biochemically. Totally ten bacterial species were detected. The microbes identified were *Staphylococcus sps, Streptococcus sps, Enterobacter sps, Pseudomonas sps, Bacillus sps, Escherichia coli, Lactobacillus sps, Bifidobacterium sps,Eubacterium sps, Fusobacterium sps.*

Conclusion

With this concern, this paper highlights the different microbiological perspectives of dental caries in broader sense. Hence, it is essential to increase the knowledge about the therapeutic approaches to suppress the growth of microorganisms.

Keywords: Dental caries, Plaque formation, Mitis Salivarius agar medium, Bacterial species

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J.P. Jespa, and V. Brisca Renuga

Department of Zoology, Holy Cross College (Autonomous), Nagercoil-629004, Affiliated to Manonmaniam Sundaranar University, Abishekapatti, Tirunelveli-627012, Tamil Nadu.

ABSTRACT

Background

The Sericulture is an agro based popular cottage industry and plays a vital role in improvement of rural economy of India. The mulberry silkworm, *Bombyxmori*has been domesticated for silk production for more than 5,000 years and provides the major source of income for 30 million families globally. Nutrition plays a pivotal role in sericulture. It improves the growth, development, health, feed consumption and conversion of silkworm thereby improving the commercial traits. Silkworm,*Bombyxmori*L., is a monophagous insect that drives all required nutrients for its growth and development from mulberry leaf. Some plant extracts are feeding stimulants and improve the nutritional intake, growth, disease resistance/tolerance of silkworm ultimately improving the cocoon traits.

Objective

The present investigation was carried with an objective to determine the impact of fortification of M_5 mulberry leaves with botanicals on growth and commercial traits of *B. mori*.

Materials and Methods

The3rd instar silkworm larvae were fed with mulberry leaves fortified with different concentrations (0.01, 0.1, 1.0,1.5and 2..0%) of aqueous extracts of *Clerodendrum inermae* and *Vitex negundo*. Moulting duration, larval duration, Larval weight (g), Effective rate of rearing (ERR) (%), Cocoon, pupal and shell weight (g), Cocoon Shell Ratio (CSR) (%) were measured.

Results

Apart from the disease management, the botanical extracts had significant effect on silkworm growth and development. The increased mean larval weight, relative growth rate of final instar larvae *of Bombyx mori* showed that the plant extract of *Clerodendrum inermae* have growth promoting effect which helps to improve the performance of silk in *Bombyx mori*. This is due to the secondary metabolites of the plant extracts which has physiological stimulation on silkworm larvae leading to remarkable larval growth and increased food consumption and cocoon weight.

Conclusion

From the present investigation it was understood that its application is an inexpensive source of fortificant for silkworm rearing.

Keywords: *Clerodendrum inermae, Vitex negundo,* fortificant, Cocoon Shell Ratio.

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In vitro anti-cancerous and apoptotic activity of tclec isolated from millipede, *Trigoniulus corallinus* on hepatocarcinoma cell line (HEPG2)

[1]*Anitha C and [1]Basil Rose M.R
Department of Zoology, Holy Cross College (Autonomous), Nagercoil, affiliated to MaranmaniamSundaranar University, Tirunelveli-627012
Email: anithajeyaraj85@gmail.com

ABSTRACT

Introduction

Lectins are sugar binding non-immune origin proteins that initiates their activity by binding to the carbohydrates moieties present on the cell surface and induces a variety of functions viz., signal transduction, immune deferse, cytotoxicity and apoptosis. Though lectins are known for the past several decades, interest has been focused because of its possible application in diagnosis, immunomodulation, drug delivery and anticancer therapy. Lectins of diverse origin, specifically the ones with sialic acid specificity have the ability to inhibit cancer cell growth, by promoting apoptosis. Hence an effort is made to analyze the anticancerous/apoptotic activity of the sialic acid specific lectin TcLec.

Materials and Methods

α-lactose and lactoferrin specific 76kDa lectin TcLec, isolated and purified by affinity chromatography from the midgut gland of the millipede *Trigoniulus corallinus* capable of agglutinating rabbit erythrocytes was tested at various concentrations for its anticancerous effect against the hepatocarcinoma cell line by MTT assay. Apoptotic assay was carried out by fluorescence microscopic analysis and the measurement of p53 activity by flow cytometric assay.

Results and Discussion

TcLec exhibited significant anticancerous effect against HepG2 cell line with an IC_{50} value of 42.84 µg/ml. Fluorescence microscopic analysis on HepG2 showed significant increase in late apoptotic cell death. Flow cytometry assay for the measurement of p53 apoptotic activity suggests that the TcLec may have possible therapeutic potential in hepatic carcinoma in a time and dose dependent manner.

Conclusion

The affinity purified midgut gland lectin (TcLec) of the millipede, *Trigoniulus corallinus*, has been found to inhibit the growth of hepatocarcinoma cell line *in vitro*.

Keywords : Lectin, TcLec, Anticancer, *Trigoniulus corallinus*, Hepatocarcinoma, Apoptosis.

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Fecundity of goldstripe sardine, *Sardinella gibbosa* (Bleeker) from Vavathurai coast near Kanyakumari

Antilda, J., Mary Metilda Bai, S. and Vinoliya Josephine Mary, J.
Department of Zoology, Holy Cross College (Autonomous), Nagercoil - 629 004
Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu.

ABSTRACT

Introduction

Sardinella is a genus of fish coming under the family Clupeidae found in most of the oceans. They are abundantly present in warmer waters of the tropical and subtropical oceans. Adults are generally coastal schooling marine fish, but juveniles are often found in lagoons and estuaries. Since sardines are an excellent source of essential fatty acids, vitamin D and A and calcium and selenium they are consumed as food across the world. A total of 21 species of sardines were recorded worldwide and among these, *Sardinella gibbosa* is a popular species. There is no information available about the fecundity of *S. gibbosa* from the study area, Vavathurai Coast near Cape Comorin.

Materials and Methods

This study was undertaken by collecting weekly samples from the study area between May 2019 and July 2019. A total of 1000 specimens were sampled from female fishes and different stages of ovaries were examined. The fecundity of maturing, matured and spawning stages were calculated by using volumetric method.

Results and Discussion

Totally 5 stages like immature, maturing, matured, spawning and spent were noticed. The observed fecundity ranged from 6000 to 25000 depending upon the size of the gonad and maturity stage. The determination of the sequence of changes in maturity stage and fecundity estimates can be used to calculate the size of a stock and its reproductive potential. The information derived from these analyses can be used in determining the age and size at which fish attain sexual maturity, the time and place of spawning etc. This data have several practical uses such as to plan fishing tactics and also to limit fishing on an overexploited stock.

Conclusion: From this study it was understood that *Sardinella gibbosa* of our Indian ocean has good reproductive potential.

Key words: Fecundity, ovum, *Sardinella gibbosa*, serial spawner, volumetric method.

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Antimicrobial potential of the lectin purified from the hemolymph of the freshwater crab, *Oziotelphusa sps.*

Vargila, F., *Mary Mettilda Bai, S., Vinoliya Josephine Mary, J. and Rathika, R.K.
Department of Zoology, Holy Cross College (Autonomous), Nagercoil - 629 004
Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu.
*E. mail: metti.silvester@gmail.com

ABSTRACT

Introduction

Prevalence of a number of microbial diseases and development of resistance capacity in bacteria and fungi to drugs leads to the need for the search of a novel antimicrobial compounds. Numerous biomolecules isolated from microbial, plant and animal origin were found to have antimicrobial effect. Lectin a defense molecule found in almost all organisms is reported for its antimicrobial activity via binding carbohydrate on microbial surfaces. Hence an attempt was made to investigate the antimicrobial potential of the lectin isolated from the hemolymph of the crab, *Oziotelphusa sps.*

Materials and Methods

The antimicrobial activity of the lectin purified from the hemolymph of freshwater crab, *Oziotelphusa sps* was investigated following disc diffusion method. Crude and clarified hemolymph and purified lectin were subjected against four bacterial strains like *Staphylococcus aureus*, *Streptococcus mutans*, *E. coli* and *Klebsiella pneumonia* and two fungal strains such as *Aspergillus flavus* and *Aspergillus niger*. The antimicrobial activity was measured in term of zone of inhibition (mm).

Results

The highest zone of inhibition was observed with lectin against the bacteria *S. aureus* followed by *E. coli* and *K. pneumoniae* and fungi *A. niger* and *A. flavus*. The crude and clarified hemolymph showed weak inhibition to all pathogens tested.

Discussion

The lectins interact with the glycocalyx of both Gram-positive and Gram-negative bacteria and thus arrest the growth of the bacteria. Study of antifungal activity showed inhibitory potential which may be due to the binding of the lectin to hypha's of the fungal strains. It in turn leads to poor absorption of nutrients and also interfere with the spore formation as a result to inhibit the growth of the fungi. Lectins are also involved in pore formation followed by changes in the permeability and interact with the microbial cell wall components.

Conclusion: The present study proved the antimicrobial effect of the *Oziotelphusa sps* hemolymph lectin against pathogens. This lectin could be a promising antimicrobial drug source.

Key words: antimicrobial activity, hemagglutinin, hemolymph, lectin, *Oziotelphusa sps*

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Antimicrobial activity of the hemolymph of the marine crab *Grapsus tenulcrustatus*

Rathika, R.K. *Mary Mettilda Bai, S., Vinoliya Josephine Mary, J. and Vargila, F.
Department of Zoology, Holy Cross College (Autonomous), Nagercoil,
Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu, India.
* E.mail: metti.silvester@gmail.com

ABSTRACT

Introduction

The capacity to mount an immune response that eliminates infection of a host by a microbial pathogen is a need for species survival and propagation. Number of defense molecules have been involved in the elimination or killing of invading pathogens. One among them is lectin. Lectins are ubiquitous carbohydrate-binding proteins, isolated from viruses, bacteria, fungi, unicellular and multicellular invertebrates, vertebrates and plants. Lectins are highly variable in their amino acid sequences, and with different functions, structures, tissue localizations and carbohydrate-binding specificities. Their antibacterial, anti-parasitic, antiviral, and anticancer activities were proved by number of researchers. With this background antimicrobial activity of the hemolymph and hemolymph lectin of the marine crab *Grapsus tenulcrustatus* was tested.

Materials and Methods

The antimicrobial activity of crude hemolymph, clarified serum and purified lectin of the experimental crab was tested by disc diffusion method. The antimicrobial activity was studied against 5 different species of bacterial strains both Gram positive (*Bacillus sps* and *Staphylococcus aureus*) and Gram negative (*Pseudomonas aeruginosa, Enterobacter sps* and *E.coli*) and 2 fungal strains (*Pencillium sps* and *Aspergillus niger*). The antimicrobial activity was measured in term of zone of inhibition (mm).

Results and Discussion

The results of antimicrobial studies revealed that crude hemolymph showed high antibacterial activity against *Pseudomonas aeruginosa* and clarified serum showed high antifungal activity against *Aspergillus niger*. The antimicrobial property of the hemolymph of the marine crab *G. tenulcrustatus* is due to the presence of antimicrobial peptides, which can be used to avert the colonization of the microbes.

Conclusion: The present study indicates that, the hemolymph of crab would be a good source of antimicrobial agents and would replace the existing inadequate and cost effective antibiotics.

Keywords: Lectin, *Grapsus tenulcrustatus*, hemolymph, antimicrobial, gram positive and gram negative.

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Bioprospecting the anti-microbial properties of medicinal plants *Mollugo cerviana* and *Acyranthus aspera*

***Prakash Shoba. S., Venci Candida. X.** and **Basil Rose. M. R**
Department of Zoology, Holy Cross College, Nagercoil - 629004, TamilNadu, India.
Corresponding author: prakash.shoba86@gmail.com

ABSTRACT

Background

Medicinal plants are a source of great economic value in the Indian subcontinent. Natural products derived from plants may contribute to the search for new drugs by indicating new modes of pharmacological action natural plant products mainly based on the traditional herbal system are being used in the pharmaceutical industry and primary health care system in developing countries.

Objective

Considering the plants as sources for antimicrobial drugs with reference to antibacterial agents attempt was made to evaluate the potential antibacterial activities of plants *Mollugo cerviana* and *Acyranthus aspera*.

Materials and Methods

Methanol extract of leaves of *Mollugo cerviana* and *Acyranthus aspera* were prepared and stored for further studies. The following bacterial strains were used for anti-microbial activity: *Shigella, Enterococcus, Serratia marcescens, Enterobacter, Pseudomonas aeroginosa*, and *Salmonella typhi*. Amikacin was used as control.

Result

The leaf extract of *M. cerviana* revealed the highest antimicroobial activity towards *Shigella flexneri* (13mm), *Enterobacter* (11mm), *Pseudomonas aeruginosa* (11mm), *Enterococcus* (10mm), and lowest towards *Serratia marcescene* (9mm), *Aeromonas* (8mm). The antimicrobial activity of *A. aspera* leaf extract showed the highest activity against *Shigella flexneri* (14mm), *Enterobacter* (10mm) and lowest towards *Psuedomonas aeruginosa* (9mm) and *Serratia marcescenes* (9mm). Among the two plants leaf extract tested the antimicrobial activity of *A. aspera* leaf extract shows the highest activity against *Shigella flexneri* (14mm).

Conclusion

Thus, *Achyranthes aspera* is quite promising as a multipurpose medicinal agent and further clinical trials should be performed to prove its efficacy.

Key words: Medicinal plants, *Achyranthes aspera*, *Mollugo cerviana*, antimicrobial, methanol extract.

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Study of physico-chemical parameters and water quality index of some temple ponds in Kanyakumari district

Arokya Glory P.T , Sahaya Sheeba T , Josephine Priyatharshini C. J. and Basil Rose M. K.

Dept. of Zoology, Holy Cross College, Nagercoil,TN,India.
arokyaglory@gmail.com

ABSTRACT

Background

Water is associated with almost every aspect of life on our planet. Ponds, as sources of water, are of fundamental importance to man. Ponds are rich in components of bio - diversity, like, flora and fauna of local, natural and regional significance. Thus, the ponds play an important role in biodiversity. In India, natural ponds are found in the vicinity of villages, places of religious worship and other human inhabitations. In India man-made ponds have been used as an alternate source of drinking water and employed for washing of clothes and bathing purposes by washer men and local people. The pond water is mainly affected due to pilgrims and ritual activities by the people living in the nearby areas.

Objective

The present study was to study the physico-chemical parameters and to estimate the Water Quality Index of some selected temple ponds in Kanyakumari District and to evaluate its pollution status.

Materials and Methods

The investigation was carried out in six selected temple ponds (Arulmigu Sadayappar Mahadevar temple pond at Thiruvidaikodu, Arulmigu kumaraswamy Thirukovil temple pond at Kumarakovil, Sri Nataraja Thirukovil temple pond at Nandhankodu, Kaasi Vishvanathar Thirukovil temple pond at Vadaseri, Vinayagar Thirukovil temple pond at Pannikodu and Meenakshi Sundareshwarer temple pond at Kaliyankadu) located in Kanyakumari District. The Physico-chemical and bacteriological characteristics of water samples were assessed as per standard methods (APHA, 1998) at TWAD Board water laboratory. The overall results of nine separate tests (Dissolved oxygen, Fecal coliform, pH, Biological oxygen demand, Temperature, Total phosphate, Nitrates, Turbidity and Total dissolved solids) were used to determine the Water Quality Index (WQI) of the study temple ponds.

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Efficiency of *Azolla* on the size of cocoon productivity of the silkworm, *Bombyx Mori*

Femin Suji M, Josephine Priyatharshini[1] C and Sr. Basil Rose[1]
Dept. of Zoology, Holy Cross College, Nagercoil.
tharshinisuni@gmail.com

ABSTRACT

Introduction

Sericulture in India is an important cottage industry based on agro forestry, earning exchange with an about more than 1500 crores rupees per annum. It plays an important role to uplift the rural economy of India by the limited availability of land, less investment and more profit throughout the year. Among the developing countries, India enjoys a very favorable position of silk production.

Mulberry is the only food plant of silkworm of *Bomyx mori* which produces fabalous silk. The quality of leaves influences the success of the profitability. The artificial diet is prepared by adding nutritional elements.

Objective

This study was designed to study the effect of *Azolla* on the size of cocoon production in *Bomyx mori*.

Materials and Methods

Freshly moulted fourth instar larvae were divided into three separate groups with five larvae each. Replicates were maintained for each group. The larvae were fed with fresh mulberry leaves treated with *Azolla* extract. When the matured larva showed the symptom of spinning, they were introduced in the Chandrika. The growth was calculated.

Results

Treatment of mulberry leaves with *Azolla* extract increased the larval growth. Control showed a cocoon weight of 1.43gm when compared with the experimental animals with 1.5 gm, 1.7 gm and 1.9 gm of 1gm, 3 gm and 5 gm of *Azolla* extract respectively. Likewise the cocoon weight, pupal weight and the shell ratio were also measured and it was found that there was a marked difference between the control and the experimental animals.

Conclusion

Since the Azolla is one of the most concentrated natural source of nutrition that contains more vitamins, mineral, aminoacids and enzymes, the energy spent on the account on synthesis of needed amino acids is utilized for growth and the quality cocoon production.

Key words :*Bombyx mori*, Azolla, Cocoon.

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Similarity Co- efficient of Arthropod community in transgenic and non-transgenic cotton fields

X. Venci Candida[1], S. Prakash Shoba[1], K. Shenkani[3] and J. Benrit Vimal[4]

[1,2] Department of Zoology, Holy Cross College (Autonomous), Nagercoil.
[3] Department of Zoology, JKKN College of Arts and Science, Kumarapalayam
[4] Department of Zoology, Scott Christian College (Autonomous), Nagercoil.
Corresponding Author: venciaugustine@gmail.com

ABSTRACT

Introduction

The Arthropod community of transgenic and non-transgenic cotton plants were analysed in the cotton fields near Srivilliputhur, Virudhunagar district Tamilnadu.

Materials and Methods

The similarity in pests between the non- transgenic and transgenic was studied by the Bray – Curtis similarity coefficient on non-standardized square root transformed data.

Result

As the pest population of the study sites constituted different species it could only be understood by multivariate analysis. Results of the dendrogram drawn using Bray – Curtis index revealed that non – transgenic and transgenic population made separate clusters with small variations. The separation of separate clusters is due to two factors, species composition and relative index. The results showed that there was no similarity between the pest population in transgenic and non-transgenic cotton plants.

Conclusion

The purpose of using Bray – Curtis index is to represent the sample collected as points in a map. Samples lying closer have more similarity in species composition and abundance, while samples lying far apart have more dissimilarity in species composition and abundance. The marked points are found separately and so there is no similarity between the pest population in transgenic and non – transgenic cotton plants.

The arthropods collected from transgenic fields were spiders, grasshoppers, damselfly, cotton bug, lady bird beetle, mealy bug. The arthropods collected in non-transgenic fields were bollworm, bugs, aphids, scale insects, cotton leaf roller, mealy bugs and semilooper.

Keywords: Bray – Curtis similarity coefficient, Transgenic, Non – transgenic, Arthropods.

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Green synthesis and characterization of silver nanoparticles using *Pedalium murex* and its antimicrobial activities

Bebina. R. Cleetus and Jeni Chandar Padua
Department of Zoology, Holy Cross College (Autonomous), Nagercoil.

ABSTRACT

Introduction

Over the last few decades, silver nanoparticles have been one of the extensively studied nanomaterials and green synthesis of nanoparticles using plant extracts has emerged as a promising methodology for the fabrication of metallic nanoparticles, as it involves an easy, fast, low-cost and environmental friendly bioprocess. The selected herb is *Pedalium murex*, commonly known as large calotrops found along western and corommandal coasts of India. This plant is traditionally used as a medicine in Ayurvedha to treat impotency in man.

Materials and methods

Preparation of plant extract

Aqueous extract of the leaf, stem, root and seed were prepared, stored and marked as A1, B1, C1 and D1 for leaf, stem, root and seed respectively.

Synthesis of AgNPs

For the typical reduction of silver ion to AgNPs, 5 ml of freshly prepared extract (A1, B1, C1 and D1) were added to 45 ml of silver nitrate solution (1 mM) and the mixture was marked as A2, B2, C2, D2 and incubated for 24 hrs at room temperature. As the reaction proceeded, the color change from yellow to brown was observed and recognized for the formation of AgNPs.

Characterization of AgNPs

Characterization of nanoparticles was done by using different methods which includes; UV-Visible spectroscopy (UV-Vis), Fourier Transform Infrared spectroscopy (FTIR), Powered X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM) and also assessment of antimicrobial activity.

Results

Experimental results indicates that UV-Visible spectrum of the aqueous medium containing silver nanoparticles of leaf, root and seed extract showed absorption peak value around 460 nm. FTIR had shown that the biomolecular compounds were responsible for the reduction and capping material of silver nanoparticles. XRD Analysis revealed the crystalline nature of silver nanoparticles. SEM analysis revealed the shape of nanoparticles as spherical and spindle shaped. The antimicrobial activity of silver nanoparticles against some bacteria and fungi are assessed to find their activity potential and no potential activity was observed.

Conclusion

An eco-friendly and cost effective method for synthesizing AgNPs by utilizing a renewable natural resource *Pedalium murex* was proposed. This herbal plant has many application related to reproductive science so this plant was selected for study.

Keywords: Green synthesis, *Pedalium murex*, nanoparticles

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Collection and identification of macroparasites of *Cybium commersonii* and *Tuna* of Rajakkamangalamthurai coast, Kanyakumari district

R. Regis Freeda, C. Albert and Jeni Chandar Padua
Department of Zoology, Holy Cross College (Autonomous), Nagercoil.

ABSTRACT

Introduction

Parasites in fish are a common natural occurrence. Parasites can provide information about host population ecology. They can be internal (endoparasites) or external (ectoparasites). Some parasites can severely stress fish populations to the point becoming biological and economical concern.

Objective

The objective of this study was to collect and identify the macroparasite present in the bucco-pharyngeal region, digestive system, intestine and attached to the liver of the *Cybium commersonii* and *Tuna* fishes from Rajakkamangalamthurai coast of Kanyakumari District.

Materials and Methods

The fish specimens were examined carefully for external surfaces like dorsal fin, pectoral fin, pelvic fin, caudal fin and lateral fin base etc. and internal organs like bucco-pharyngeal, digestive system, liver, intestine etc. for parasitic infestation. Finally the data was assessed by prevalence and mean intensity.

Result

In this study, the macroparasite identified from the fish *Cybium commersonii* and *Tuna* mainly belonged to nematode, cymothoid, Acanthocephalan. The parasitic infestation (nematode) was higher in digestive system of *Cybium commersonii*. The prevalence was 33% and the mean intensity was 14.5. The parasitic infestation (nematode) was higher in the intestine of *Tuna*. The prevalence was 55% and the mean intensity was 43.5.

Discussion

In the present study it was evident that the intestine was the most infected, with nematode than other organ infestation. The parasitic infestation was higher in *Tuna* when compared to *Cybium commersonii*.

Conclusion

During this observation, the infestation of ectoparasite was not seen. The endoparasites were found in the bucco-pharyngeal region, digestive system, liver and intestine. Thus it can be concluded that the intestine of the selected fish *Tuna* was more prone parasitic infestation than *Cybium commersonii*. The parasitic infestations were found to be the major problems and the most prevalent disease causing agents among the fish species.

Keywords: *Cybium commersonii*, *Tuna*, Nematode, Endoparasite, Cymothoid

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Heavy metal concentration in water, sediment, shrimp (*Penaeus indicus*), and grouper fish (*Epinephelus coioides*) from Tuticorin coast

P.C. Jeba Preethi Jansi, S. Jesily and Dr. Jeni Chandar Padua
Department of Zoology, Holy Cross College (Autonomous), Nagercoil.

ABSTRACT

Introduction

Heavy metal pollution poses a serious threat to the environment because of their toxicity, persistence for several decades in the environment through bioaccumulation and biomagnifications in the food chain. Metal pollution negatively impacts on food safety and human health. The main objective of the present work was to know the level of concentration of heavy metals in Coastal water, sediment, muscle tissue of the shrimp (*Penaeus indicus*) and muscle tissue of the Grouper fish (*Epinephelus coioides*) from two sites of Tuticorin coast (Therespuram, Harbour).

Materials and Methods

The metal concentrations were measured by Atomic Absorption Spectrophotometer (AAS ELICO 194) in order to assess the influence of heavy metals Pb, Cu and Cd in water, sediment, shrimp and fish.

Results

The results indicate metal concentration in the water samples from both places were higher than sediments, prawns and fishes. Cd concentration in the sediment was found high in Therespuram and Harbour. Cu and Pb were found higher in shrimps and Cu was observed higher in fish sample from Therespuram. The level of concentration of Cu was found high in all the samples of Therespuram.

Discussion

From the present study it was evident that the heavy metals Pb, Cd and Cu in all the samples were higher from Therespuram than Harbour. The level of metal concentration was found in the order Cu > Pb > Cd.

Conclusion

The level of metals Pb and Cd were exceeded the permissible limit prescribed for human consumption. The metals revealed that continuous input of metal pollutant due to human activities and industries might have a significant contribution of these metals in coastal waters and aquatic animals.

Keywords: Heavy metals, water, sediment, shrimp, fish, Tuticorin.

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Role of plant (*Psidiumguajava*) extracts on fish (*Xiphophorous helerii*) growth and health

M.J.Jenisha[1]* and F.Brisca Renuga[2]

[1]Research Scholar, [2]Associate Professor, Department of Zoology, Holy cross college (Autonomous), Nagercoil-629004, Affiliated to Manonmaniam Sundaranar University Abishekapatti,Tirunelveli-627012,Tamil Nadu.

ABSTRACT

Introduction

Aquaculture is the fastest growing food production sector in the world. The successful growth of fishes depends on proper supply of food. The high cost and short supply of desired quality fish meal has made it necessary to substitute the fish feed with other cheaper feed which can be prepared by the farmer easily in expense of less money and labor. To increase the quality of fish meal a alternative feed need to be researched out for proper somatic growth of fish. improving nutrition efficiency or resistance against disease Some additives and antibiotics used in feed and many of these are chemical, especially hormones and antibiotics which cause unfavorable side effects. Plants are natural sources of safer and cheaper chemicals. The present work is designed to exploit the growth promoting effect of *Psidium guajava L.*

Materials and Methods

Orange swordtails *Xiphophorus helleri H.* of uniform size (1g) were purchased from a commercial aquarium and were acclimatized to laboratory conditions for one week before to start of the experiment. The experiments were conducted for a period of 40 days. Different concentrations (0.1, 0.3, 0.5, 0.7, 0.9, 1.0,3.0) of acetone, ethyl acetate and water solvent extracts of selected plant *Psidium guajava* was fed to the fish at 10^{th}, 20^{th}, 30^{th}, 40^{th} days to find out the specific Growth rate (SGR %).

Result and Discussion

Acetone and Ethyl acetate extract treated categories showed increased growth rate and the increase is dose dependent and is creasing with increase of exposure.

Conclusion

The guava leaves have growth promoting effect on *Xiphophorous helerii* thus can be used as a supplementary feed for growing commercial fishes.

Keywords: *Xiphophorous helerii*, *Psidium guajava*, Fish Growth Ratio.

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Characterization of hemagglutinins in mucus of slug *Mariaella dussumieri* (Gray,1855)

S. Nightingale Sheeba J. Vinoliya Josephine Mary[*2], Jilian V. Paul[3] and S. Mary Mettilda Bai[4]

1,2,4Department of Zoology, Holy Cross College (Autonomous), Nagercoil.
3Department of Biomedical Sciences, Alagappa University, Karaikudi.

ABSTRACT

Introduction

Agglutinins are important defense molecules in invertebrates that recognize non-self materials. Lectins are carbohydrate binding proteins, which are able to agglutinate cell and precipitate polysaccharides. Their carbohydrate binding specificity enables their use in cell biology, pharmacology and immunology. Agglutinin was identified from the mucous of slug, *Mariaella dussumieri*.

Material and Methods

The agglutinin was isolated from mucous of slug, *Mariaella dussumieri*. The HA assay of different tissues of slug was tested against different mammalian erythrocytes. The physicochemical characterization like pH, temperature, cations and chelators were tested. Sugar specificity of agglutinin was tested by HAI assay.

Results and Discussion

Hemagglutinins with strong affinity to rabbit erythrocytes were identified in mucus of slug *Mariaella dussumieri*. Haemagglutination assay was tested against various tissues with different blood cells and most of the tissues show affinity towards rabbit erythrocytes. Physico chemical characterization revealed that calcium dependent agglutinin of slug mucus was sensitive to EDTA-Di sodium citrate. Maximum hemagglutination was observed at temperature ranging from 0-30°C and pH 7-8.5. The nature of the receptor sites for agglutinins is characterized by hemagglutination inhibition assay. HAI of mucous agglutinin of slug *Mariaella dussumieri* showed that it was slightly inhibited by sugars like Galactose, Lactose and Glucuronic acid and its strongly inhibited by glycoprotein Fetuin>PSM and Lactoferrin.

Conclusion: Characterization of this agglutinin may help to set strategies for purification of a potent lectin from this slug mucous.

Key Words: Agglutinins , mucus, *Mariaella dussumieri*, slug.

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Control of clinical pathogens by the haemolymph of *Paratelphusa convexa*, a fresh water crab

A. Punitha, Priya G. and K.P Aswathy Gopika
Department of Zoology, Holy Cross College (Autonomous), Nagercoil - 629 004
Corresponding author E. mail: punivelmurugan@gmail.com

ABSTRACT

Introduction

Antimicrobial peptides are a major component of the innate immune defense system in invertebrates. The crabs are the rich sources of bioactive compounds. Hence, the present study was aimed to investigate the antimicrobial potency of haemolymph and tissue extracts collected from fresh water crab, *Paratelphusa convexa*.

Materials and Methods

The antimicrobial activity of the different tissues such as gills, carapace, testis, hepatopancreas and haemolymph of freshwater crab, *Paratelphusa convexa* was investigated following disc diffusion method. The samples were subjected against 5 bacterial strains viz., *Staphylococcus aureus, Escherichia coli, Pseudomonas aeruginosa, Klebsiella pneumoniae,* and *Proteus mirabilis* and 2 fungal strains *Aspergillus niger,* and *Candida albicans.* The antimicrobial activity was measured in term of zone of inhibition (mm).

Results

The highest zone of inhibition was observed with hepatopancreas extract that showed maximum (30 mm) against *Escherichia coli* and fungi *Candida albicans*. These proteins showed strong resistance to the microbial growth. These proteins interact with the glycocalyx of both Gram-positive and Gram-negative bacteria and thus arrest the growth of the bacteria.

Conclusion

The present study proved the antimicrobial effect of the *Paratelphusa convexa* tissue extracts against pathogens. This protein could be a promising antimicrobial drug source.

Key words: antimicrobial activity, hemolymph, *Paratelphusa convexa.*

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Screening of antioxidant and antimicrobial properties of different solvent extracts from mushroom *Pleurotus tuberregium*

Jilian V. Paul[1] J. Vinolya Josephine Mary[2], V.N. Ariharan[3], S. Nightingale Sheeba[4]

[1]Department of Biomedical Sciences, Alagappa University, Karaikudi.
[2,4]Department of Zoology, Holy Cross College (Autonomous), Nagercoil.
[3]Department of Biotechnology and Bioinformatics, Biomeitz Research and Development Pvt. Ltd., Nagercoil.

ABSTRACT

Introduction

Mushroom possess wide range of secondary metabolites with high therapeutic value. It contains compounds with high antioxidant and antimicrobial activity. Antioxidant are the important part of immune system.

Materials and methods

The mushroom was collected from Thuckalay, Kanyakumari District, Tamil Nadu. The reduction potential and antioxidant effect of mushroom extract were estimated by various assays like Nitric oxide scavenging assay, Ferrous ion chelating assay and Phosphomolybdenum reduction assay. Antimicrobial assay of the extract was determined against human pathogenic bacteria like *Staphylococcus aureus*, *Streptococcus mutans*, *Bacillus subtilis*, *Klebsilla pneumonia* and *Proteus vulgaris* followed by Bauer method.

Results

The impact of antioxidant activity of different solvents extraction of mushroom was evaluated. Ethanolic extract shows good scavenging and reducing activity and possess good antioxidant efficacy. The tested mushroom extract had strong antimicrobial activity against tested bacteria. Ethanolic extract shows maximum zone of inhibition 26 mm with *Klebsilla pneumonia* and petroleum ether shows zone of inhibition 20 mm with *Bacillus subtilis*. Ethyl acetate and methanol show moderate activity against all pathogens.

Conclusion: The present study shows that tested mushroom demonstrated a strong antioxidant and antimicrobial activity. It is a good source of natural antioxidant and antimicrobial agent and can be synthesized as a new drug.

Key Words: Mushroom, antioxidant, extraction, antimicrobial agent

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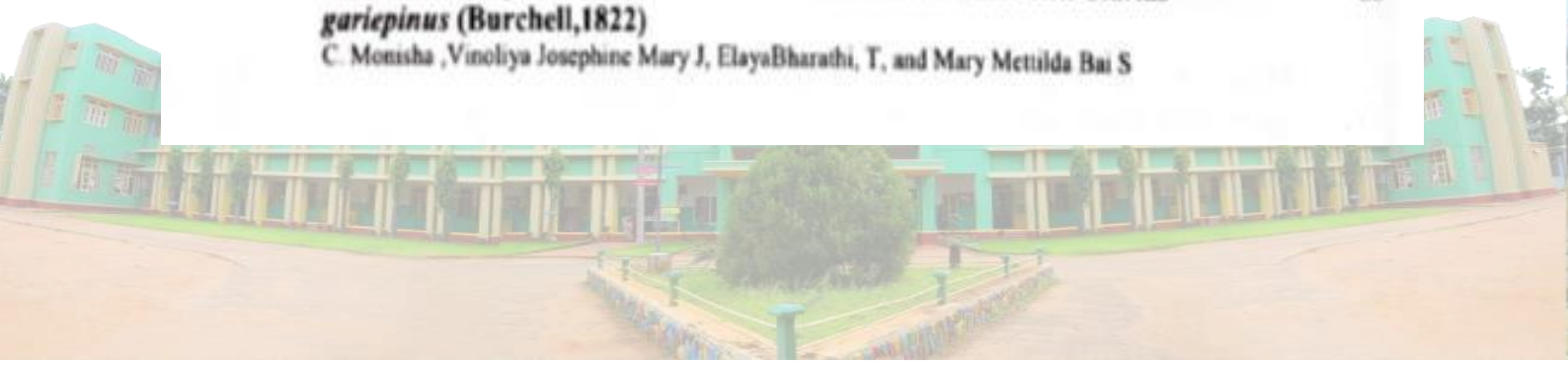

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A study on the shoot multiplication of *Piper longum* Linn.

A. Punitha, K. Vimala and S. Swathy
Department of Zoology, Holy Cross College (Autonomous), Nagercoil - 629 004
Corresponding author E. mail: punivelmurugan@gmail.com

ABSTRACT

Introduction

Tissue culture techniques might be applied to generate large number of true to type clonal propagules, germplasm conservation and plant improvement. *Piper longum* Linn. of family Piperaceae, commonly known as long pepper is a unisexual perennial climber which is indigenous to the hotter parts of India and grows wild in the evergreen forests of Western Ghats. The leaf of *P. longum* possesses antidiabetic, antiplatelet, antiulcer, antifertility, cardiotonic, antitumour, antimutagenic, hypotensive, respiratory depressant and antihelminthic activities. As the plants are excessively extracted from its natural resource, the species has now become very rare in some forests of Kerala. Conventional propagation is best but with problems of poor seed viability, low percentage of germination and scanty, delayed rooting of vegetative cuttings. Therefore, there is a need for alternative propagation methods. So the present study reports on *in vitro* multiplication of stem sample of *P. longum* plantlets.

Materials and Methods

Nodal segments of *P. longum* were trimmed to 1 to 1.5 cm length and washed under running tap water followed by a soap solution for 3 to 5 minutes. Again these treated explants were washed repeatedly with distilled water and finally surface sterilized with 0.1% mercuric chloride for 2 to 10 minutes in a laminar flow cabinet. The surface sterilized explants were washed 3 to 4 times with autoclaved water aseptically to remove any trace of mercuric chloride prior to inoculation. Outer scale leaves were removed aseptically and explants were inoculated in Murashige and Skoog (MS) medium. Cultures were maintained at 24°C under 16/8 hours photoperiod. *P. longum* explants were cultured on MS medium fortified with various concentrations of 6-Benzylaminopurine (BAP) (0.2 to 1.6 mg/l) and Indole-3-acetic acid (IAA) (0.1 to 1.5 mg/l).

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Characterization of a naturally occurring agglutinin in the hemolymph of the marine crab, *Atergatis latissimus* (H. Milne Edwards, 1834)

Elaya Bharathi, T, * Vinoliya Josephine Mary, J, Mary Mettilda Bai, S
Department of Zoology, Holy Cross College (Autonomous), Nagercoil, affiliated to Manonmaniam Sundaranar University, Tirunelveli-627012
* Corresponding author; Email ID: vinoliya75@gmail.com

ABSTRACT

Introduction

Agglutinins, the multivalent sugar binding proteins have been suggested to participate in innate immune response by inducing agglutination or by functioning as opsonins. They are widely distributed within the body fluids and other tissues of invertebrates. Hemagglutinin activity has been found in the hemolymph of many invertebrates. Diverse functions have been assigned to invertebrate agglutinins because of their ability to recognize diverse sugar residues on cell surface receptors.

Materials and Methods

Hemagglutination assay was performed with buffalo, mice, rat, guinea pig, rabbit, pig, dog, Human, A, B, O, camel, cow, goat, horse and donkey erythrocytes. Physico Chemical characterization of the agglutinin like pH, temperature, cation dependency and hemagglutination inhibition assay were performed.

Results and Discussion

Hemagglutination activity was stable between pH 7 and 9.5 and temperature from 0°C to 30°C suggesting the agglutinin to be pH and temperature sensitive. Addition of divalent cations (Ca^{2+}, Mg^{2+} and Mn^{2+}) increased the HA titre up to 5.0 mM and decreased with increase in concentration. *Atergatis latissimus* agglutinin exhibited an increase in HA titre with trypsin and neutral protease treated rabbit erythrocytes and neuraminidase treatment reduced the HA when compared to native erythrocytes. The heamagglutinability of the agglutinin was inhibited by glycoproteins: BSM > bovine thyroglobulin. Disappearance of agglutinability following cross adsorption revealed the presence of a single agglutinin. Thus the preliminary characterization of the hemolymph agglutinin would provide strategies for purification of a lectin from the marine crab, *Atergatis latissimus*.

Conclusion

Thus this study provides all the information necessary for the purification of the agglutinin using affinity chromatography. Purified agglutinin might provide precise information on its sugar specificity and biomedical applications.

Key words: Agglutinin, Glycocalyx, Hemagglutination, Hemagglutination inhibition, Sialic acid.

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A comparative study of hemagglutinin in estuarine crabs *Parasesarma plicatum* and *Sesarmops intermedium*

***Prakash Shoba. S., Mary Mettilda Bai. S., Venci Candida. X., Punitha. A., Vinoliya Josephine Mary. J and Basil Rose. M. R.,**

Corresponding author: prakash.shoba06@gmail.com

Department of Zoology, Holy Cross College, Nagercoil-629004, TamilNadu, India

ABSTRACT

Naturally occurring hemagglutinin was detected in the hemolymph of *Parasesarma plicatum* and *Sesarmops intermedium* using various mammalian erythrocytes (RBC). The hemolymph of *Parasarma plicatum* was capable of agglutinating guinea pig > horse = donkey > rabbit = rat > buffalo = human A = B = O > cow > cat erythrocytes with varying degree of specificity. Whereas, the hemolymph of *Sesarmops intermedium* were marked HA titer towards horse > rabbit = rat > guinea pig = buffalo = human B > human A = O = dog = donkey > cat erythrocytes. This observation suggests that agglutinin present in the hemolymph may contribute to the defense mechanism of these species. Diverse functions have been assigned to invertebrate agglutinins because of their ability to recognize sugar residues on cell surface receptors. They have been widely used in purification of polysaccharides and glycoproteins, and have a variety of biological applications including cell separation and induction of mitogenesis in lymphocytes.

Key words: Hemagglutination, Agglutinin, Hemolymph, Erythrocytes.

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INVERTEBRATE LECTINS IN IMPERVIOUSNESS AND IMMUNOTHERAPY

[1]*Anitha C and [2]Basil Rose M.R
[1]Assistant Professor, [2]Associate Professor,
Department of Zoology, Holy Cross College (Autonomous), Nagercoil, affiliated to Manonmaniam Sundaranar University, Tirunelveli-627012.
Email: anithajeyaraj85@gmail.com

ABSTRACT

Invertebrate lectins are glycan-binding proteins or glycoproteins with manifold binding sites, that recognize the cell surface glyco-conjugates of the microbes, persuade various resistant responses such as immobilization, phagocytosis, clearance and encapsulation. Innate immunity was formerly considered to be a non-specific immune response characterized by phagocytosis. However, innate immunity has considerable specificity and is capable of discerning between pathogens and self. Lectins play a vital role in innate immune response by acting as opsonins, recognizing foreign substances by binding to their carbohydrate machinery and triggering phagocytosis of pathogens by forager cells. Lectins participate in the tagging and exclusion of foreign organisms covered with different carbohydrate receptors. This ability of lectins to decipher the stereochemical information carried by carbohydrates enables cells to perform a wide variety of recognition and regulatory processes. Most lectins play a decisive responsibility in diverse biological processes, particularly in host defense mechanisms, inflammation, metastasis, apoptosis, antiproliferative, antitumor, immunomodulatory, antifungal and antiviral activities. The most significant and specific property of lectin is its ability to recognize sialic acids, a family of sugar found on pathogens and on neo-plastically transformed human cells. Because of their specific recognition of sugar determinants in the wall or the capsule of bacteria, lectins have been suggested to contribute in the innate immune response as opsonins, enhancing the tempo of phagocytosis of microorganisms exerted by hemocytes/coelomocytes. In invertebrates, the circulating cells are crucial in defending the animal against invading microorganisms by participating in recognition, phagocytosis, melanisation and cytotoxicity. It is of utmost importance to clarify the molecular mechanisms/ pathways underlying the biological effects of lectins, which will help in developing lectin based drugs in the near future.

Key Words: Lectin, Immunity, Hemocytes, Phagocytosis, Opsonin, Pathogen, Antitumor.

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Physico-chemical characterization of naturally occurring agglutinin from the flower of *Ipomoea pes-caprae*

Nightingale Sheeba S[1] Vinoliya Josephine Mary J[2] and Mary MettildaBai S[2]

[1]Research Scholar, Department of Zoology, Holy Cross College, Nagercoil, Affliated to ManonmaniamSundaranar University, Tirunelveli.
[2]Department of Zoology, Holy Cross College (Autonomous), Nagercoil.

ABSTRACT

Naturally occurring agglutinin was detected in the crude extract ofthe *Ipomoea biloba* (*Ipomoea pes-caprae*) flower. The agglutinin agglutinated different mammalian erythrocytes but showed high specificity towards rabbit erythrocyte. Physico-chemical analysis of flower agglutinin revealed that it was stable to a wide range of pH and temperature, dependant on calcium and sensitive to calcium chelators. Enzyme treatment of erythrocytes showed an increased HA titre with trypsin, slight decrease with neuraminidase and remained unaffected with neutral protease. Hemagglutination inhibition assay documentedlactoferrin among glycoproteins and D-mannose among sugars as the potent inhibitor. The cross adsorption assay with pre-adsorbed erythrocytes suggested the presence of a single agglutinin. Thus, this preliminary characterization of agglutinin of *Ipomoea pes-caprae* flower would provide strategy for the purification of a lectin and assess its therapeutic value.

Keywords : erythrocyte, flower agglutinin, *Ipomoea pes-caprae*, lectin

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Antimicrobial potential of tissue extracts of a fresh water fish *Clarias gariepinus* (Burchell, 1822)

C. Monisha, Vinoliya Josephine Mary J, ElayaBharathi, T, and Mary Mettilda Bai S

Department of Zoology, Holy Cross College, Nagercoil,
Affiliated to Manonmaniam Sundaranar University, Tirunelveli.

ABSTRACT

Fish mucus is the first physical barrier that inhibits entry of microbes from an environment into fish. It acts as a chemical barrier containing enzymes and antibodies which can kill invading disease causing organisms. *Clarias gariepinus* is native to the River Nile of Africa and introduced to China in 1981. Different solvents (70% methanol, chloroform, n-butanol and ethyl acetate) extract of muscle, skin, gills and liver of fish, *Clarias gariepinus* were tested against various human pathogenic Gram positive bacteria (*Staphylococcus aureus, Bacillus subtilis, Streptococcus mutans*) and Gram negative bacteria (*Pseudomonas aeruginosa, Proteus vulgaris, Klebsiella pneumoniae*). A clear understanding of the diversity of locally available fresh water fishes, their body composition and medicinal value is necessary to utilise our aquatic resources. In our study the n-butanol extract of all tissues showed antimicrobial activity against all pathogens. The maximum inhibition zone of 13mm was noted against *Pseudomonas aeruginosa* with n-butanol extract of skin.

Keywords: *Clarias gariepinus*, antimicrobial activity, *Pseudomonas aeruginosa*, n-butanol

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Basic Skills of Learning English - An Outline

[1]M. Jeya Riyassini, [2]Ashmi & [3]Dr. R. Abilasha
[1]III BA English Literature, Holy Cross College (Autonomous), Nagercoil
[2]III BA English Literature, Holy Cross College (Autonomous), Nagercoil
[3]Assistant Professor of English, Holy Cross College (Autonomous), Nagercoil

Abstract

English is not just an official language in India, but also the language of mediation, higher education, science and technology. It is stated that India follows an improper curriculum pattern which is clear in the case of English language teaching, because the concept is failure in attaining the supreme result over the proficiency in language. Therefore, English Language Teaching and Learning in India is considered to be low in quality. This hindrance can be ignored through proper curriculum pattern. Second Language learners fail to acquire the basic skills of learning at the school level. The paper explores the possibilities of acquiring language skills and offers remedial measures. It also highlights the possibilities of language acquisition in different situations. The new trends in teaching and learning for the above mentioned skills using modern technology have also been discussed in the paper.

Keywords: Language Teaching, Communication, Proficiency. Listening, Speaking, Reading, Writing

Introduction

Language is a system of communication which consists of a set of sounds and written symbols which are used by the people of a particular country or a religion. Learning of English is important as it enables one to communicate easily with other global citizens. Due to historical circumstances certain, languages are not prominent on par with English language. The four skills of language are a set of capabilities that allow an individual to comprehend and produce spoken language for proper and effective inter personal communication. Those skills are listening, speaking, reading and writing. Although the grammar of English is not particularly difficult to learn, there are several features of English which are relatively complex and therefore create difficulties for a majority of learners in acquiring these basic skills of learning.

Listening

When people learn a new language, they first hear it spoken which is known as a receptive language and the observance is known as receptive skill or passive skills. It requires a person to use ears and brains to comprehend a language. As listening is a receptive language skill, learners usually find it difficult to grasp it. This is often because they are under unnecessary pressure to understand every word. The listener is also required to be attentive.

Listening skills could be enhanced by focusing on making the students listen to the sounds of that particular language. These would help them with the right pronunciation of words. This intensive listening will ultimately help a student to understand more and the exact pronunciation of words. Wolvin and Coakly have identified three steps in the process of listening, which are receiving, attending and assigning meaning .In the first step, listeners receive the aural stimuli or the combined aural and visual stimuli presented by the speaker focusing on the sounds of language and store them in their echoic memory.

In the parsing phase, listeners use words and phrases to construct meaningful representation. They recognize the formation of words as meaningful units that can be

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Writing as a Receptive Skill - A Study

[1]A. Swedha Ashme, [2]C.U. Monisha & [3]Dr. R. Abilasha
[1]III BA English Literature, Holy Cross College (Autonomous), Nagercoil
[2]III BA English Literature, Holy Cross College (Autonomous), Nagercoil
[3]Assistant Professor of English, Holy Cross College (Autonomous), Nagercoil

Abstract

English language can be said to dominate among the four to five thousand languages in the world. It functions in different forms in different countries and states of the world and has been considered as inter or intra language with in a speech community, though it is a foreign language. Presently, English is an international language and is not only the language of Great Britain. English is the gateway to knowledge in all spheres of life and is a prime medium of communication. In English language teaching, writing is considered both as an academic skill and complex skill. Writing is a skill, while compared to other communicative skills like reading, listening, and speaking. Students develop functional language skills, such as proper natural language in creative ways. Thus the majority of the students are more prone to memorizing and imitation. They fail to integrate critical thinking into creative writings. In model-centred learning the students are encouraged to concentrate only on examination and evaluation.. Students' problem includes inability to generate ideas, organize discourse, control sentence structures choose appropriate vocabulary, and use of effective styles. This paper deals with the importance of writing skills in English language and process approach to develop the writing skills.

Keywords: Language, Product Approach, Genre Approach, Process Approach, Comunication Skills.

Introduction

Good plans must be made by the teacher so that the writing class does not become a source of frustration to both the students and teachers. The students are confronted with what is expected by conventions of written English. Grammatical accuracy and rhetorical organization were so far and precise for them. If care is not taken, they become confused and bored with composition writing. That is why the teacher must decide which approach is to be employed to get the expected outcome. Therefore, teachers need to incorporate the insights of the three approaches of writing - they are product approach, process approach, and genre approach. The strengths of process approach can complement with each other and help teachers to develop learners' writing competence by providing appropriate input of knowledge and skills in the writing procedure.

Product Approach

A Product approach is a traditional approach. This approach encourages the students by giving them the model of the text. This approach has been called under several names. They are the controlled-to-free approach, the text based approach and the guided composition. There are varieties of activity in product based approach. It gives an awareness about second language writing from the lower level of language. In this approach, students were given model text like, paragraphs, sentence-combining and rhetorical pattern exercises. The product approach is a memorizing process rather than problem solving. In this approach teachers will control over the students. As a result, the entire teaching- learning process is teacher- centred. This approach is focused on the content and the outcome of the students.

Genre- Based approach

The genre based approach provides the students with rich knowledge. The genre based approach can be named differently. They are English for academic purposes approach

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Methods and Approaches of English Language Teaching – An Overview

[1]G. Gandhimathi, [2]D. Nisha & [3]Dr. R. Abilasha
[1]III BA English Literature, Holy Cross College (Autonomous), Nagercoil
[2]III BA English Literature, Holy Cross College (Autonomous), Nagercoil
[3]Assistant Professor of English, Holy Cross College (Autonomous), Nagercoil

Abstract

Methods are the combination of techniques that are used and plasticized by the teachers in the classrooms in order to teach their students and approaches are the philosophies of teachers about language teaching that can be applied in the classrooms by using different techniques of language teaching. For example, if a teacher has an approach that language is the communication and learning a language is in fact learning the meanings, functions and uses of language. The techniques will be based on the communicative language teaching and task based methods. This study focuses on the different methods and approaches pertaining to English language teaching and makes a parametric comparison between the traditional and the modern methods.

Keywords: Methods, Techniques, Classroom, Communicative Language Teaching, Task Based Methods.

Introduction

Methods are taught to the teachers that make a base and give them ample thinking about the applicable techniques and principles according to the situation where they stand. They are clear about their attraction towards certain methods and also think that why have they repelled certain methods. The knowledge of method is very necessary because their knowledge is the base of teaching. Throughout the history of ELT, there are several methods in teaching English. Some methods are discussed below.

Grammar-Translation Method

The GT method is the oldest method of teaching English. It is one of the traditional approaches in language teaching. In this method, the English teachers will translates each and every word, phrase, and sentence in English from Mother Tongue. This method was used when the English language started in countries.

Grammar is given importance and grammar rules were taught to the learner. Teaching of vocabulary is given importance. It is the teacher centred education. This method gives more important to writing skill rather than speaking. Reading and writing is given important. All the skills were not used properly.

Bilingual Method

In this method grammar rules were not given important. It is just translating the concept from mother tongue to target language. In Bilingual method two languages are used. In this method the first language was allowed to use when it is needed. The unit of teaching is in sentence form. It gives a lot of practice in speaking English.

Direct Method

Direct method is a method of teaching a foreign language without the link of mother tongue. Direct method does not focus on the structure of grammar. It gives importance to speaking skill. In this method, English is taught by conversation. Students get a lot of practice in hearing and speaking the language. In this method students were given phonetics knowledge.

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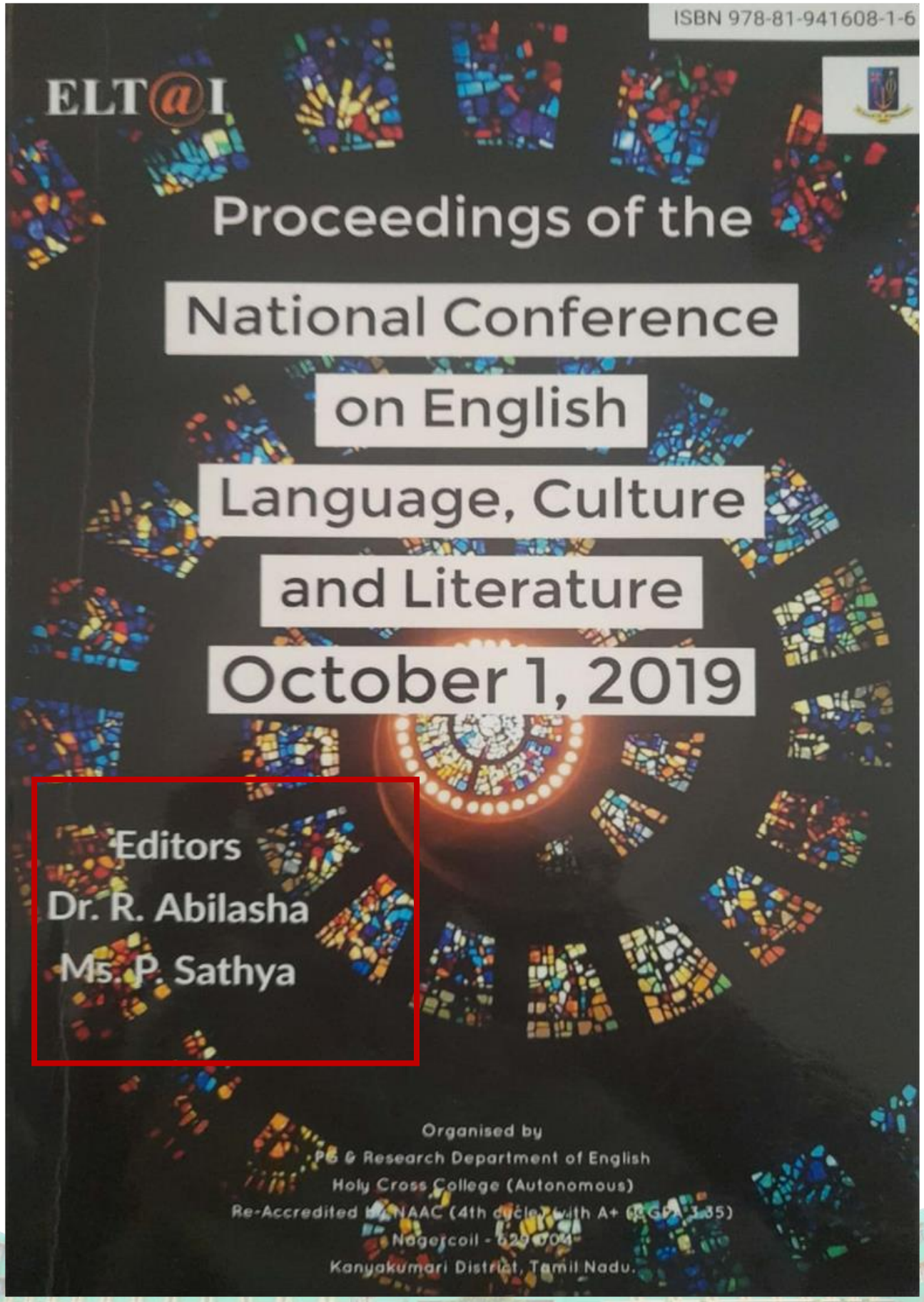
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Enhancing English Language Skills at the Primary Level through Cartoons

Ms. J Jancy, M. Phil, Department of English, Holy Cross College (Autonomous), Nagercoil.
Dr. R. Abilasha, Assistant Professor of English, Holy Cross College (Autonomous), Nagercoil.

Abstract

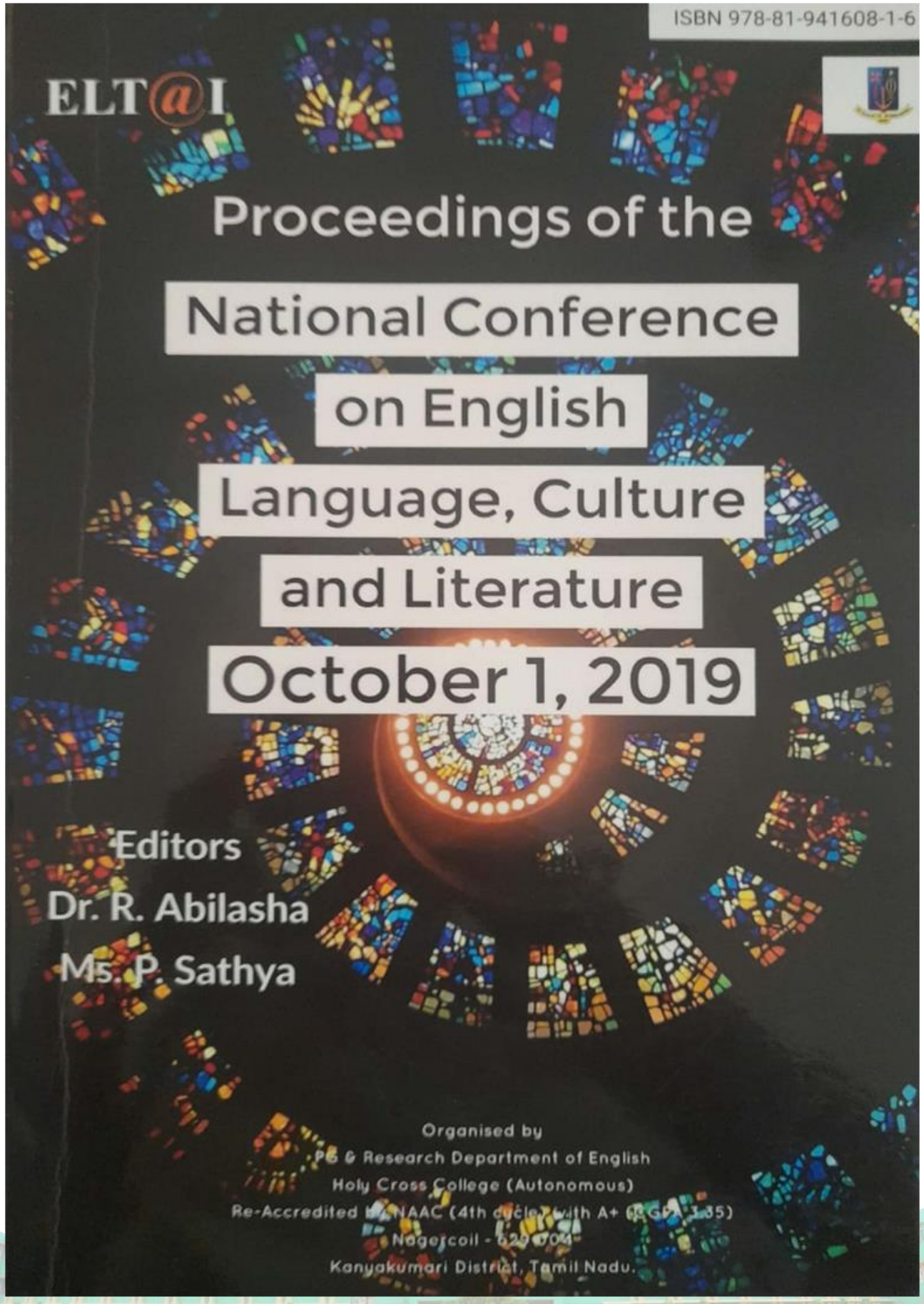
A child can learn better through cartoons. Every child likes to watch animations and cartoons during early days it is used for the purpose of entertainment but now it is extensively used for education and creating awareness. Studies show that children who watch cartoon shows high level of language acquisition and cognitive development. Nowadays, it is used as a teaching aid to make learning easier. Learning a new language becomes an easy task through watching cartoons. It helps Children to know the language better. Printed cartoon requires high level of critical thinking to interpret what it actually conveys. Children tend to remember what they see in the form of cartoon. It can also lower their stress level. Cartoons are made specifically for learning new words and phrases. By listening to the cartoon characters, the child learns to imitate the pronunciation made by the characters. This article attempts to bring to light how second language learning could be made easier by the way of watching cartoons.

Keywords: Children, Animation, Language Acquisition, Cartoon, Students

History of cartoon commences from 1300 BC .The Greeks have presented their cartoons on pottery. However, the Japanese culture has developed their way of utilizing cartoons. They were the first to picture the cartoons on paper. The Modern cartoons appeared in the early 1900's which brought a revolution in children's entertainment. They target people of all age groups both elders and children.

Cartooning has a long history. They became popular in 20th century along with the development of the film and newspaper industries. This art form has been around for many thousands of years and there are evidences all over the world. Using paint and charcoal, cave artists drew whatever was important to them. Later, other societies, such as the Mayans and the Egyptians caved intricate cartoons in solid rocks. In the middle ages, monks painted very bright, integrated pictures to illustrate early books such as the Bible. Through the seventeen, eighteen and nineteen centuries, this art form became an important part of the printed world, being used to illustrate stories and books, magazines and newspapers. In addition to books and newspapers, cartoons can be found on bill boards, postures, television and movies. It is hard to spend even a single day without watching cartoon. A cartoonist can get into any field if willing.

A Cartoon is a form of expression, or communication that refers to several forms of art including humorous captioned illustrations, satirical political drawings, and animated film. Magazines such as "Punch" and "The New Yorker" popularised this visual form of joke. One of the most common modern usages of the phrase "cartoon" refers to animated television, movies, and short films. It is often used in programs meant for Children, featuring anthropomorphized animals, superheroes, the adventures of child protagonists, and other similar themes .Winsor Malay considered the" father of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Issues and Implications of Cognitive Factors in L2 Learning

Ms. S. Keerthana, M. Phil Scholar, Department of English, Holy Cross College (Autonomous), Nagercoil.

Dr.R. Abilasha, Assistant Professor of English Holy Cross College (Autonomous), Nagercoil.

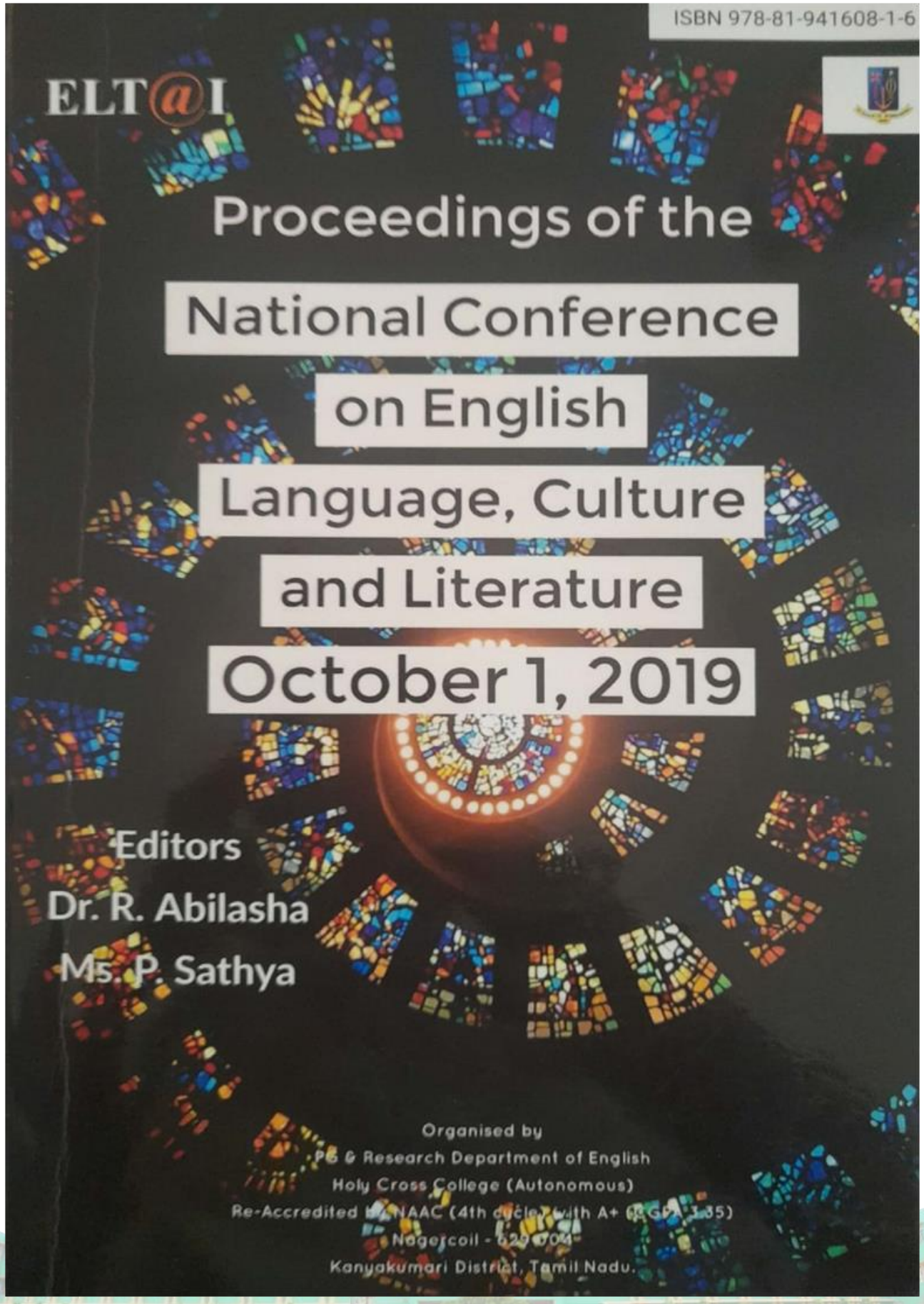
Abstract

Learning a language whether it is first language or second language is an important factor. They occur according to the primary focus on languages and the brain, the learning processes that are involved in Second Language Acquisition (SLA) and also focuses on the differences among learners. According to Krashen, young language learners pickup language skills better than the adults. Language acquisition is influenced by many factors such as age, the degree of acquisition, instruction, competency, and some other affective factors. Studies prove that age acts as a main factor in learning a language. Debates about the effect of age on SLA result in various opinions. However, both groups of age, children and adult who plays an objective role in the field of acquiring the language, have their own advantages. This paper highlights the role of brain and other cognitive factors in L2 learning.

Keywords: Language Acquisition, Brain functioning, Age, Critical Period Hypothesis.

Language is a system of communication that enables human to express their thoughts and ideas. 'One can learn a language to understand how the language works. In order to be able to use the language one has to acquire it' says Krasen (1981). Language acquisition is the process in which humans develop the ability to sense and understand the language, also to communicate. A language that an individual learns first (native language or mother tongue) is known as the first language whereas a language that is learned after the first language as an additional language probably for the use of communication is known as the second language. Wilson (2000) states that "language acquisition is a subconscious process to acquire a language". Second Language Acquisition is considered to be a complex process since it involves conscious process.

Stephen Krashen, who is well recognized in the columa of linguists puts forth few theories on second language acquisition, which brought in a great impact in the second language research and teaching in 1980's. His theory of language acquisition holds five approaches. They are the Acquisition-Learning hypothesis, the Monitor hypothesis, the Natural Order hypothesis, the Input hypothesis, and the Affective Filter hypothesis. The Acquisition-Learning hypothesis is the basic concept that talks about the two important factors in developing a second language. The first process is the way of 'acquisition' in which the child develops the first language. Acquisition of language happens in a subconscious way. However, language acquirers are not aware of the fact that they are acquiring the language, but are aware of the fact that they are using the language for communication. This results when they are not conscious about the rules in which they acquire. Acquisition can also be termed as informal learning or natural learning. The term 'picking-up' is used non-technically. The second important factor is learning a language. The term 'learning' can be defined as a conscious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Factors Affecting Second Language Learning

U. Shalini, M.Phil Scholar, Department of English, Holy Cross College (Autonomous), Nagercoil.

Ms. P. Sathya, Assistant Professor of English, Holy Cross College (Autonomous), Nagercoil.

Abstract

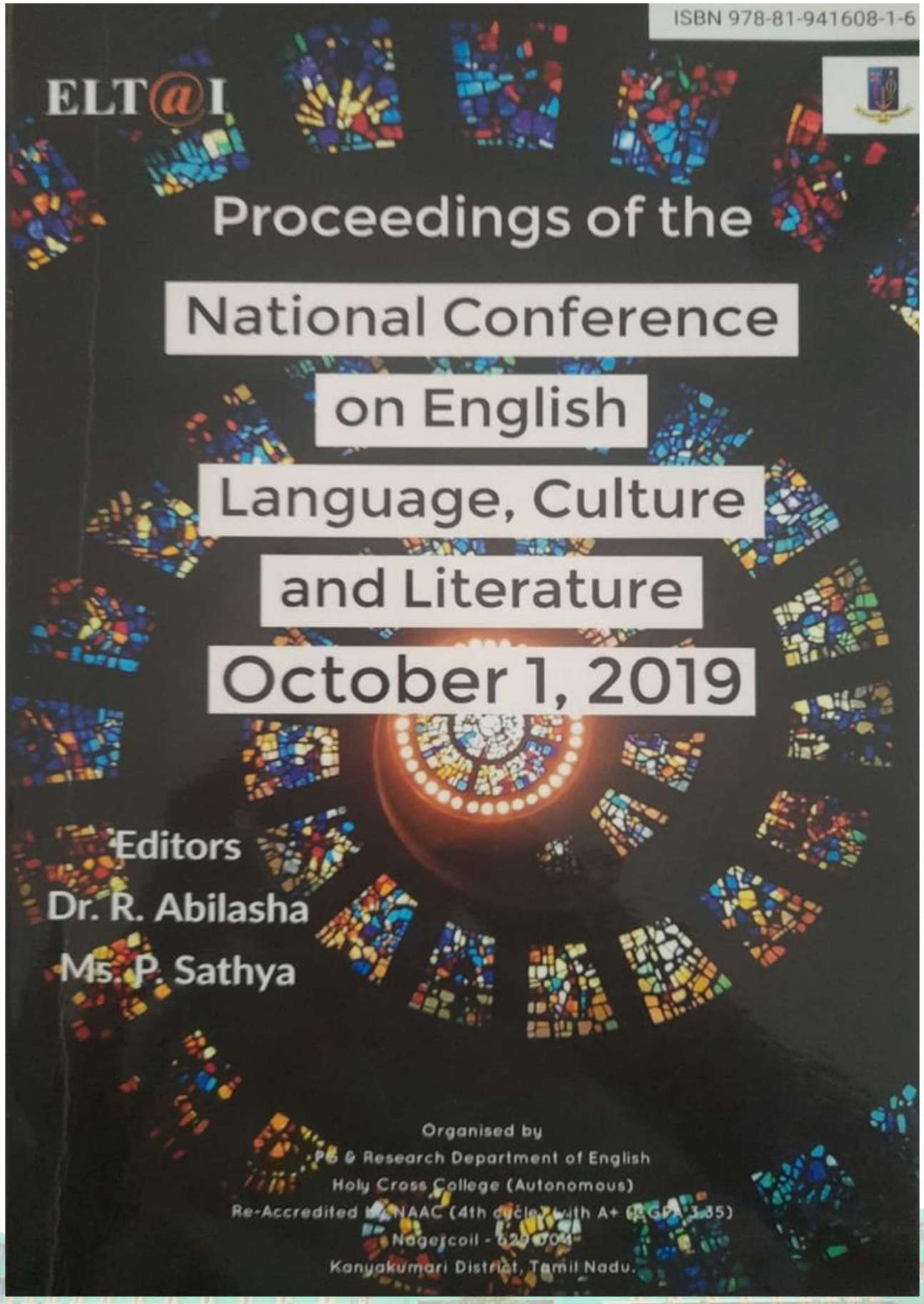
The paper entitled "Factors Affecting English Language Learning" deals with the factors associated with learning English which is the widely used language in the world. Affective factors are emotional factors that affect language learning. These are important in Second Language Acquisition and Language teaching. There are several factors that influence language learning, most important among them includes psychological factors, lack of instructional material motivation, aptitude, attitude, anxiety, Physical health, self-esteem, inhibition and self-concept.In language learning, affective factors are the main cause of negative influence and the interference ofmother tongue alsoimpacts the new language learners. Theseissues can be conquered through constant practice of the language, proper parental guidance and teachers' moral support. This article has discussed about the affective factors and the ways through which they can be overcome.

Keywords: teaching, learning, affective factors, anxiety, motivation, self-confident

The whole foundation of contemporary language teaching seems to be developed during the early part of the twentieth century. Language teaching has a very long history during the twentieth century, applied linguists and others sought to develop principles and procedures for the design of teaching methods and materials, drawing on the developing fields of linguistics and psychology. This led to a succession of proposals for what were thought to be more effective and theoretically sound language teaching methods. Language teaching in the twentieth century was characterized at different times by change and innovation and by the development of competing language teaching ideologies.Learners affective factors are obviously of crucial importance in accounting for individual differences in learning outcomes. " learners beliefs about language learning are likely to be fairly stable their affective states tend to be volatile, affecting not only overall progress but responses to particular learning activities on a day-by- day and even moment- by- moment basis" (Ellis 483).

English has its conservative significance inIndia. It helps to bring together people from different countries and states, thus enablinginternational communication. The Indian educational scheme is beyond the national perspective and therefore it assumes educational importance and plays a prominent role in education. English is the medium of instruction in school and college level. In the sphere of higher education, English is indispensable.

Language is the medium of communication. English holds a special place in India and teaching Englishhas consistently emerged as one of the top expectations of parents from school. English is an international language which is used world-wide. English has become a part of everyday life. But various factors affect thelearner's performance. In India, the rural atmosphere does not provide the learners with the opportunity to read and learn, at the same time the size of the classroom is large and the learners are crowded. So the teachers are not able to get individual attention, this is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Enhancing Language skills using Movies in ESL classrooms

S.T.Sreenidhi, M. Phil English, Holy Cross College (Autonomous), Nagercoil
P.Sathya, Assistant Professor of English, Holy Cross College (Autonomous), Nagercoil.

Abstract:

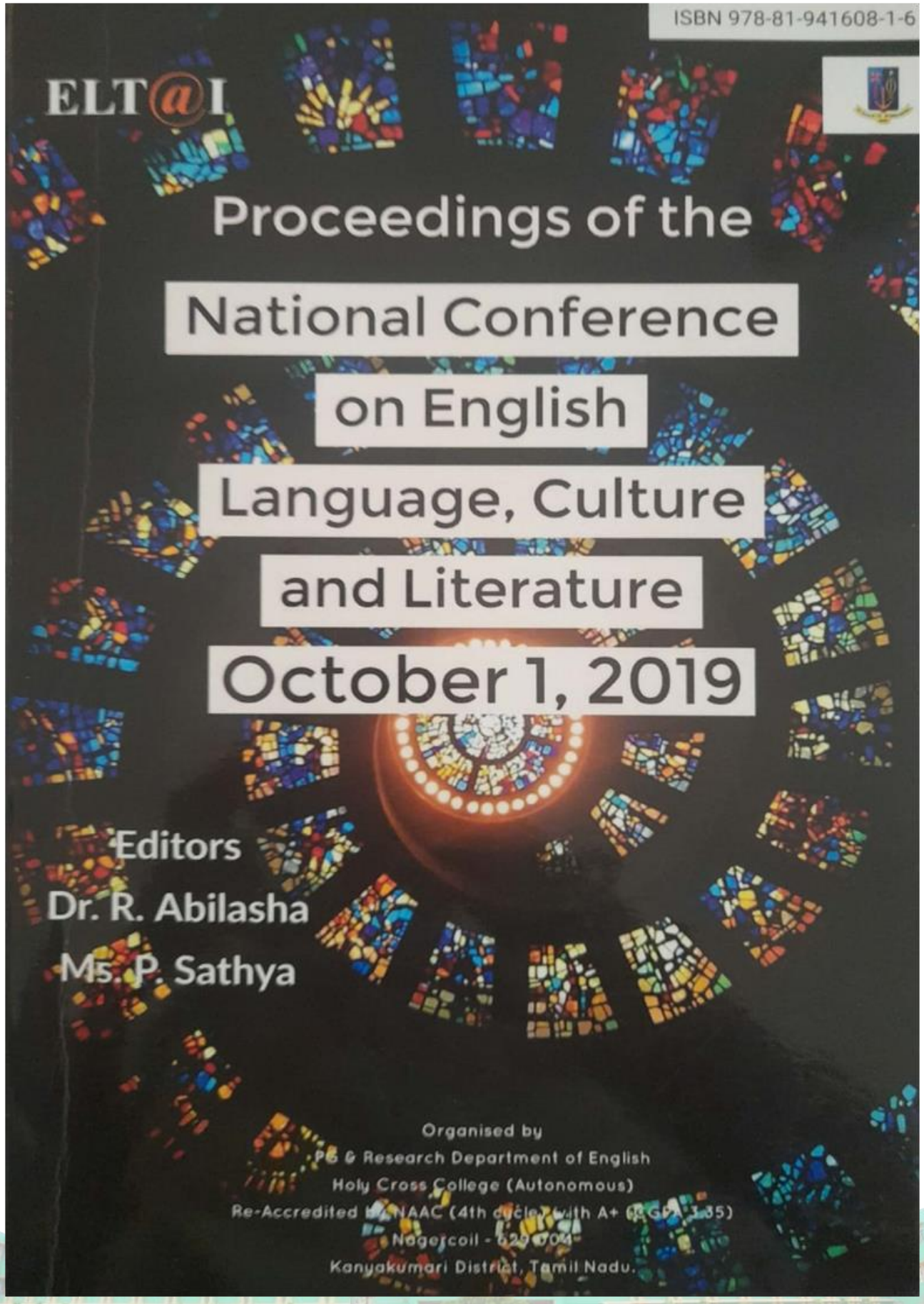
In the growing mechanized world, technology plays a crucial role in the empowerment of the society. This serves as a ground used in all disciplines for the purpose of progression of the younger generation. One such outcome in the path of advancement is the employment of audio-visual aids in the classrooms. This helps the learners engage themselves in studies with more enthusiasm and motivation. Among the audio-visual aids, the usage of movies or movie clips in ESL or EFL classrooms helps the learners acquire LSRW skills with great efficiency. This paper focuses on the usage of movies in the ESL classrooms and the impact it creates on a language learner. In addition, few general activities are also included by which the language skills can be enhanced.

Keywords: ESL, Movies, Impact, implementation, LSRW skills, acquisition.

English has become the need of the day in the globalized content. English is a universal language and it only differs in being ESL in few countries and EFL in other countries, this makes it as a prime language that has to be known by every individual. However, teaching English in other countries than the native English-speaking countries has become a challenging task for the language teachers. In India, English is an official language and it is taught in schools and colleges as a second language. At the college level, English becomes the medium of instructionunlike in schools. The learners find it difficult to understand and use English effectively even though they are exposed to the language since primary education. The reason could be that English has been taught to the students only as a subject and not as a medium of expression. In this scenario, mastery of English Language for the purpose of communication becomes a difficult task to be accomplished by the learners. Thus, the teachers of English face it challenging to train the learners significantly in the language. Hence they come up with various approaches to help the learners to flourish in their language skills with the use of technological developments. In the contemporary teaching world, use of audio-visual aids has become a trend and within that the usage of movies has been successful in developing the language.

Using movies in classrooms creates a lively atmosphere to the learners compared to that of the normal face to face interaction between the teachers and the students which within minutes creates an atmosphere of boredom. Exposure of English movies to the second language learners creates wider space for them to understand the social, cultural aspects of the native speakers and also to improve their vocabulary and pronunciation. Learning the language through a text has very low impact in contrast with learning it through any audio-visual form. The learners can easily relate the events or situations in the movie to their own life incidents and this helps them to use the phrases, vocabulary or idioms that were used in the movie in their lives too.

Movies are the best way to enhance the speaking skill of a learner and it evokes self-motivation in language learners. Movies act as the most entertaining and motivating tool for educating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ICT and English Language Teaching - An Outline

Swedha Ashme &C.U. Monisha, III BA (English) Holy Cross College (Autonomous), Nagercoil.
Dr.R.Abilasha, Assistant Professor of English, Holy Cross College (Autonomous), Nagercoil

Abstract

The third dimension of globalization which is inseparable from English teaching is an advancement of Information and Communication Technology [ICT]. The field of the ELT has been deeply pervaded by the ICT. The easy access to technology has made information possible for enhancement of learning programe and about 80% of it is in English At the outset, the English teachers regarded internet as one of the alternative media to teach language. The followings are some of the ICT enabled teaching activities. This study explores the possibilities of utilizing the ICT mode of education for teaching and learning English.

Key Words: Information and communication technology, methods, education, teaching and learning

Introduction

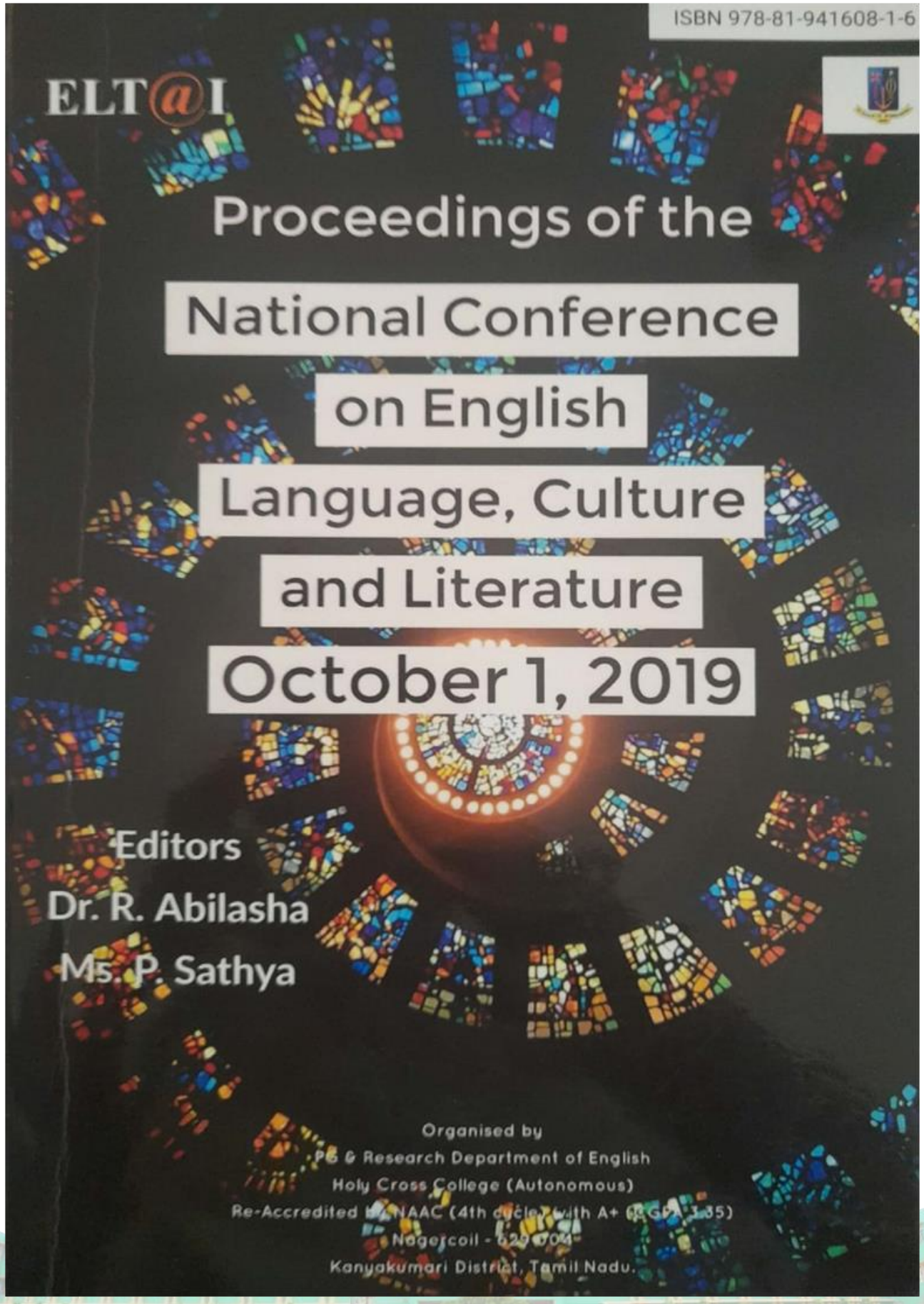
Methods of teaching English have developed rapidly, especially in the last five decades. As a language learner, training manager, or teacher, it is important to understand the various methods and techniques so that the facilitators are able to navigate the market, make educated choices, and to boost enjoyment of learning a language. Information and Communication Technology is an important instrument, which can transfer the present isolated teacher and book centred learning environment into a rich technology based learning environment. 'ICT' stands for Information and Communication Technologies - a diverse set of technological tools and resources used to communicate, to create, to disseminate, to store and to manage information.

ICT and Language Teaching Environment

To make teaching-learning environment richer and more effective, teachers started using power point presentations to deliver their lessons. This involves a detailed and complex preparation on the part of the teacher. The typical classroom was once characterized by students sitting through hour long teaching monologues. During the present times, technology is making life easier for both educators and students.

Features of ICT Enabled Classrooms

- Smart classes help teachers to meet new challenges and develop students' abilities and performance.
- It enables teachers to access multimedia content and information that can be used for teaching effectively.
- It enables teachers to express their views and ensures that every child understands the undertaken concept which ultimately affects his achievement.
- Achievement is possible only if concepts are clearly understood. It is possible though Smart class where all domains of knowledge are affected.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Second Language Acquisition through E-Communication

M. Jeya Riyassini & D. Nisha, III BA English, Holy Cross College (Autonomous), Nagercoil
Dr.R.Abilasha, Assistant Professor of English, Holy Cross College (Autonomous), Nagercoil

Abstract

E- Communication is a mode of communication through electronic means. This type of communication is called virtual space. It increases the speed of sending and receiving the information. This technology supports the cognitive approach to learn a foreign language. This technology sorts the online activity to give opportunities for interaction with in the class and supports to exchange information in large distance. There is a possibility of misunderstanding or miscommunication either in conversation or in the channel chosen for the purpose. Compare with the formal teaching of a teacher, E- communication is less preferred.This paper highlights the ways and means of Second Language Acquisition (SLA) through E Communication.

Key Words: E- Communication, technology, language acquisition, e-learning, miscommunication

Introduction

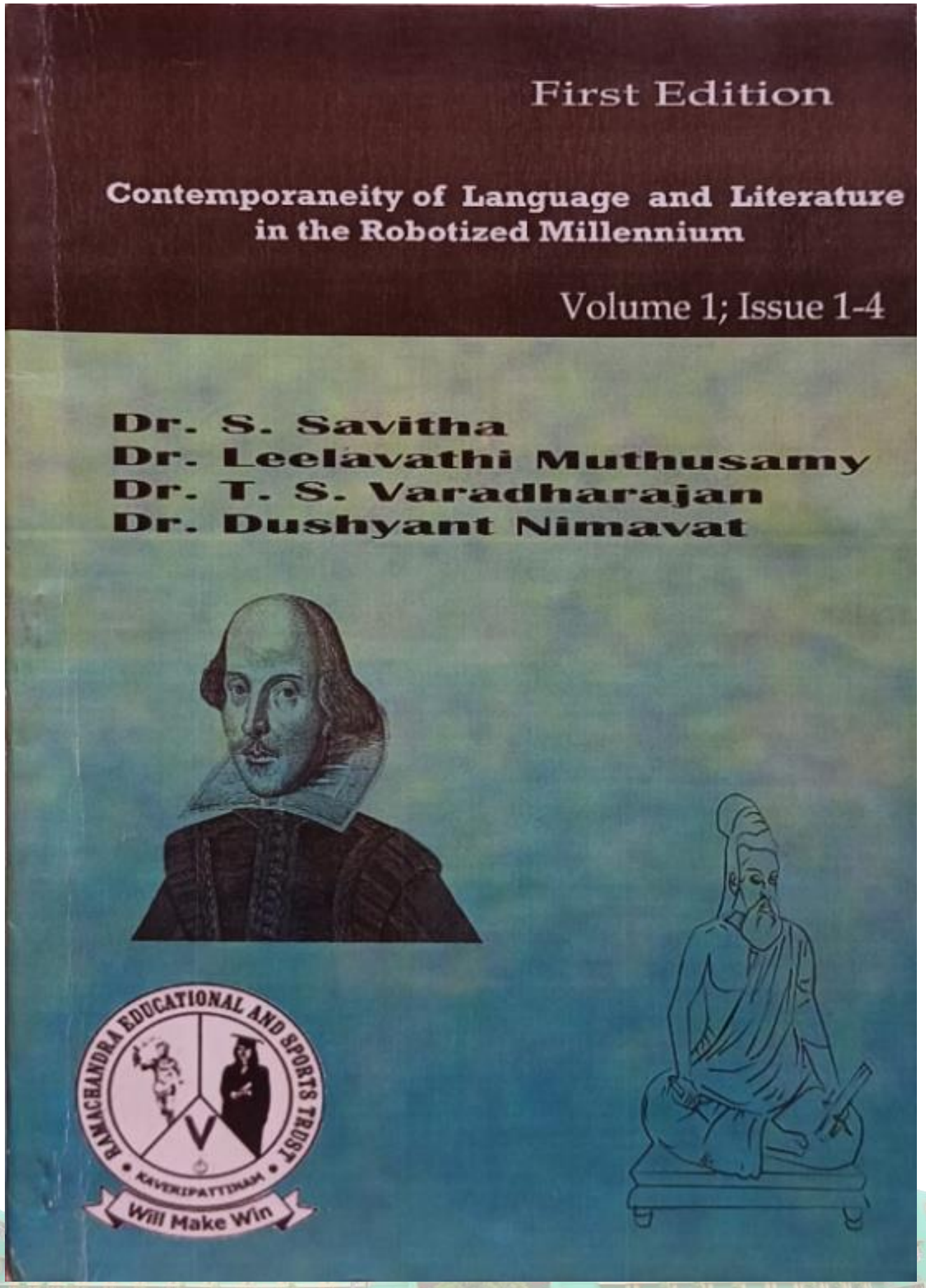
E- Communication technology is a synchronous communication using telephone or web conference that can help the learner achieve the activity at a particular time. In a synchronous communications like email texting and social media, different time is taken to get the activity easily done without much apprehension. Moreover, it is believed that textbooks will disappear in a few years, with the proliferation of tablets and smart phones. Furthermore, the access to knowledge in terms of flexibility and mobility has been changed drastically.

E-Learning

E- Learning is a new method of learning. It pertains to learning through electronic resources like tablet, mobile phone, internet, etc. Use of Information and Communication Technology (ICT) also play a main role. It was used in all fields. The ICT was also used in the development of language learning as it helps in finding the original sources. It can be utilized for storage, retrieval, and manipulation of learning resources.

Web Based Learning

A web based learning also called technology based learning/distance learning/on line education/e learning is one of the fastest developing areas. It provides opportunities to create well–designed, learner–centered, affordable, interactive, officiate, flexible e-learning environment. There are thousands of English web based classes that offer trainings for a variety of basic language skills such as Learning, Speaking, Reading and Writing and are made interactive in a variety of ways. Some of the common technologies available for promotion of language education through E-Communication are as follows: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La manifestation de la subalterne dans *Provincialiser l'Europe*

P.T. Anbu Hannah Dora, Department of French, Holy Cross College (Autonomous), Nagercoil-4.
anbujpj@yahoo.co.in

Les études postcoloniales ont pris une autre dimension avec des études subalternes, qui a conceptualisé la catégorie des « subordonnés » en faveur des sociétés opprimées. Avec ce mouvement intellectuel d'origine indienne, les oubliés de l'Histoire sont devenus l'objet d'étude de l'excellence. Penser à des subordonnés, c'est ériger, au détriment de l'élite, des groupes défavorisés en véritables agents de transformation sociale. C'est penser « d'en bas » à trouver ceux dont la voix a été ignorée ou détournée. D'où toute la signification du terme «subordonné» à une personne ou un groupe de rang inférieur, qu'il s'agit de race, de classe ou de sexe. Il s'agit exactement de sociétés qui ont subi la colonisation occidentale, par laquelle l'Europe est entrée dans leur histoire. Cette approche d'inspiration gramscienne consiste, selon Isabelle Merle, à repenser les méthodes d'écriture de l'histoire dans le contexte d'une situation coloniale.
Ou faire des sociétés colonisées le sujet principal de l'étude, qui force à reléguer les pays colonisateurs en arrière-plan. Ou de les laisser les critiquer, les déplacer de leur centre et montrer les limites de leurs productions intellectuelles. DipeshChakrabarty, membre du Collectif éditorial d'études subalternes, est dans le second cas avec son projet « Provincialiser l'Europe ». Dans son livre devenu un classique portant le titre de son projet, ce natif de Calcutta propose de contextualiser les catégories européennes afin de mieux les utiliser dans les sociétés non européennes. L'auteur insiste sur le fait qu'il ne vise pas un rejet de l'Europe. Il s'oppose également à une certaine « vengeance postcoloniale » (Leela Gandhi, professeure à l'Université Brown). Il est d'abord animé par un « esprit de gratitude anticoloniale ». La provincialisation de l'Europe est, pour lui, une manière d'exposer les limites de la pensée européenne tout en montrant son indispensable à penser les sociétés postcoloniales.

Mots- clés :subalterne, provincialiser l'Europe,DipeshChakrabarty

Le projet de Provincialisation de l'Europe, qui a commencé lorsque DipeshChakrabarty enseignait en Australie, cherche à répondre à la question de la limite géographique d'une pensée. Disons mieux, la relation entre une pensée et son lieu de production. Dans son livre, il souligne que toute pensée est le fruit d'un contexte qui le détermine. Ce qu'il traduit en ces termes : « La proposition que la pensée est liée à des lieux occupe une place centrale dans mon plan de provincialisation de l'Europe » (Provincialisation de l'Europe 26). On peut dire que c'est le principal axiome de son travail où, pour ce faire, il réunit les traditions analytiques et herméneutiques.

Jusqu'où une pensée peut-elle sortir de son espace de production ? Que reste-t-il après qu'il a été déplacé? Pour en discuter, l'auteur prend le cas de l'Inde, une ancienne colonie britannique. Il a été surpris de voir comment les Indiens utilisaient les catégories européennes pour expliquer leurs réalités. Aucune question n'a été posée sur les racines historiques de ce dernier. Cette anxiété va vivre longtemps Chakrabarty pour nourrir son projet de Provincialisation de l'Europe.

Ce qui nous intéresse dans ce document, ce n'est pas le projet lui-même, mais ses motivations. En d'autres termes, les raisons qui ont poussé l'auteur à le forger. C'est lié, dit-il, à la façon dont il a été délogé de sa vie indienne quotidienne. Cela s'est fait en deux étapes : métaphoriquement et physiquement. Ces deux mouvements créeront un malaise théorique qui sera plus tard sa grande curiosité intellectuelle. Chacrabarty découvrira une certaine insuffisance de la pensée marxiste avec le monde indien contemporain. Sans la rejeter dans sa teinture européenne, elle propose avec l'idée de provincialiser l'Europe d'un renouvellement de cette approche afin qu'elle reflète la réalité indienne dans sa nature non occidentale.

Dans ce livre, il pose un grave problème d'actualité, celui de la relation entre le marxisme et les pays non occidentaux. Les questions sont les suivantes : comment utiliser la pensée marxiste dans les pays autrefois colonisés tout en reconnaissant sa centralité européenne ? Que peut-il faire dans un pays comme Haïti qui a été colonisé par l'Europe? Suffit-il de le rejeter en raison de son origine européenne ? Comment le traduire pour les mondes vécus postcoloniaux ? Pour tout cela, l'auteur propose des éléments de réponse qui peuvent servir en Haïti, en dépit du référent indien.

Dépossession

La dislocation métaphorique de DipeshChakrabarty concerne le brusque changement des questions de recherche liées à sa vie quotidienne dans la classe moyenne. Il a été influencé dans le cadre de sa formation en histoire par les idées de Karl Marx. Après ses différentes réunions des cercles marxistes de la ville de Bengalie, il deviendra dans le plein sens du terme. Il posera les grandes questions marxistes sur le terrain indien. Il s'inquiète désormais du rôle historique que le prolétariat pourrait jouer dans un pays comme l'Inde, encore majoritairement rural. Il a dévié des problèmes de sa classe. Cependant, intellectuellement, il restera proche de lui.

Un grand malaise théorique s'installe chez l'auteur. D'une part, il note l'importance incontestée du marxisme au niveau international et, d'autre part, son origine européenne. Ainsi, il estime que les idées de Karl Marx n'étaient pas suffisamment

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on

EVOLUTION, VIOLATION AND SOCIAL SECURITY OF HUMAN RIGHTS - A HISTORICAL PERSPECTIVE

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Dr. R. SOUNDARA RAJAN

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ECLIPSED HISTORY OF THALAKULAM VELU THAMPI DALAWAI REVOLT IN 1809

Dr.I.Jalaja Kumari

Assistant Professor of History, Holy Cross College (Autonomous), Nagercoil, (Affiliated by) Manonmaniam Sundaranar University, Tirunelveli-12.

Velu Thambi was one of the unsung freedom fighter in K.K Dist. was born on 16th May 1765, in an Nair family at Thalakkulam, Eraniel in Kanyakumari District. He was a directly well advanced person and he powerful protested the person who indulged in anti-social activities. He was appointed as Dalawai in 1801. He was very particular to strengthen he friendship existing between the company and his State.

The first independence war in Travancore nearly the foreign bondage winnings great support forms the people of Trivandrum. Following that many rebellion took place in Trivandrum. In 1809 veluthampi's administrative policy of secrecy and uncocealment, col.Malculay was unknowing Dalawais war preparations but privacy reports from messengers and the vision of heaping up of bows and arrows under the eyes of the British army stationed at Quilon convinced him that an attack was imminent. Lt.col.Chalmers who commended the subsidiary force their took prompt steps to meet the attack on British Contentment. These actions of the resident prior to getting the Madras Government's consent showed his concern over the British contentment. These actions of the resident prior to getting the madras Government's consent showed his concern over the privacy war preparation of the Dalawa. Velu Thampi accomplished all that the decisive aim of the East India company was to make friends first through commands and then through force. The arrears of tribute pending due for a long time gave the English enough way of escape to hinder in the affairs- of state as per the provision of the new treaty and if such a contingency arose, he thought it was bounden deity as the Dalawa of the land to protect the independence of the people even at the risk of an armed struggle. He therefore, began defensive preparations in a convert way as shugoony Menon remarked. Several uncomfortable developments took place and were taking place in south India and elsewhere in the country forbade the company form any king of Military interference in the state.

In 1808, a rumor had also spread that the French army had already began its onward march. He had dispatched emissaries with leaters requesting help and assistance form the poligars and Mappilas extending over an area form Madras to cannannore. Velu Thampi went to Cochin, settled matters peaceful and established paliyath Achan's as the prime Minister of the state. Paliyath Achan's Influence alone was not the reason for the people of Cochin to dislike the British.

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WOMEN'S RIGHTS FROM ANCIENT TO MODERN

P. Vellaisamy

Ph.D Research Schoalr, Guide: Dr.K.S Soumya, Department of History, Holly Cross College Nagercoil, Affiliated to Manonmaniam Sundaranar University-Tirunelveli

Introduction

The principle of gender equality is enshrined in the India constitution in its preamble fundamental rights, fundamental Duties ad Directive Principles. The Constitution not only grants equality to women, but also empowers the State to adopt measures of positive discrimination in favor of women. Empowerment is the one of the key factors in determining the success of development is the status and position of women in the society. We put a special focus on empowering women and girls, because we believe they hold the key to long-lasting social change in communities.

Empowering women must be a united approach, a cause that requires continued attention and stewardship by all. We need to augment our efforts for empowering women and enhance their progress. It is our moral, social and constitutional responsibility to ensure their progress by providing them with equal rights and opportunities. Today women with their smartness, grace and elegance have conquered the whole world. They with their hard work and sincerity have excelled in each and every profession. Women are considered to be more honest, meticulous, and efficient and hence more and more companies prefer hiring women for better performance and result.

Women In Male-Dominated World:

It is often argued and accepted that women, being the "gentler sex", and typically being the main care givers in society, are less aggressive than men. Feminists often argue that women, if given appropriate and full rights, could counter-balance a male-dominated world which is characterized by aggression in attitudes, thoughts, society and, ultimately, war.

Positive references are made to the ideal woman in texts such as the Ramayana and the Manu Smriti advocate a restriction of women's rights. In modern times the Hindu wife has costs remain chaste or pure this is in contrast with the very different traditions that have prevailed at earlier times in 'Hindu' kingdoms, which included highly respected professional courtesans sacred devadasis, mathematicians and female magicians

Some European scholars observed in the nineteenth century Hindu women were naturally chaste and more virtuous than others women, although what exactly they meant by that is open to dispute. In any case, as male foreigners they would have been denied access to the secret and sacred spaces that woman often inhabited. Mahabharata

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LAWS FOR WOMEN IN HUMAN RIGHTS

K. Sherly

PhD. Research Scholar, Reg.No: 18213041052013 Department of History, Holy cross College , Nagercoil, Kanyakumari District. Manonmaniyam Sundaranar University, Thirunelveli, Tamilnadu.

Dr. K. S. Soumya

Assitant Professor, Department of History, Holy cross College Nagercoil, Kanyakumari District. Manonmaniyam Sundaranar University, Thirunelveli, Tamilnadu.

Abstract

Human rights are freedom for humans, equality and prestige such as constitutional and universal the terms of the agreement are quarantined rights. These rights are the types of cases that are enforced by the Indian courts. Human rights are natural rights that a person has because he is a human being. Rights are common to all men. Every man needs to get where he is, place duration, time no one forgets anyone these rights for any reason, such as circumstantial birth. Incorporate all religious laws such as marriage, divorce, life annuity and succession. Just take the good features and add new ones. In feminist view, egalitarian law only enables women to break free.

Introduction

Marriage, Divorce, Alimony, Succession such as adoption all religious laws to merge. Then take only the good features add new ones. In the feminist view, egalitarian law only enables a women to break free. The federal government should strive to bring common law to all, such as the common civil law of marriage, divorce, alimony etc.

Marriage and Divorce laws Hindu Marriage act _ 1955

The Hindu marriage act, which came into effect on the eighteenth day of May 1955, regulates not only Hindus but also Buddhist and Sikhs.

Hindu Marriage act section - 5

It says about the conditions for Hindu marriage.

1. The bride should be 21 years old at the time of marriage and the bride should be 18 year old.
2. The First husband or wife should be alive at the time of the marriage.Generosity is mandatory is mandatory for both sexes.

1. The male and the female must have a clear mind.

2. Previously , there was no point in marrying someone if they had epilepsy.

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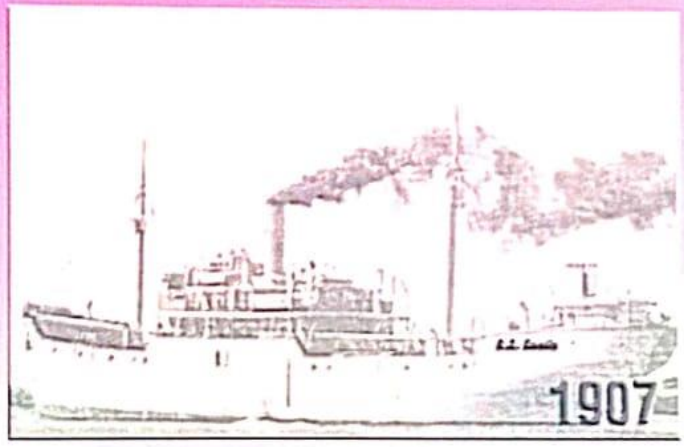
V.O.CHIDAMBARAM PILLAI IN INDIAN FREEDOM STRUGGLE

5th September 2019



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CLIPSED HISTORY OF THALAKULAM VELU THAMPI DALAWAI REVOLT IN 1809

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Col. Macaulay's confidential agents form ciryinkil reported that 22nd November 1808 the Dewan had collected about 20,000 men with arms of various kinds. To member Eight adhimakarans of coached, and to register as a member two thousand Nayars in each Adhikaram with arch's and arrows .Iron was transported form a mine in Aralvaimozhi to Udyagiri Fort to make bullets . The Aralvaimozhi lines to wards Tirunelveli were completely repaired and three

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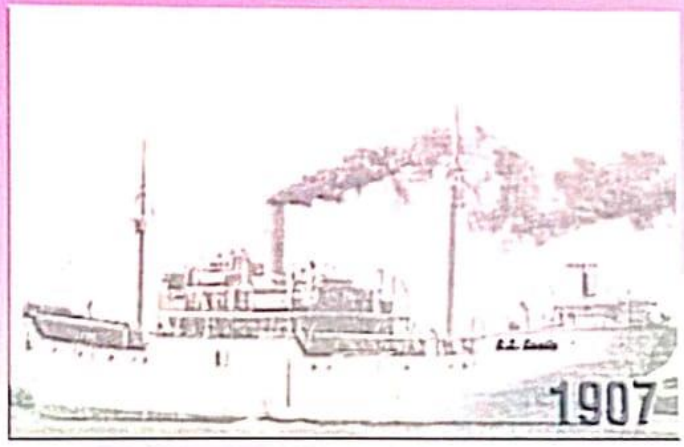

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CONTRIBUTION OF V.O.C'S STREAM NAVIGATION COMPANY IN FREEDOM MOVEMENT

P. ASHMI JENEX

Research Scholar in History

Dr. I. JALAJA KUMARI

Assistant Professor in History,

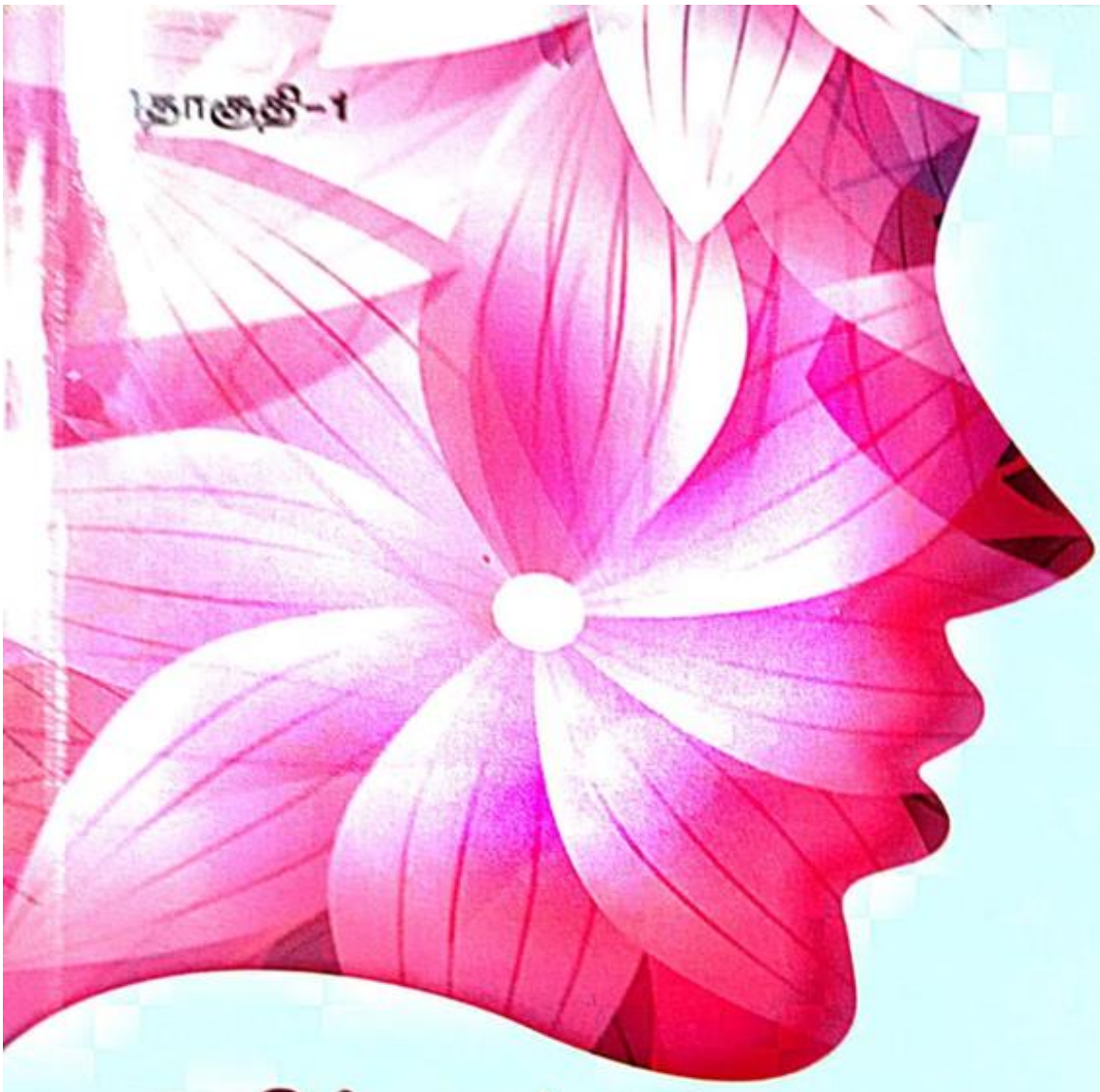
Holy Cross College (Autonomous), Nagercoil.

ABSTRACT

V. O. Chidambaram Pillai, popularly known by his initials V.O.C, was one of the most prominent lawyers in 19th Century British India. While V. O. C provided a strong leadership to trade unions functioning in his native Madras Presidency and also fought for India's freedom from the British, he is best remembered as the man who set up the first indigenous shipping service between Tuticorin and Colombo. He set up the Swadeshi Steam Navigation Company on 12th November 1906. With the help of other Swadeshi members Aurobindo Ghosh and Bal Gangadhar Tilak, V.O.C bought two steamships S. S. Gaelia and S. S. Lawoe to start his Shipping Company. The Swadeshi Steam Navigation Company gave stiff competition to the British India Steam Navigation Company, due to which the latter had to reduce fares per trip.

Vallinayagan Olaganathan Chidambaram popularly known by his initials, V.O.C., also known as Kappalottiya Tamizhan "The Tamil Helmsman", was an Indian freedom fighter and leader of Indian National Congress. He was a disciple of Bala Gangadhara Tilak. Chidambarapillai supported Bala Gangadhara Tilak and the militant wing of the Indian National Congress. He participated in the 1907 Surat Congress together with Subramania Bharati .On those days he is one of the great business man of Tamil Nadu. Chidambaram established many institutions like Yuvanesh Prachar Sabha, Dharmasanga Nesavu Salai, National Godown, Madras Agro-Industrial Society ltd and Desabimana Sangam.Amoung that, in response to the British India Steam Navigation Company's trade monopoly, Chidambaram started an Indian-owned shipping company. It was given competition to the British Company.It gave a lot of contribution to the freedom struggle. This paper is deals with the details of Steam Navigation Company.

V. O. Chidambaram Pillai was born on 5th September 1872 in Ottapidaram, Tuticorin District. His presence are Ulaganaathan Pillai and Paramayee Ammal. His father Olaganathan Pillai was one of the most important lawyers of the country and it was in his father's footsteps that V.O.C followed after completion of his education. V. O. Chidambaram Pillai enrolled in schools in his native Ottapidaram and nearby Tirunelveli. V.O.C started working in the Ottapidaram district administrative office after the end of his school education. It was only a few years later that he enrolled in law school and completed law studies to become a lawyer like his father.Though his father was his biggest inspiration in the profession of law, there was a basic difference in the working styles of V. O. C and his father. While his father catered to the problems of only the affluent in the society, V.O.C was sympathetic towards the poor people whose cases he sometimes took up against the wishes of his influential father. A case in which V.O.Chidambaram Pillai proved that three sub-magistrates in Madras Presidency were guilty of corruption charges won him attention and fame as a lawyer.



தமிழ்நாட்டுப் பெண் சாதனையாளர்கள்

(பன்னாட்டுக் கருத்தரங்கக் கட்டுரைகள்)

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தஞ்சாவூர்

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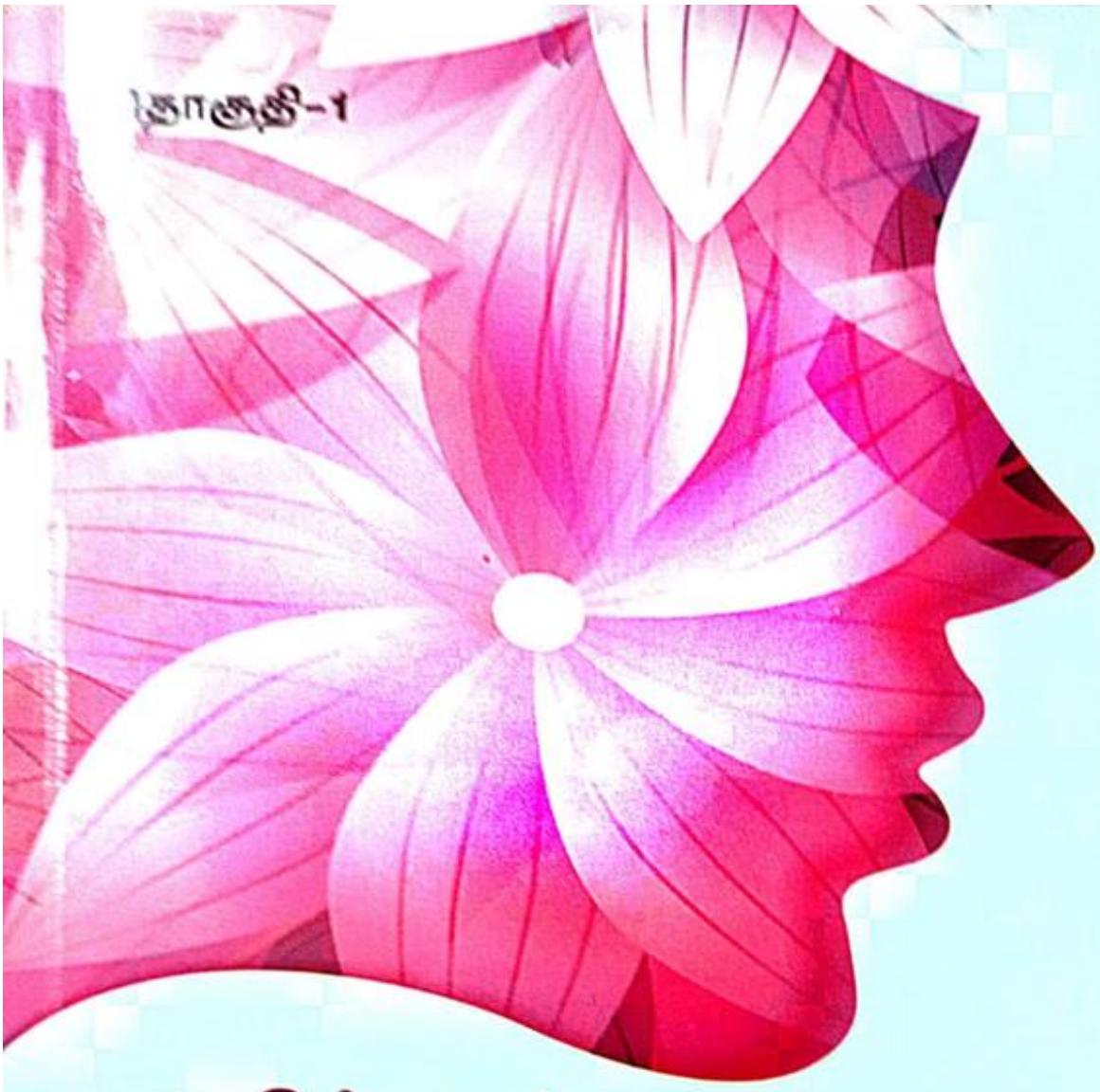
முனைவர். K.S சௌமியா
உதவிப்பேராசிரியர்
வரலாற்றுத்துறை
திருச்சிலுவைக் கல்லூரி (த)
நாகர்கோவில்
கன்னியாகுமரி மாவட்டம்

திருமதி. இரா.கிருஷ்ணமணி
உதவிப்பேராசிரியர்
வரலாற்றுத்துறை
காதிர்முகைதீன் கல்லூரி
அதிராம்பட்டினம்
தஞ்சாவூர் மாவட்டம்.

இந்தியாவில் குறிப்பாக தமிழ்நாட்டில் பொது வாழ்வில் பெண்களின் பங்களிப்பு எட்டாக் கனியாகவே இருந்துவந்துள்ளது. அதுவும் 1947ஆம் ஆண்டுக்கு முன்னாக பெண்களின் நிலை சற்று கடினமானது தான் ஆனால் அதையும் தாண்டி தங்களை பொதுவாழ்வில் ஈடுபடுத்திக் கொண்டவர்கள் சிலரே. அவர்களின் தொண்டுள்ளம் போற்றுதலுக்குரியது. இந்த வகையில் தன் தாய் நாட்டிற்காக தன்னை முழுமையாக அரப்பணித்துக்கொண்ட மஞ்சுபாஷினி சுப்ரமணியம் தமிழ் நாட்டுப் பெண் சாதனையாளர் என்றால் அது மிகையாகாது.

பெண்கள் பொதுவாகத் தமக்கென்று வாழ்வதில்லை அதனால் நாட்டையும் பெண்களுக்கு உவமைப்படுத்தினார்கள். ஆனால் என்ன ஒரு விந்தை தாய்நாடு ஆங்கிலேயர்களின் பிடியில் அகப்பட்ட போதும் அவர்கள்தான் போராடினார்கள், போராடி வெற்றியும் பெற்றார்கள். அந்த வகையில் மஞ்சுபாஷினி அவர்களின் சுதந்திர போராட்ட பங்களிப்பு மிகவும் முக்கியமானது. சாதாரண நடுத்தர வர்க்கத்தில் பிறந்து தன்னை பொது வாழ்வில் அர்ப்பணித்துக் கொண்டவர். காந்தியக் கருத்துக்களால் மிகவும் கவரப்பட்டு, காந்தியடி போராட்டங்களில் இணைந்துக் கொண்டவர். 1930ஆம் ஆண்டு காந்தியடிகளால் உப்புச்சத்தியாகிரகப்



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முனைவர் பி.பாலசுப்பிரமணியன்
உதவிப்பேராசிரியர்
வரலாற்றுத்துறை
காந்திமுகையின் கல்லூரி(த)
அந்தியூர்,ஈரோடு
தமிழ்நாடு மாவட்டம்.

முனைவர் இ.ஜெயராமகுமாரி
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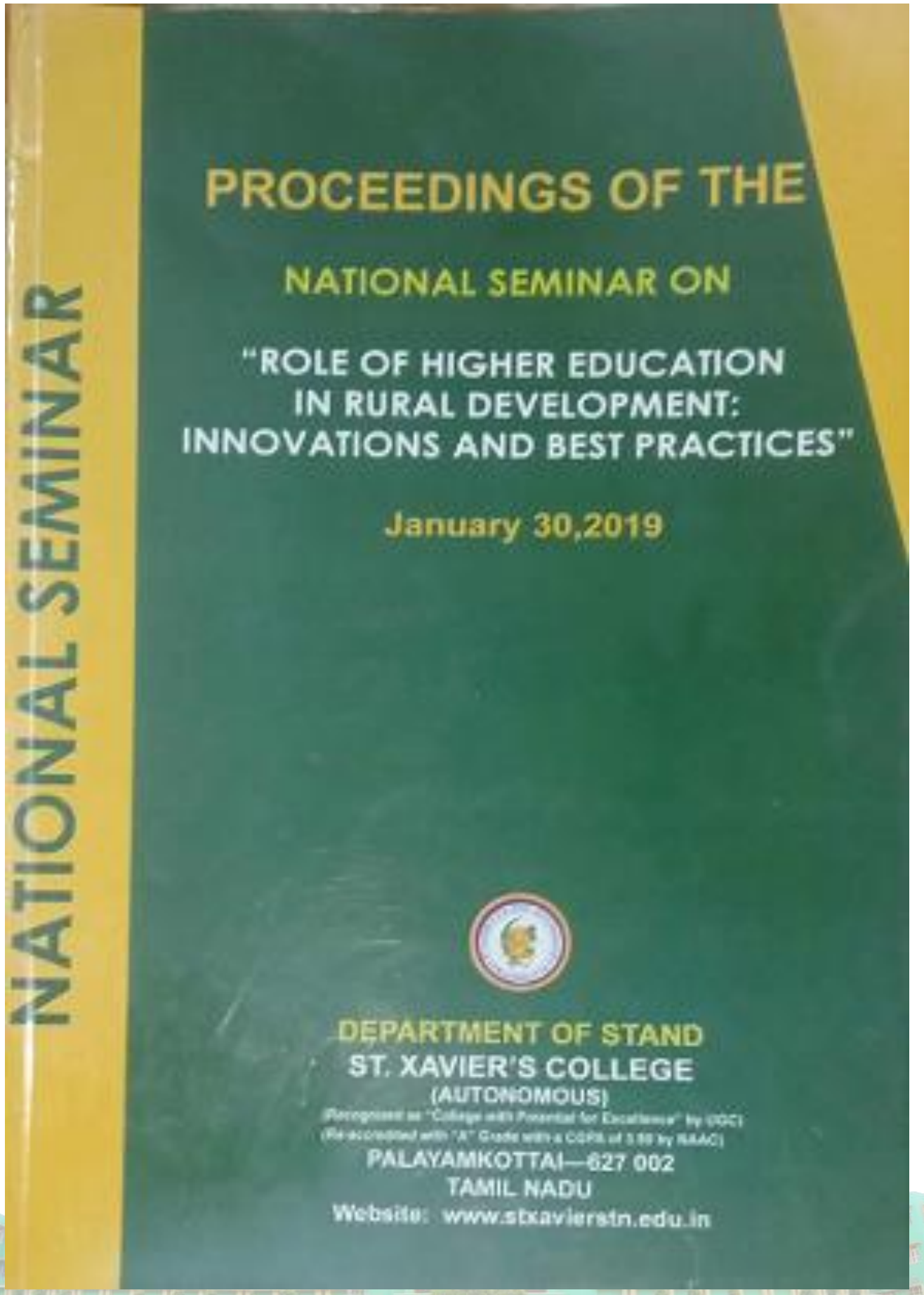
நாகர்கோவில்
கன்னியாகுமரி மாவட்டம்

தமிழ்நாட்டுப்பெண் சாதனையாளர் சரஸ்வதி பாண்டுரங்கன், தென்னாட்டு இந்தியாவிற்காக சுதந்திர போராட்டத்தில் தன்னை முழுமையாக அர்ப்பணித்துக் கொண்டவர். ஆங்கிலேயரின் ஆட்சியை இந்தியாவிலிருந்து விரட்டுவதற்காக தன்னை முழு நேர போராட்டத்தில் ஈடுபடுத்திக் கொண்டவர். நாட்டிற்காக தன்னை முழுமையாக அர்ப்பணித்ததால் தன் குடும்பத்தையே இழந்தவர்.

இந்தியா என்ற சொற்பு மிக்க பண்பாட்டில் பிறந்த நாடு பற்றி நாம் படிக்கும்போது அதன் இருண்ட காலம் பற்றியதாகவும் நாம் தெரிந்து கொள்ள வேண்டியது அவசியம். ஆங்கிலேய இந்தியாவிற்கு வியாபாரம் செய்ய வந்த ஆங்கிலேயர்கள், நம்மை அடிமைப்படுத்தி கிட்டத்தட்ட முன்னூறு ஆண்டுகள் ஆட்சி செய்தனர். இதற்காக இவர்கள் மதம், சாதி மற்றும் இனத்தை அடிகோலையாண்டனர். இவர்களுக்கு எதிராகப் போராடியவர்கள் ஏராளமானோர்கள். அவர்களின் தியாகம் எடுத்துரை செய்ய முடியாதது. ஆரம்ப கால போராட்டம் அனைத்தும் தோல்வியில் முடிந்தாலும், அவைகள் காந்தியடிகளின் வருகைக்குப்பின் சுதந்திர போராட்டத்தின் அமைப்பு முற்றிலுமாக மாறியது.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NATIONAL SEMINAR ON "THE ROLE OF HIGHER EDUCATION IN RURAL DEVELOPMENT: INNOVATIONS AND BEST PRACTICES"

WOMEN ENTREPRENEURSHIP AND RURAL DEVELOPMENT

Dr. J. M Vinitha Charles, Assistant Professor,
Department of Economics,
Holy Cross College (Autonomous), Nagercoil.

ABSTRACT

An individual's behavior is a function of attitudes. An attitude is also a cognitive element; it always remains inside a person. Attitude influence the perception of objects and people, exposure to and comprehensive of information, choice of friends and so on. In this globalized world, economic growth of a country totally depends on the participation of women in the rural development of a country. Women throughout history have proved their entrepreneurial skills, managerial skills in and out of the house. But these have always been neglected in a men dominating society. Entrepreneurial development is the key to economic development of a country. In a country like India confronted with a twin problems of unemployment on the one hand and scarcity of financial resources on the other hand.. Without entrepreneurship growth the society cannot progress. Therefore, entrepreneur development has become a global phenomenon. By setting of an enterprise the entrepreneur not only generates self employment but at the same time provides employment opportunities for the others especially in rural areas. Women have taken a bold step to come out of their traditional occupation to take up jobs out of homes. Today the entrepreneur world is open to the women folk in rural areas. Now women in some rural areas are running their own business and yet again proving their leadership skills. But it hasn't been capitalized the way it should be. This paper focuses on various concepts, types, challenges of women entrepreneurship and its role on rural development.

Key word: Entrepreneurs, Women Entrepreneurship, Rural Development, Enterprise, Industrialization , Migration

INTRODUCTION

"You can tell the condition of a nation by looking at the status of its women"

- Nehru

Women constitute around half the world's population. It is in India too. They are, therefore, regarded as the better half of the society. In traditional societies, they were confined to the four walls of the house performing household activities. In modern societies, they have come out of the four walls to participate in all sorts of activities. Women have been performing exceedingly well in different spheres of activities like academics, politics, administration, social work and so on. They have started plunging into industry and running their enterprises successfully. Now, women have emerged as an important part of industrial growth. To achieve equal status with men, women have to come out of their traditional roles and responsibilities and have to create an identity for themselves, assuming a variety of functions. To make this dream a reality, women have to consider their labour not as drudgery but as a delight. The participation of women in the economic development process can be mainly categorized

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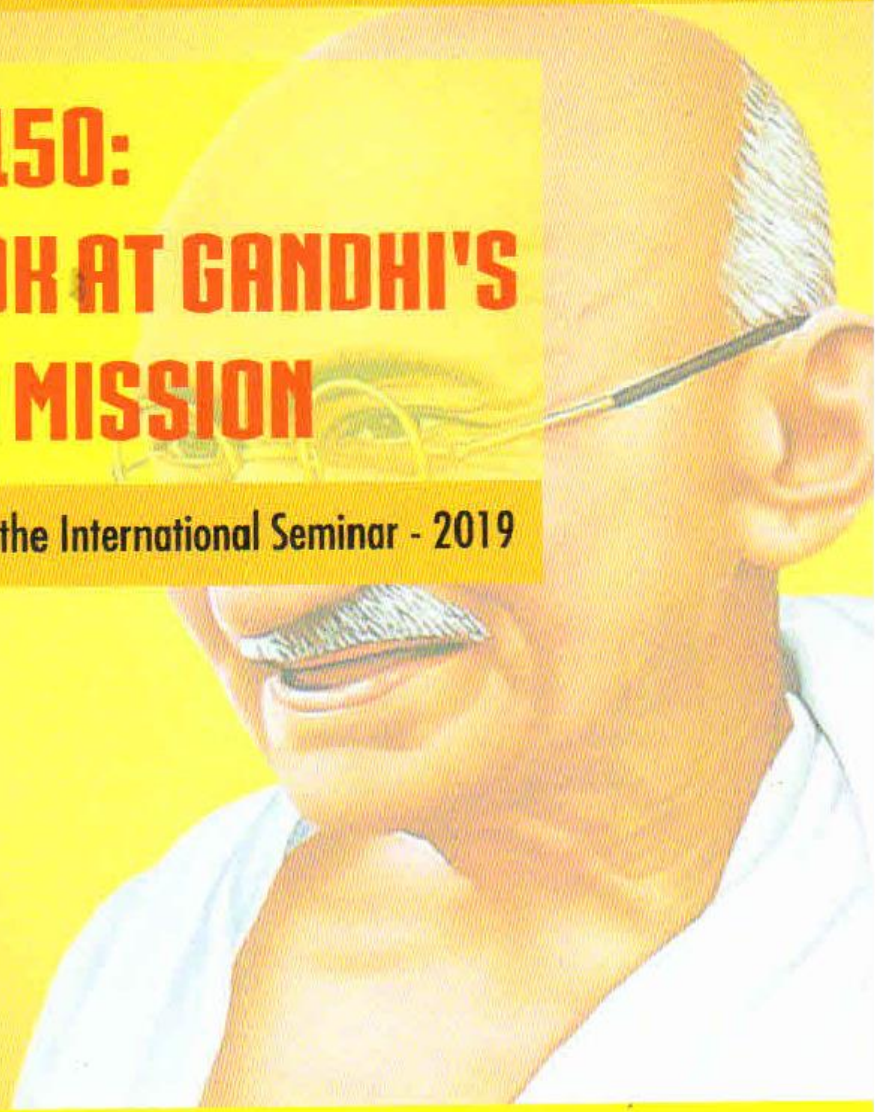

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Conclusion

The above analysis help to conclude that:

1. Gandhi's socialism having a great impact on huma
2. It is heavily dependent on moral and ethical value
3. Only truth and Non-violence are the accepted me active the socialist and best society.
4. Gandhi favors the presentation of individualis socialist society.
5. In his socialism law of love is stronger than any law. This law only can help to establish a peaceful best society.
6. Gandhi was not in favor of nationalization taxatio distribution of wealth of any individuals to other a his will.

These it is clean that Gandhi was a true socialist. No one match Gandhi his concern for the weak and downtrodden of society.

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GANDHI'S APPROACH TO THE SOCIAL PROBLEMS - A STUDY

S. Jeni Sanjana

Assistant Professor, Department of Economics
Holy Cross College (Autonomous), Nagercoil

S. Chithra Lekha

Ph.D Research Scholar
Holy Cross College (Autonomous), Nagercoil
Manonmaniyam Sundharanar University, Thirunelveli

Abstract

Gandhi was a social scientist because he followed social truth by the scientific method of observation, intuitional and intellectual hypothesis and experimental test. He once told Richard Gregg that he considered Western scientists not very thorough because not many of them were willing to test their hypothesis on themselves. Gandhi was of the firm opinion that divorce between intelligence and labour has resulted in criminal negligence of the village. Instead of having graceful hamlets dotting the land, there are dung-heaps. The approach in many villages is not a refreshing experience. Often one would like to shut one's eyes and stuff one's nose: such is the surrounding dirt and offending smell. People should make the villages the models of cleanliness in every sense of the word. To Gandhi, nothing was more sacred than truth and non-violence. Originally he believed that God is Truth. Later he changed this a little and maintained that Truth is God. "Generally speaking", Gandhi said, "observation of the law of truth is understood merely to mean that we must speak the truth but we ...should understand the word 'satya' or truth in a much wider sense. There should be truth in thought, truth in speech and truth in action". Gandhi preached and practiced nonviolence of the brave as his supreme religion, swadharma or creed. It stood on the firm foundation of God or Truth. It was soul force. This paper enlighten the Gandhi's approach to social problems.

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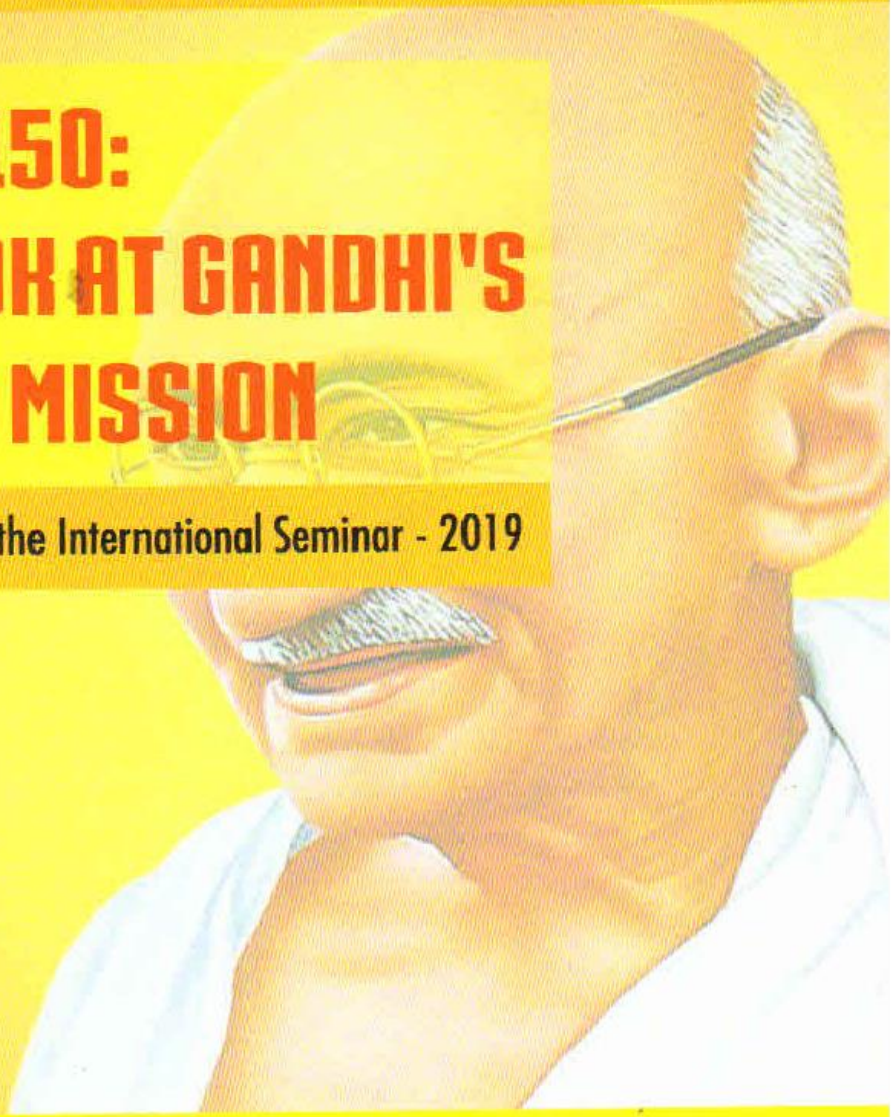

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GANDHIAN CONCEPT OF NON-VIOLE

S. Buvaneshwari
II M.A Economics, Department of Economics
Holy Cross College (Autonomous), Nagercoil

S. Vimal Dolli
Assistant Professor, Department of Economics
Holy Cross College (Autonomous), Nagercoil

Abstract

Gandhi strongly opposed violence since it went against the integrity of an individual. Every individual has an equal right to be respected by others as Kant also holds, and bears a moral duty to show the same respect to other people's integrity and freedom. Gandhi said that violence can never be justified no matter for what noble cause it is used. This is because for Gandhi means and ends are inseparable. To achieve justice, one cannot force his views on others and curb their freedom. The use of violence for Gandhi not only degrades the opponent but also makes its user a lesser human being. He considered that a violent person is always at war 'with the world and believes that the world is at war with him and he has to live in perpetual fear.' Therefore, the consequence of violence is always utter helplessness, isolation and it functions to create a gulf between the aggressor and the society. Gandhi's concept of non-violence is not restricted merely to disavowing violence, not hurting people in mind and body but it goes beyond and encompasses certain essential values of love, forgiveness and compassion.

Introduction

Gandhi was a great supporter of Truth and Non-violence. He had a great importance to the concept of Truth and Non-Violence, Truth or Satya, Ahimsa or Non-Violance are foundation of Gandhi's philosophy. Mohandas Gandhi was born in the western part of British-ruled India on October 2, 1869. A timid

He was married at thirteen to a girl of the same age, Following the death of his father, Gandhi's family sent to England in 1888 to study law. There, he became interested in the philosophy of nonviolence, as expressed in the Bhagavad Gita, Hindu sacred scripture, and in Jesus Christ's Sermon on the Mount in the Christian Bible. He returned to India in 1891, having passed the bar, but found little success in his attempts to practice law. Seeking a change of scenery, he accepted a position in South Africa for a year, where he assisted in a lawsuit. He founded the Natal Indian Congress, which worked to further Indian interests, and commanded an Indian medical corps that fought on the British side in the Boer War (1899-1901), in which the British conquered the last independent Boer republics. After the war, Gandhi's reputation as a leader grew. He became even more adamant in his personal principles, practicing sexual abstinence, renouncing modern technology, and developing satyagraha–literally, "soul- force." Satyagraha was a method of non-violent resistance, often called "non cooperation," that he and his allies used to great effect against the white governments in South Africa.

Ahimsa or Non-Violence

Ahimsa or Non-Violence is the central concept of Gandhi's philosophy. According to Gandhi, Ahimsa or Non-Violence has a positive meaning also. In positive sense Non- Violence means 'love'. It means love towards all living creatures. The concept of non- violence is extended not only means to human love but love towards all sentient creatures of the world. That means one should not love only human being but every living being in the world. When a person claims to be non-violent, he is expected not to be angry with one who has injured him. He will not wish him harm; he will wish him well. He will not swear at him, and he will not cause him any physical hurt. He will put up with all the injury to which he is subjected by the wrong-doer. Thus Non-Violence is complete innocence. Complete Non-Violence is

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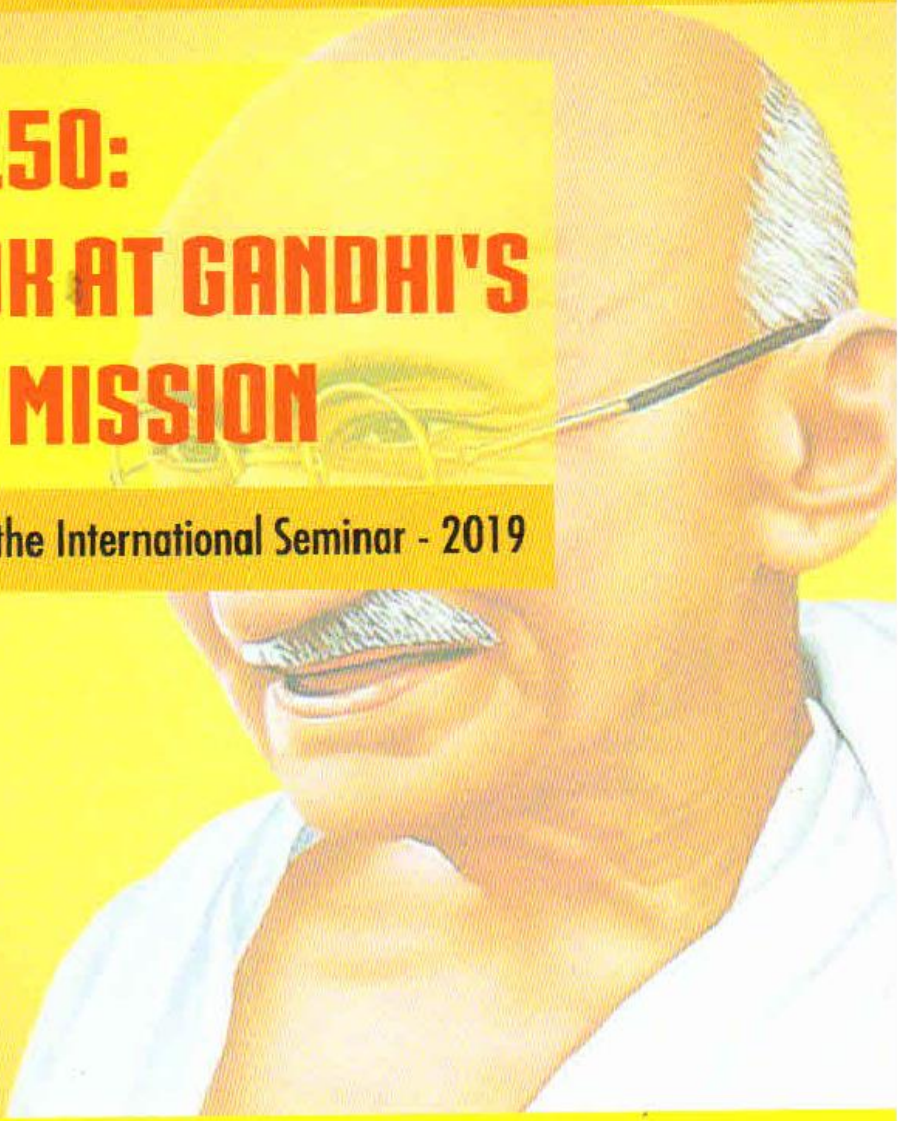

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MAHATMA GANDHI AND PEACE

A. Babila Kingsly

Assistant Professor, Department of Economics
Holy Cross College (Autonomous), Nagercoil

Abstract

The modern world is facing a multi-dimensional crisis; a crisis that poses challenge to each and every aspect of our life. Among the outstanding aspects of this crisis are; over-militarization, nuclear proliferation and global reach of arms, overdevelopment and underdevelopment resulting in mal-development, a vast number of people suffering from poverty, hunger and marginalization. Besides, there are corruption, communalism, unemployment, regionalism, problems of language, ethical and moral degradation in private and public life. All these together pose a grave challenge to the world. Peace is far away so long as these problems exist. This paper consists of Mahatma Gandhi and peace.

Introduction

Gandhi was a contemplative man of action and his philosophical formulations were inspired by and directed towards, the solution of immediate problems that beset the country, the society, and the people of his time and age. He put forward his views in response to those who sought his advice more often than not. But more than his spoken and written words, the testament of his life reveals fully and comprehensively all that he stood for. So, in seeking a perspective o Gandhi's principle of peace-making, we must turn to his life, understand what he stood for, and on what values and principles he based his actions.

An ardent investigation of Gandhian concept of peace reveals that the philosophical root of Gandhian peace emanates from his seminal work 'Hind Swaraj' which he wrote in 1909, where he criticized the modern model of development as inherently

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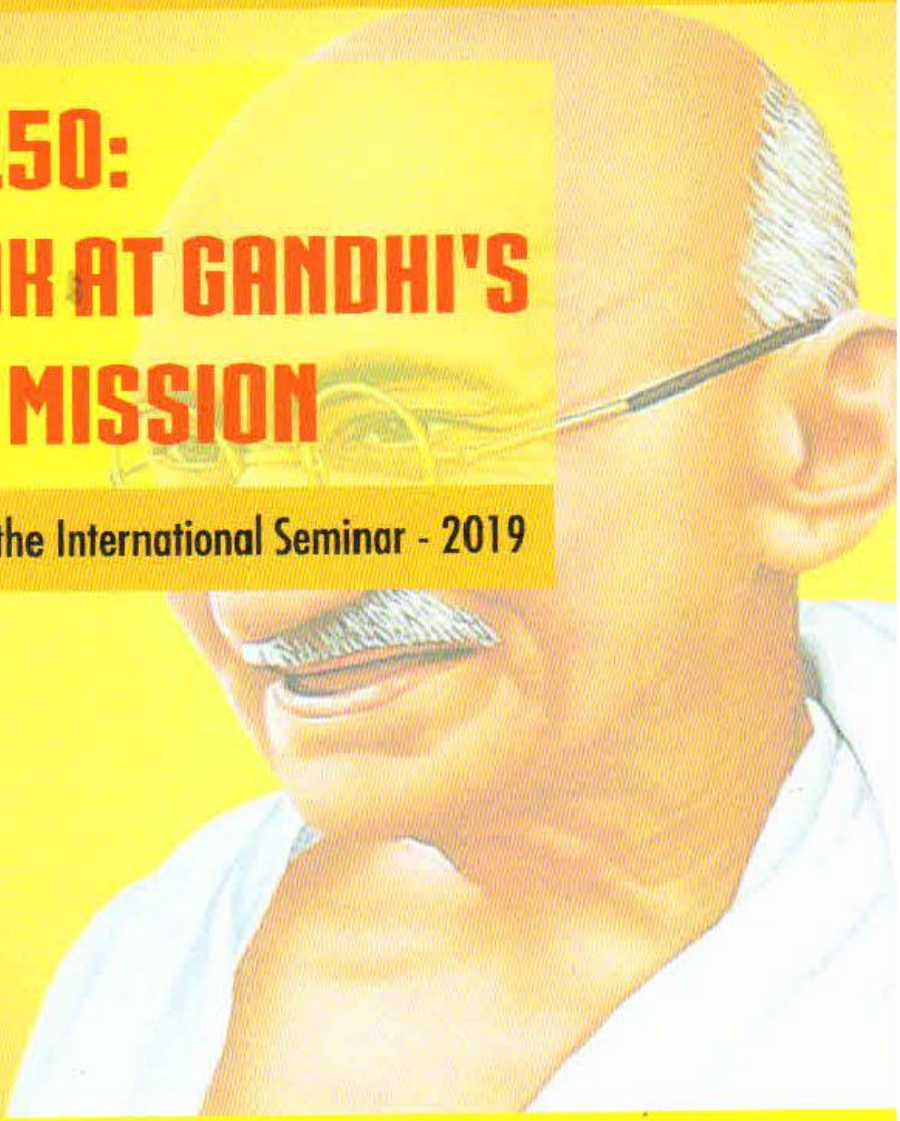

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A GANDHIAN PERSPECTIVE ON PEACE

X. Berkmans Prema
I M.A Economics, Department of Economics
Holy Cross College (AUutonomous), Nagercoil

A. Sameema
Assistant Professor, Department of Economics
Holy Cross College (AUutonomous), Nagercoil

Abstract

The most important contribution of India to the contemporary world is the message of non-violence and global peace. It was formulated and practiced by Mahatma Gandhi. Gandhi's thought process was an outcome of his political struggle first in South Africa as a revolt against the practice of apartheid. It was developed in India as a non-violent battle against British imperialism for national independence. Gandhi's concept of Ramarajya or the Kingdom of righteousness on earth stands for an egalitarian and non-violent democratic social order wherein moral values pervade all spheres of human life. The law of 'Dharma or righteousness' and the morality of the individuals bind together the members of the society, and make them to fulfill their social obligations. Dharma or social ethics exerts strong moral pressure on the individuals and sustains social cohesion. Each individual works for the 'greatest good of all', and the society will provide maximum opportunities to all individuals to develop their potentialities.

Introduction

Gandhi was a contemplative man of action and his philosophical formulations were inspired by and directed towards, the solution of immediate problems that beset the country, the society, and the people of his time and age. He put forward his views in response to those who sought his advice more often than not. But more than his spoken and written words, the testament of his life reveals fully and

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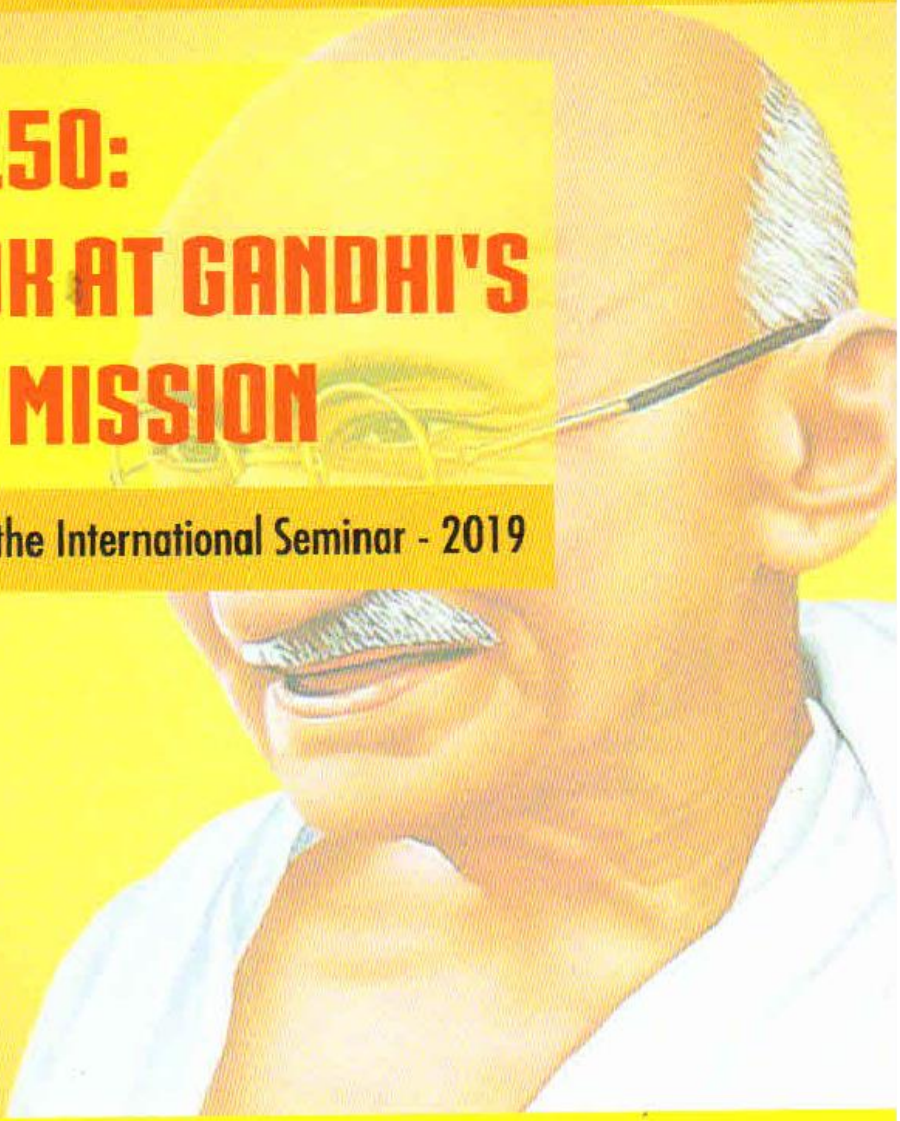

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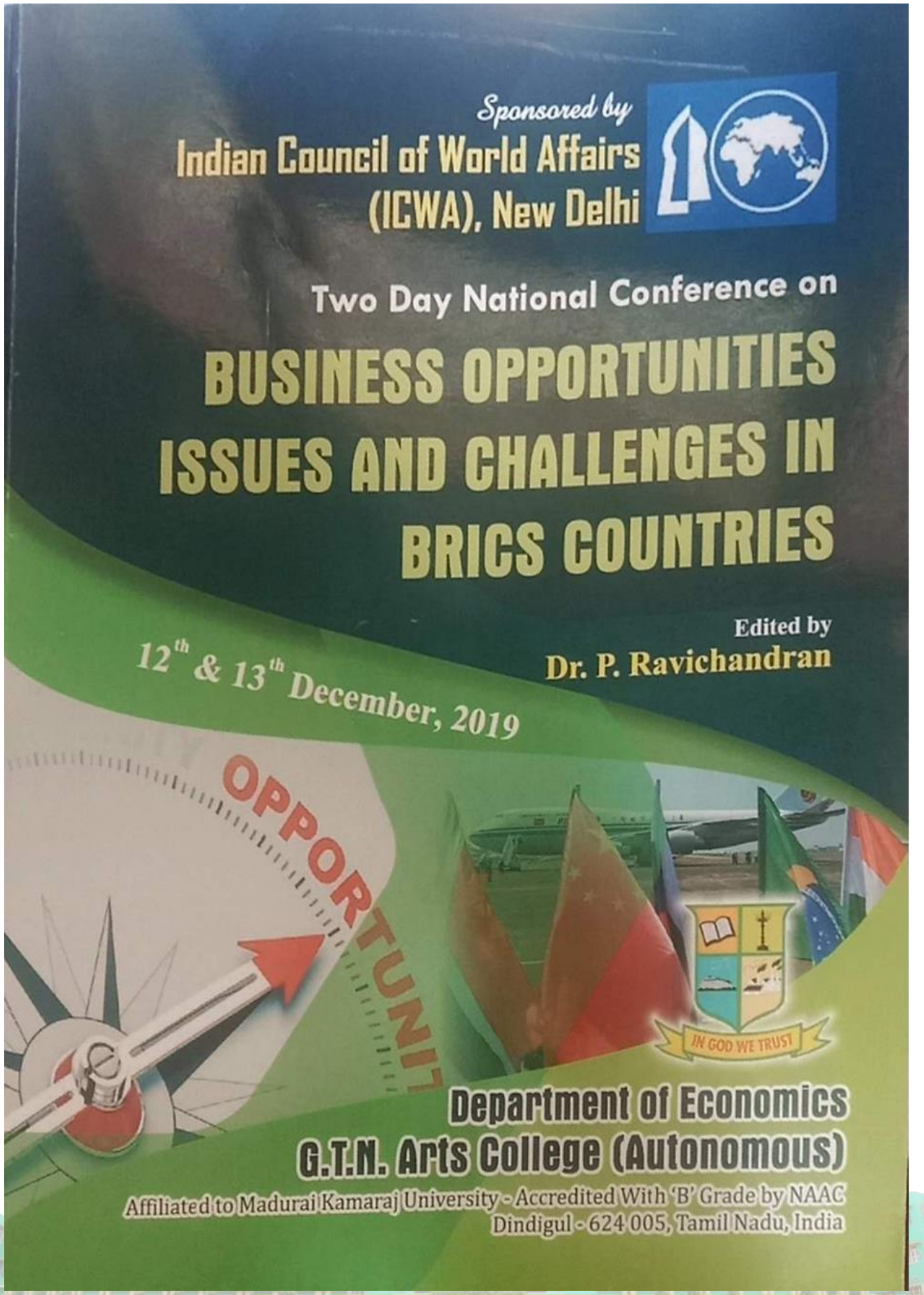
GANDHIJI'S IMPACT ON GLOBAL PEACE INITIATIVES

J.M. Vinitha Charles
Assistant Professor in Economics
Holy Cross College (Autonomous), Nagercoil

Abstract

The very term 'Fighting' for 'peace' seem contradictory and antagonistic. Whereas the term fighting presupposes use of force, violence and coercion, the term 'peace' presumes negation of them. Gandhi chose to fight not because he approved violence but because he disliked being a pacifist. He preferred engagement to 'cowardice' or 'remaining inactive' in case there were conflicts to be resolved. He believed that fighting had its own benefits as it helped in arriving at various aspects of truth. To Gandhi, every fight was a fight among different viewpoints, each carrying some aspect or partial truth. Gandhi was of the firm view that truth can emerge only in the process of fighting. Nor did he regard it as something bad or negative. To him, some may choose to fight; others may choose to avoid all sort of confrontation for the sake of peace but such peace is often shallow and may lead to depression in some individual cases. Gandhi's advice was that cowardice and passive resistance should not keep anyone from fighting for a genuine cause. This study is more important for today's world. It is the need of the hour. Peace does not imply simply 'absence of war'. Rather, it implies justice, equity and 'freedom from fear'. Gandhi, one of the apostles of peace, not only propagated peace at the world level but also understood fully. Since all plans of wars begin in the human mind, it becomes absolutely necessary to make it the abode of peace. Without inner peace and growth of spirituality at the individual level, there can't be any peace and tranquility at the global level. For this to happen, individuals and civil societies would have to play a proactive role.

Keywords: Peace, Non-Violence, Truth, Sacrifice, Dispute,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AN ECONOMIC STUDY OF ENTREPRENEURS WITH SPECIAL REFERENCE TO BAG SHOP OWNERS IN NAGERCOIL OF KANYAKUMARI DISTRICT

Dr. A. Sameema

Assistant Professor, Department of Economics
Holy Cross College (Autonomous), Nagercoil

Introduction

Entrepreneur is a person who discovers new ideas and business opportunities organizers and manages its operation in order to provide. Entrepreneurs are found in every economic system and in every form of economic activity as well as in other social and cultural activities. They are found amongst artisans, labourers, artists, importers, exporters, engineers, supervisors, bankers industries and professionals. They are also found among farmers, fishermen, forest workers, tribal and so on. Some writers have also identified entrepreneurs among politicians, theologizes philosophers and bureaucrats. Entrepreneurship can be viewed as creative and innovative response to the environment and an ability to recognize initiate and exploit and economic opportunity.

Characteristics of Entrepreneurs

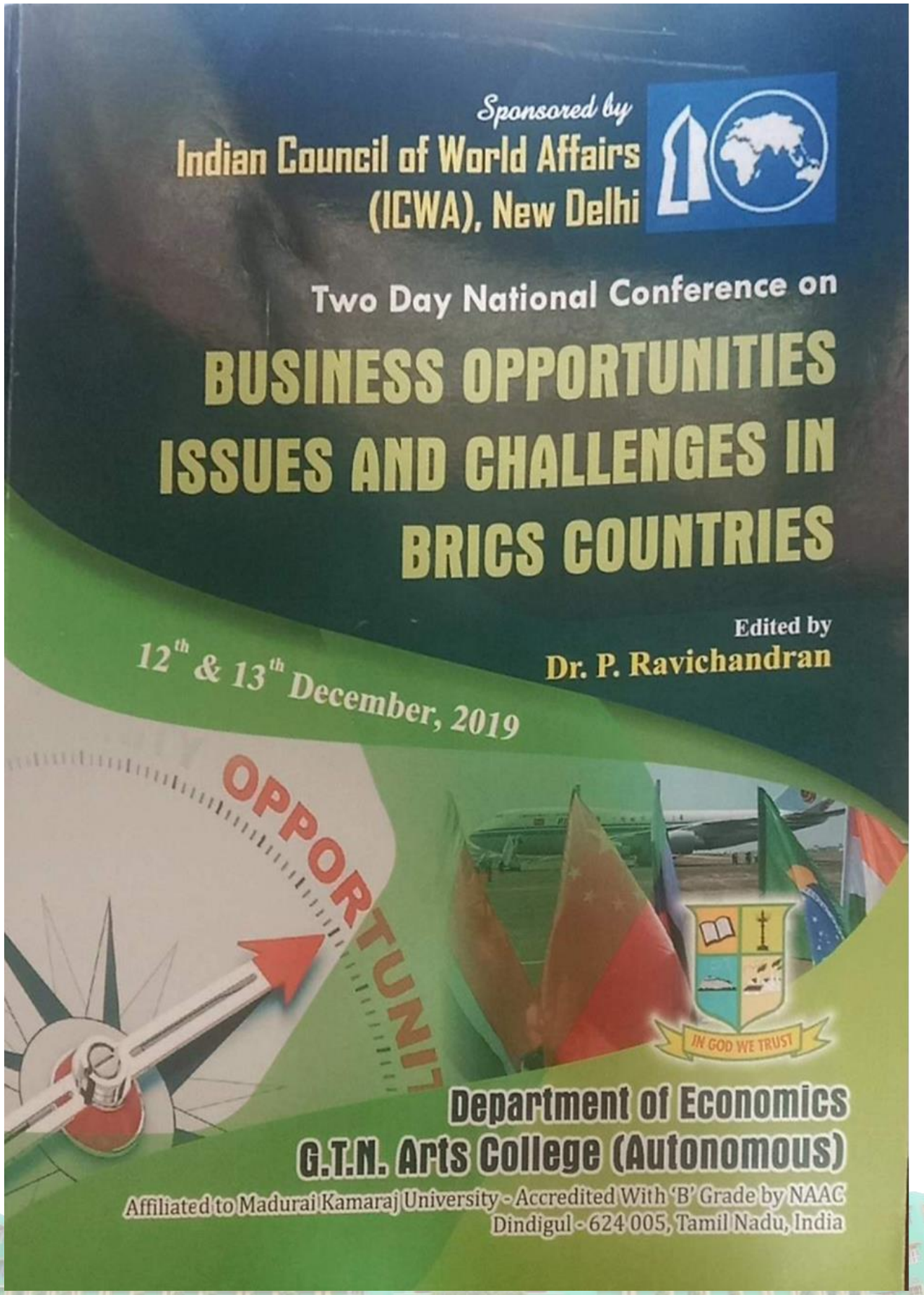
To be successful entrepreneur a person has to acquire and develop certain qualities, which can be attained by training and motivation. The essential entrepreneurial qualities are:

- Goal setting
- Motivation
- Positive thinking
- Readiness to face challenge
- Hard working
- Time management
- Money as a measurement
- Involvement

Qualities of Entrepreneur

Successful business people have many traits in common to one another. They are confident and optimistic. They are disciplined self-starters. They are open to any new ideas which cross their path. Here are ten traits of a successful entrepreneur. The behavioural qualities of a good entrepreneur are classified as follows.

- Disciplined
- Self confident
- Open minded
- Risk taker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A STUDY ON COCONUT CULTIVATORS WITH SPECIAL REFERENCE TO THENGAPATTANAM

Dr. S. Vimal Dolli

Assistant Professor, Department of Economics
Holy Cross College (Autonomous), Nagercoil

Introduction

Human resource development (HRD) deals with creating conditions that enable people to get the best out of themselves and their lives. Development is a never-ending process. As people develop themselves in new directions, new problems and issues arise, requiring them to develop new competencies to meet the changing requirements, aspirations and problems. There are however some universal goals towards which all human resource development efforts should aim to achieve.

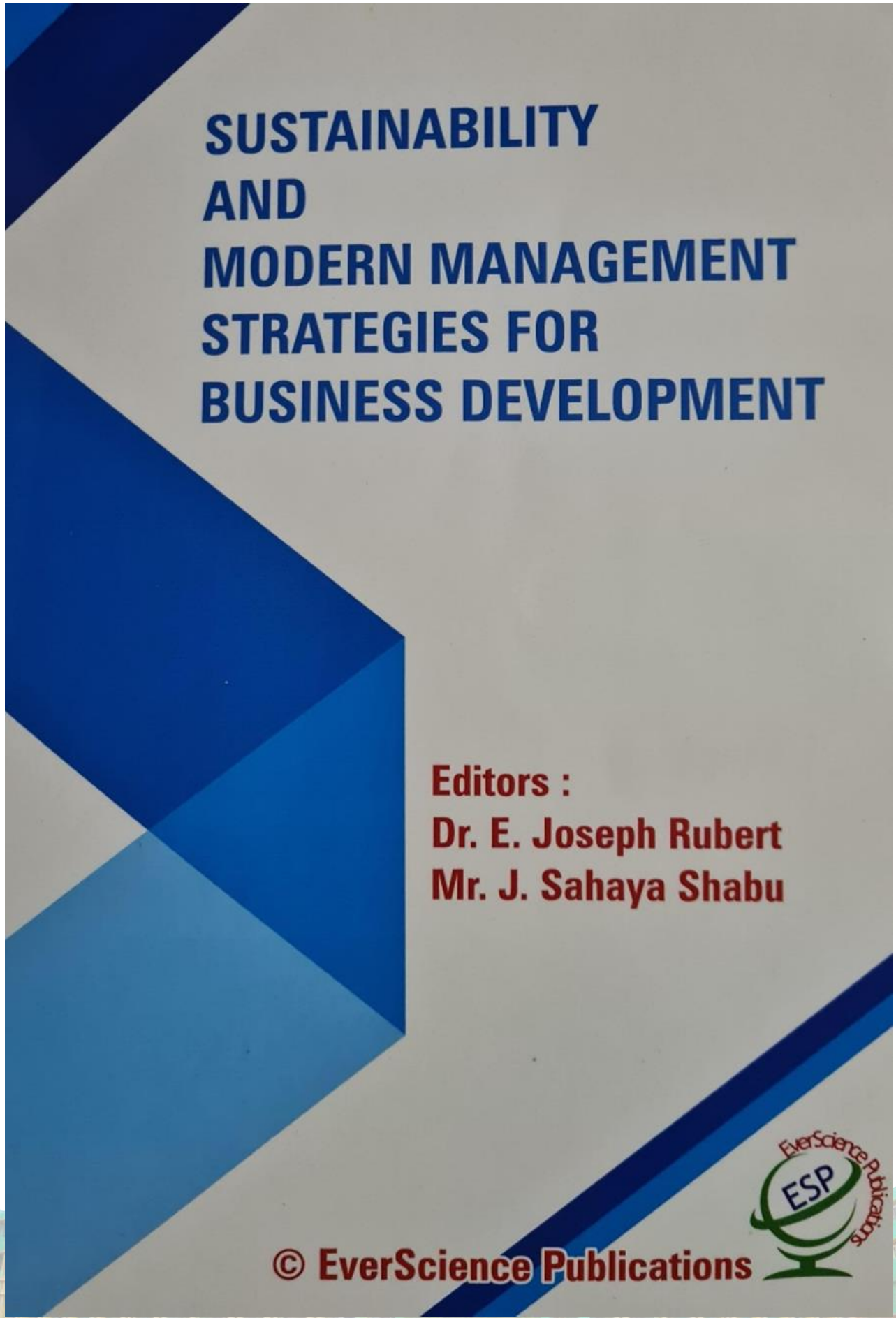
At the individual level these goals may include developing capabilities for ensuring a happy and healthy living. The dimensions of such happiness may vary from individual to individual. These may include: a good education or skill base that may be the key to income-generation and fulfilment of many other social needs; a good income base itself; self-respect; security; status and recognition in the society; good family; and a sense of belongingness to a group, society or organization.

Agriculture has been playing a predominant role in the economic development of all developed and developing countries. Ever since India's independence agriculture in India has taken strides owing to the varietals and agronomic interventions of agricultural research and the resourcefulness of the farming community. Nearly 65% of the Indian population is still dependent on agriculture for its livelihood and employment. It is also the source of supply of raw materials for industries and provides support to the transport system.

Coconut tree is known as 'Cocosnucifera' in botanical term each and every part of the coconut tree is useful for us in some manner or other. For instance, raw nut and edible copra are important items of food and indispensable items for divine ablution oil extracted from copra is used in cooking, manufacturing of coir products. The coconut shell is brunt and converted into charcoal. Coconut shells and husks are also used in the manufacture of handicrafts articles in the cottage industry.

Coconut has become important as an agro-based raw material for many industries. Besides, coconut shell, a by-product of coconut processing industry, is a raw material of commercial importance used for the manufacture of shall charcoal, activated carbon, ice creams cups, shell powder and handicrafts. Fermented toddy is an intoxicant drink which is popular in the west coast of India. Vinegar and jiggery are made from coconut toddy in many coconut growing areas of the country especially in Lakshadweep. Coconut tree is used from various purposes in the construction of homes and for making furniture.

Although coconut is grown in more than 80 countries in the world, the main four countries are Philippines, India, Indonesia and Sri Lanka. India has become the largest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CUSTOMERS SATISFACTION TOWARDS INSTANT FOOD PRODUCTS

A.PRIYA SHALINI
Research Scholar
Department of Commerce
Holy Cross College (Autonomous), Nagercoil

Dr.C.K.SUNITHA
Assistant Professor
Department of Commerce
Holy Cross College (Autonomous), Nagercoil

ABSTRACT

The word 'food' refers to the chemical substance taken into the body in order to keep the body in a healthy and active condition. The body requires food for growth, repair and replacement of its worn-out tissues. Hence, food has to provide the required raw material, energy and other regulating substances, like vitamins and minerals, for the smooth functioning of the body, besides meeting the caloric requirements like carbohydrates, proteins, fats. India is the world's second largest producer of food next to China and has the potential of being biggest industry with food and agricultural sector contributing 26 per cent to Indian GDP. The researcher made a thorough analysis over the study of Consumer behaviour towards Instant food products with reference to kalkulam taluk. It is of the opinion that the respondents feel comfort to purchase the Instant food products

Key word: Instant food products, Level of Satisfaction.

INTRODUCTION

The word 'food' refers to the chemical substance taken into the body in order to keep the body in a healthy and active condition. The body requires food for growth, repair and replacement of its worn-out tissues. Hence, food has to provide the required raw material, energy and other regulating substances, like vitamins and minerals, for the smooth functioning of the body, besides meeting the caloric requirements like carbohydrates, proteins, fats. India is the world's second largest producer of food next to China and has the potential of being biggest industry with food and agricultural sector contributing 26 per cent to Indian GDP. It has the capacity of producing over 600 million tons of food products every year; it is likely to be doubled in next ten years. Food and food products account for about 53 per cent of the value of final private consumption. This share is significantly higher than in developed economies, where food and food products account for about 20 per cent of consumer spending (www.tata.com). The average Monthly Per-Capita Consumer Expenditure (MPCE) was Rs.511 for rural India, which comprised of Rs.305 for food and Rs. 206 for non-food commodities. For urban population, it is Rs. 1060, which comprised of Rs.441 for food and Rs. 619 for non-food items. There was a decline in the share of food in total expenditure, that is, 54 per cent in rural areas compared to 64 per cent in 1987-88 and 42 per cent in urban areas compared to 56 percent during 1987-88 (National Sample Survey Organization, GOI).

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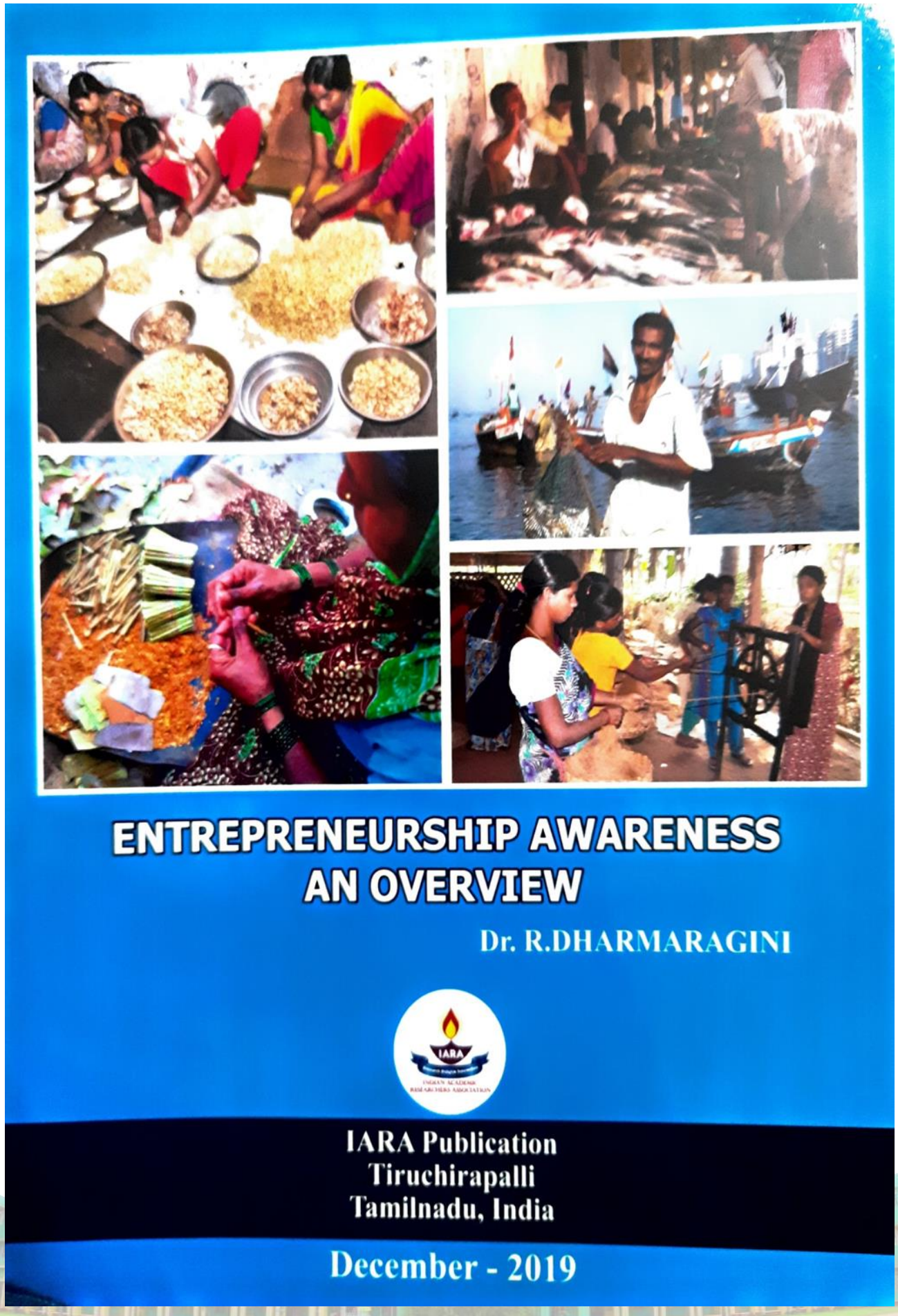
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ROLE OF PRIMARY AGRICULTURAL COOPERATIVE CREDIT SOCIETIES IN THE FIELD OF ENTREPRENEURS

Dr.R.SREEDEVI, Assistant Professor, Holy Cross College (Autonomous) Nagercoil, Tamil Nadu 629002. Email:sreewinsall@gmail.com

ABSTRACT

The cooperative movement in India has been deep rooted in various sectors and is making a significant contribution towards agriculture and economic development of the nation. The primary Agricultural cooperative credit societies play a very important role in agricultural development and it is the backbone of the agricultural development in India. Primary Agricultural Cooperative Credit Societies actively engaged in providing integrated service to the farmers and serve as a point of dissemination of the scientific cultivation practices. The PACCS have been actively performing the role of banks in bringing the various developments of the corporate banks as on today. The cooperative banks have been rendering loans and deposits for the benefits of the rural and urban members and customers. The banks offering loans and schemes for developing the Agriculture related productions thereby pave the way for increase in the GDP of the economy.

Keywords: PACCS, Loans, Financial aspects

INTRODUCTION:

Agriculture Development is a dominant sector of Indian economy. A cooperative credit society, commonly known as Primary Agricultural Cooperative Credit Society (PACCS) may be started with 10 or more persons, normally belonging to a village. The value of each share is generally nominal so as to enable even poorest farmer to become a member. PACCS occupy a predominant position in the cooperative structure and form its base. A Primary Agricultural Cooperative Credit Society is organized at grass-root level of a village or a group of small villages. It is the basic unit which deals with rural