

Dual-Objectives Mobile-RPL Routing Protocol Based QoS Data Gathering over Low Power Lossy Networks for Smart City Applications: DMRPL

Kunal Gs
Department of Computer Science
Mangalore University
Karnataka, India
Email: gs.kunal007@gmail.com

Doreswamy Hosahalli
Department of Computer Science
Mangalore University
Karnataka, India
Email: doreswamyh@yahoo.com

Abstract— Taking into consideration of the Quality of Service (QoS) centric communication over IoT based Smart City Planning and Management (SCPM) applications where delay resilient and reliable data gathering are must, in this paper a highly robust Dual Objectives Mobile IPv6 routing protocol for Low Power Lossy Network (LLNs) (DMRPL) has been developed. Unlike classical RPL routing the proposed DMRPL routing model incorporates a robust link quality (i.e., Received Signal Strength Indicator (RSSI)) based mobility management, proactive network management, Dual Objective Functions (RSSI and ETX) and Dynamic link quality based best parent node selection for reliable data transmission. In addition DMRPL applies a novel fault-resilient link repair model to assure alternate forwarding path formation for timely data delivery to the destination for optimal decision process. Performance evaluation under different network conditions has revealed that the proposed DMRPL routing protocol outperforms native RPL protocol while preserving backward compatibility that makes it suitable to be used for real-time IoT data gathering for SCPM applications.

Keywords— RPL; Internet of Things; Mobile-RPL; Dynamic Link Quality; Smart City Applications

I. INTRODUCTION

The exponential rise in technologies and allied applications has broadened the horizon for human efficiency and hence has made life more efficient. To achieve it the development and optimizations in communication and computing technologies have played revitalizing role. The fast pace growth in the hardware, software, and communication technologies have given rise to the Internet-connected sensory devices to provide real-time data (remote) collection from multiple sources, decision centric data retrieval, process monitoring and control. The rising population and eventual demands of such computing systems have alarmed that by 2020 the total number of Internet-connected devices might rise up to 25 to 50 billion. Such explosively up surging demands would require more reliable and efficient data transmission system for numerous time sensitive communication purposes such as mission critical communication in sensor networks, real-time

monitoring and control, fire-sensing, waste- management system, surveillance purposes etc. Such demands are inevitable for Smart City concept where it is intended to collect data from different sources to provide optimal distributed data support for user-demands. Smart city concept has gained global attention to provide more efficient infrastructures and services to meet the demands of city inhabitants. Smart city concept predominantly exploits the key technologies, Wireless Sensor Networks (WSNs) and BigData computation, where the earlier intend to perform data gathering from different sources or sensors, while later exhibits user/decision centric computation. Considering the nature of data generation and its significance for smart city, it is inevitable to ensure timely and reliable data gathering from different sources. On the other hand, major Smart City applications comprise Machine to Machine (M2M) communication where timely data gathering is must even under varying and lossy network conditions. To meet these demands WSNs based Internet of Things (IoT) ecosystems can be revitalizing solution [1], however being classically static in nature traditional WSNs can be suitable for mobility based IoT applications [2] which is highly common these days. On contrary, WSN being a decentralized and infrastructure less communication paradigm possesses significant potential to be used for IoT assisted Smart City Planning and Management (SCPM), provided its efficiency to accommodate mobile topology and fault-resilient data transmission over mobile Low Power Lossy Network (LLN) conditions [1]. LLN can be stated as a network with dynamic temporal as well as spatial network features having dynamic topology and link conditions. Though, mobility with LLN, WSNs can be revitalizing to enable low cost and efficient communication over IoT ecosystem [3][18] for SCPM purposes; however, mobile topology can impose issues including link-outage probability, data drop, high retransmission and hence higher energy consumption, resource consumption and increased delay. These factors obstruct QoS provision for IoT communication. It motivates academia-industries to achieve more efficient QoS centric mobile-WSN routing protocol to enable timely and reliable data gathering over a large scale network to meet IoT assisted SCPM demands.

Evolutionary Computing Assisted K-Means Clustering based MapReduce Distributed Computing Environment for IoT-Driven Smart City

Kunal G Srinivas
Department of computer science
Mangalore University
Mangalore, India
Email: gs.kunal007@gmail.com

Doreswamy Hosahalli
Department of computer science
Mangalore University
Mangalore, India
Email: doreswamyh@yahoo.com

Abstract— In the last few years, the exponential rise in urban population and allied demands have alarmed governing agencies as well as industries to achieve more quality-of-service (QoS) oriented solutions to meet up-surging demands, especially towards real-time decision making, information exchange and knowledge-driven decisions. To achieve it, smart city concept which employs Internet-of-Things (IoT), distributed software computing, and BigData analytics has gained widespread attention. Though, inclusion of QoS-sensitive routing has helped enabling better and efficient sensory or node's data collection and dissemination; however, ensuring optimal query-driven knowledge mining and information exchange has remained a challenge. Considering it as motivation, in this paper an evolutionary computing assisted K-Means clustering algorithm is developed for MapReduce computation in Hadoop distributed framework. The proposed method employs genetic algorithm to enhance centroid estimation as well as clustering, which as a result helped in achieving better clustering to support MapReduce. The proposed GA based K-Means clustering has been applied over Hadoop-MapReduce, where to achieve aforesaid centroid estimation and clustering enhancement Silhouette coefficient was used as the objective function. Here, GA-K Means was applied in such manner that it estimates optimized centroid and clusters simultaneously over Mapper and Reducer, which makes overall computation faster and more accurate.

Keywords— *BigData Analytics; Genetic Algorithm; Hadoop; MapReduce; Clustering; Distributed Computing; Smart City.*

I. INTRODUCTION

In the last few years, the exponential rise in software systems, Internet technologies and allied Information and Communication Technologies (ICTs) have enabled significant transition across human presence, primarily in terms of decision making, system's performance enhancement etc. [1]. On the other hand, the parallel increase in the demands for more efficient computing environment with mission critical decision purposes have alarmed academia-industries to enable swift data collection, dissemination and allied decision making [2][3]. To achieve it, a number of innovations have been made in terms of better computing environment, more efficient ICT technologies, cost-efficient hardware systems and more importantly decentralized computing

mechanisms [4-6]. In sync with above stated innovations and up-surging demands human expectations too are increasing significantly, which can't be denied especially when the resources are limited and population is increasing gigantically. Such demands are though having higher frequency in urban region which is often characterized as resource-constrained, fast-moving and delay-resilient human socio-professional cultures [2][4][6]. Summarily, the modern human society expected timely and precise event, procedural and objective-oriented detailed information to make time-efficient decision [4][7]. To achieve it Internet technology and advanced computing systems have played decisive role. To cope up with the demands Internet-connected devices are becoming inevitable need. Though, it serves a large stakeholder including civic ICT purposes, research, and science, healthcare and business communities; however, in the last few years the high-pace increase in urban population has attracted industries as well as governing authorities to facilitate timely and resource-efficient facilities. To achieve it a paradigm called Smart City Planning and Management (SCPM) has emerged paradigm which intends to use sensory communication systems with highly efficient software computing enabled data analytics infrastructures [8-12]. In this approach, the wireless sensor units at one hand intend to collect the real-time data from the different distributed sources or disseminate the processed information to the different target terminals to make timely decision making. On the other hand, the software computing environment intends to process over the gigantically collected data to make real-time decisions [13][14]. In real-world SCPM environment the internet connected sensors or similar devices can have the significantly large number of sources and hence the data volume can be of large size. In addition, such collected data or responses can be heterogeneous, unstructured in nature, which requires certain more robust and efficient "Data Analytics" solutions [4][7]. To cope-up with decentralized computing, BigData seems to be a viable solution. The strategic amalgamation of sensor technologies such as IoTs [11][15][16][56] with certain more efficient BigData analytics [1-7] can be vital to facilitate SCPM with expected reliability, availability and QoS [17]. To meet QoS centric SCPM facilities

IMPACT OF LOCKDOWN ON EDUCATION, ECONOMY & ENVIRONMENT IN INDIA

20-21



33

MOTHER EARTH IS TAKING A DEEP BREATH AND NATURE IS RECUPERATING – A POSITIVE IMPACT OF LOCKDOWN ON ENVIRONMENT IN INDIA

Ravi Kiran S^{1*} and Ravi Kumar B. S²

¹Department of Biochemistry, Aurora's Degree & PG College, Chikkadpally, Hyderabad-500020, Telangana, India

²Department of Botany, A.V.K College for Women, Hassan – 573201, Karnataka, India

*Corresponding author Email ID: dravikiran@adc.edu.in

Abstract

The covid-19 pandemic is measured as the most critical global health calamity of this century and the utmost ever challenge faced by mankind worldwidewhich is responsible for more than 90,000 deaths. Despite of large dependency on Mother Nature, human beings ignored to conserve the natural resources for future generations by sustainable development and because of this the beauty of earth has lost. This led to the nature to take revenge and showcase its feelings to the mankind. In this regard, Covid-19lockdownwhich was introduced by the Government of India has struck a chord in every person to rethink on the importance of nature in day to day living. Because of this lockdown, tangible improvement has been taken place in nature which is an eye opener to human beings. This is the need of the hour that everyone to join hands and save the mother earth. This aim of this paper is to highlight the tremendous environmental changes that took place in the lockdown period in India.

1. Introduction

In COVID-19, 'CO' means 'corona,' 'VI' means 'virus,' and 'D' represents disease and 19 signifies the year. The covid-19 pandemic is known to be a great threat to the public across the globe and considered to help as an indicator of discrimination and paucity of social progression. Eventually every continent got affected by this and approximately 2.6 million affected cases and 183,820 deaths have been documented worldwide because of this calamity (Chakraborty and Maity, 2020). It is well known that human beings are very good at manipulating the nature for their own benefits since time immemorial. The increasing population, rapid industrialization and urbanization have been proved to be detrimental to the environment and led to the cause of pollution, climate change, depletion of water and other natural resources etc.(Bremer et al., 2019; Coutts et al., 2010). Global warming a serious alarm worldwide is because of high levels of greenhouse gases such as CO₂, CH₄, N₂O etc. Human beings started destroying

Detection and Localization of Mask Occluded Faces by transfer learning using Faster RCNN

Shylaja H N¹, Latha H N², Poornima H N³ and B Uma^{4}*

¹Sr. lecturer, AV Kanthamma College for Women, Hassan-573201, India

⁴Asst. Professor, BMS College of Engg, Bangalore- 560019, India

Abstract: Here in this work we utilized the novel transfer learning based technique, where a pretrained network model weights are used to train our Faster Region Convolutional Neural Network (FRCNN). With the help of captured mask-face dataset, we further propose a masked face detection and recognition work. It incorporate three major network training modules. Proposed network module cascade two pre-trained CNNs to extract target facial features and strong region of interest (ROI) from the input dataset image for transformed domain representation with higher spatial descriptors. By similar method, omitted facial feature cues are sufficiently reconstructed and the distortion introduced by noise pixels cues by masks are reduced. Lastly, the pre-trained CNN module is used to detect and identify masked face regions of the image. The network estimates mask detection accuracy by putting bounding boxes around all the occluded mask face for performing the classification and line regression work. Experiments conducted on proposed dataset shows good accuracy and reduced running time over few state-of-the-arts by 11.46 %.

1. Introduction

Detecting occluded mask faces is very much challenging because, large dataset of occluded faces is not available, and occluded regions of a face hide facial cues essential for detection. To remove these face mask occluded issues, research on Detection and Recognition of Masked Face (DRMAFA) has been going on for many years [1-4]. Still it is young due to various types of occlusions [5- 9]. The performance of face detectors is improving remarkably from the initial work started by Viola-Jones [8]. Remarkable progress has been done by recent Convolution Neural based networks. In case of unconstrained dataset [9] the average precision has been increased above 98%.

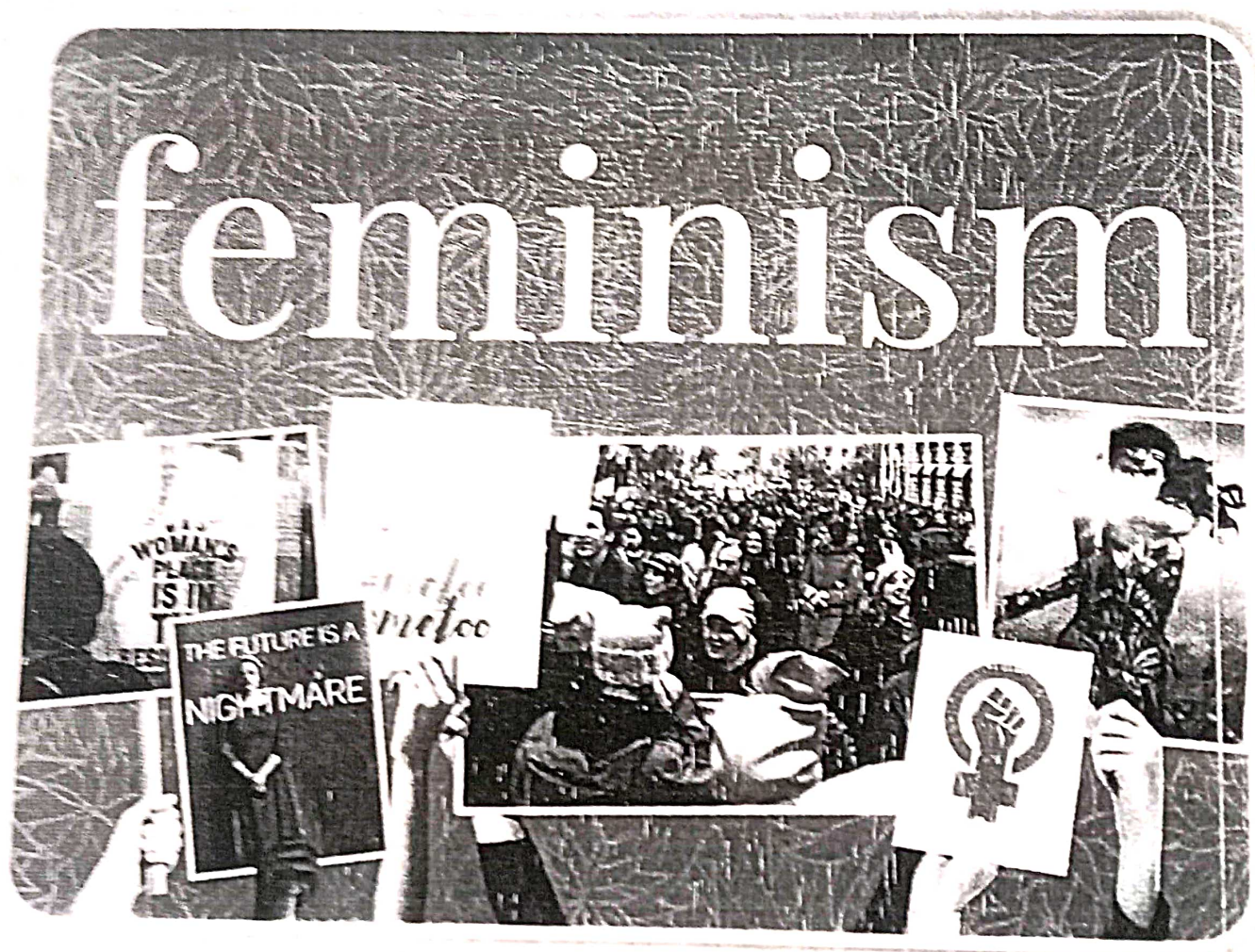
Even though many recognition of facework proposed by many authors have provided very good accuracy in many unconstrained situations, detecting and recognizing faces with various types of covering (masks) is still a worth for research [10,11]. There are many challenges still remaining to detect and recognize a face that is partially occluded [12, 13, 14]. Face occlusions may occur due to varieties of reasons like face masks, spectacles, sunglasses, scarves and other face covers like tattoos [15-17].

Proposed work of this paper is capable of recognizing complete occluded faces by mask with different degree of orientation and colour. This masked face occlusion trained network segments the ROI part of the image by predicting masks of the occluded area by including a bounded box around it. Partial visibility and arbitrary appearance of regions is the characteristics of occluded faces. This makes significant intra-class variations for detection and recognition of masked faces, which leads to difficulties in learning distinguishable features for detection and recognition. This problem may be solved by enlarging the dataset for training, but basically augmenting the trained dataset does not increase the efficiency of the learning features from the network issues in reality. In addition to this, another problem is the non-availability of a big dataset of masked faces.

The applications of identification and analysis of facial expressions are based on accurate localization of facial landmarks [3, 7, 9]. This task has gained much progress, because most face cues are with limited interclass, intraclass deviation, when related to other developed training networks. But this cannot be adopted universally because of the limitation, as it becomes a failure when applied to the faces in real

FEMINISM

(PAST & PRESENT)



Editor
Dr. Prakash S. Tale

Feminism (Past and Present).

■ **Dr. Prakash S. Tale**

■ ***First published, – 8th March, 2022***

© **Editor&Publisher**

■ **Published by**

Prof. Virag Gawande for
Aadhar Publications,
Behind Govt. VISH,
New Hanuman Nagar,
Amravati – 444 604.

■ **Printed by**

Aadhar Publications,

■ **Notice**

The editor, publisher, owner, printer will not be responsible for the articles published in this issue. The articles published in this issue are the personal views of the authors.

■ **Price : 400/-**

■ **ISBN- 978-93-91305-95-6**

Index -1

S.No	Title of the Paper	Authors' Name	Page No.
1	Interpreting Feminine Sensibilities In 'The Old Play House' And 'The Suicide' By Kamala Das	Dr Poorva Bhonde	1
2	Toni Morrison's <i>Sula</i> : a Black Feminist Reading	Prof. Avinash S. Shete	7
3	Human Rights and Women in India: A Myth or a Reality?	Dr.Mrs.Manisha Vinay Aole	13
4	Projection Of 'New Woman' In Meena Kandasamy's Poems: An Analysis Of Criticism	Dr. Grishma Khobragade	19
5	Feminism in M.R.Anand Novels	Damodhar.G.Ramteke	26
6	A feminist perspective in Amitav Ghosh's Sea of Poppies	Dr Smita H. Kamdi	30
7	Feminism And Women Empowerment	Hatode Rashtrapal Bapurao	35
8	Origin of the Concept of Feminism and its Various Dimensions: An Overview	Tapaswini Rath	40
9	Delineation Of Women Status In Manusmriti In Comparison With Present Time	Bampada Bauri /Kartick Ch. Dhara /Bamapada Baur	44
10	Girl Child Empowerment – The Historical Perspectives In Vedic Literature	Dr Shashikala N S	50
11	You Are Worth More Than Your Waistline	Brinda Shine	55
12	Fashion Through A Feminist Lens: Its Role In Empowerment And Activism	Dalia Varghese	61
13	Portrayal of a New Woman in Manju Kapur's Difficult Daughters: A Feministic Perspective	Mr. Sangharsh Abhiman Gaikwad	67

ADVANCEMENT & ABASEMENT IN VARIED FIELDS DUE TO COVID-19

Editor-in-Chief
Prof. Narayana K.B.

Editor
Dr. Kumar M.S.

Title:

Advancement & Abasement in
Varied Fields Due to COVID-19

Editor's Name:

Prof. Narayana K.B. & Dr. Kumar M.S.

Published by:

Shanlax Publications,
Vasanthanagar, Madurai - 625003,
Tamil Nadu, India

Publisher's Address:

61, 66 T.P.K. Main Road,
Vasanthanagar, Madurai - 625003,
Tamil Nadu, India

Printer's Details:

Shanlax Press, 66 T.P.K. Main Road,
Vasanthanagar, Madurai - 625003,
Tamil Nadu, India

Edition Details (I,II,III): I

ISBN:

978-93-91373-02-3

Month & Year:

September, 2021

Copyright @

Prof. Narayana K.B. & Dr. Kumar M.S.

Pages:

304

Price:

₹280/-

18	Careers in Advertising Sector- Emerging Opportunities During COVID-19 Pandemic Channaiah	194
19	Sexual Violence Against Women During COVID-19 Pandemic Sumanth H M	202
20	COVID-19: A Curse and also a Boon Madana Kumar A R	210
21	India and COVID- 19 Pandemic Kumara Belale	214
22	Influence of COVID-19 on Natural Resources Ravish B P	221
23	Impact of E- Learning due to COVID-19 Sangeeta Patil	225
24 ✓	COVID-19 Pandemic - Impact on Online Education - New Challenges Shashikala N S	231
25	COVID-19 Pandemic and Civilian Responsibilities - New Approaches Rame Gowda B H	239
26	Reassuring Psychological Support During COVID-19 Pandemic - The Case of Elderly People Manjaiah D K	247
27	Social Work Interventions towards COVID-19 Pandemic Situations: An Analysis Ananda H	254
28	Higher Education Challenges During and After COVID-19 Pandemic: An Analysis Shivakumara	265

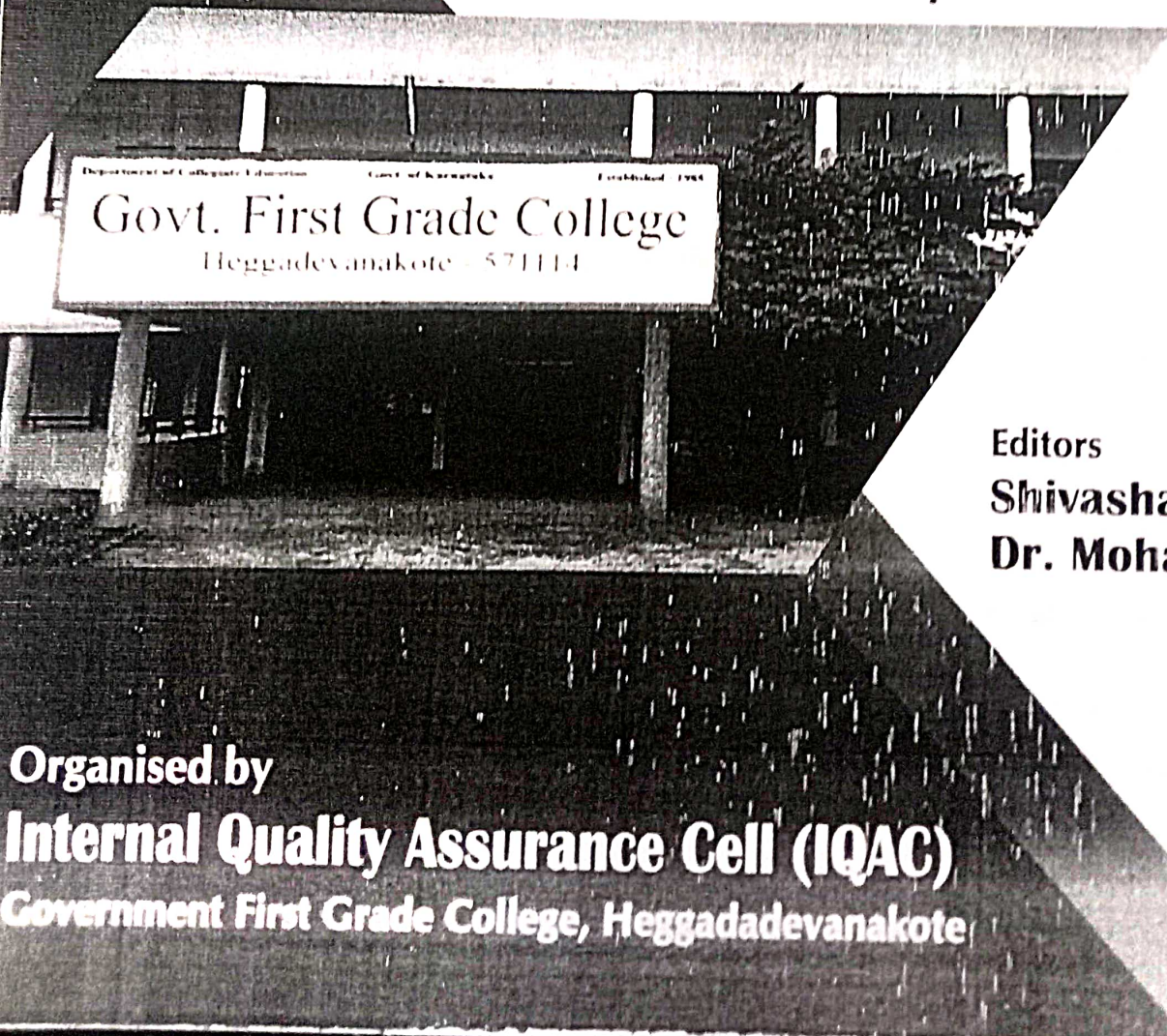
Government of Karnataka
Department of Collegiate Education
GOVERNMENT FIRST GRADE COLLEGE
Heggadadevanakote, Mysuru Dist, Karnataka, India - 571114



One Day National Webinar on
**Impact of Pandemic
on the Society**

Volume - 1

Chief Editor
Dr. Ushadevi .A



Editors
Shivashanthi.S
Dr. Mohankumar .T.P

Organised by
Internal Quality Assurance Cell (IQAC)
Government First Grade College, Heggadadevanakote

CONTENTS

Sl. No.	Title of the Articles	Authors Name	Pg. Nos.
1	The impact of pandemic on society and Environment	Dr. Ushadevi.A	1
2	The impact of the covid-19 pandemic on the sports world	S. Kiran Rowth	7
3	Role and relevance of libraries during Covid-19 pandemic	Shivashanthi .S	12
4	Challenges and opportunities for business Organisation during pandemic	Varadaraja.S	16
5	A Review on the Impact of Covid-19 on various Sectors of Indian Economy	Dr. Shivaprakash S C	21
6	COVID-19's effect and E-commerce trends in online shopping behaviour	Dr. Mohankumar T.P & Shivashanthi S	26
7	A Study on Atmanirbhar Bharat Abhiyan during the Covid-19: An Empirical Study	Dammurappa K	29
8	Impact of Pandemics on the Society	Dr. Naresh N.T. & Dr. Savitha B.	34
9	Pandemic Narratives from Classical to Contemporary English Literature	Arunakumari S	38
10	Covid-19: A Reflection in Camus' the Plague	Gavin Jude Wilson	42
11	Use of E-technology During Covid-19	Boramma H Angadi	46
12	The Impact of Covid-19 Pandemic and Challenges Faced by Students	Dr. Anita B.R	51
13	Impact of Covid-19 on Women	Boregowda S.B	54
14	Impact of covid-19 pandemic on society	Mohan Reddy G	57
15	The Impact of Pandemic on Teaching Community: Challenges and Solutions	Eshakumar H N	59
16	COVID-19 - Karnataka state protocols for tourism sector	Dr. Shashikala N S	63
17	The Role of ICT Based E-Learning in the Era of Covid-19 Pandemic: With Reference to Aftermath of European Union's Lisbon Treaty	Balasubramanya P. S.	67
18	Covid-19 and Environment Pollution	Manjula .P	72
19	Impact of Covid-19 on Health: The Role of ASHA Workers in the Covid-19 Pandemic Period-Special Reference to Hassan District	Dr. Poornima B	77
20	Impact of e-learning on mental health of children during pandemic Covid 19	Dr. Geetha C & Nandini A	80

Copyrights © 2021 Government First Grade College, HD Kote

All rights reserved. No Part of this book may be reproduced, stored, adapted or transmitted in any form or by any means, electronic, mechanical, photocopying, micro-filming recording or otherwise, or translated in any language, without the prior written permission of the copyright owner and the publisher. The book is sold subject to the condition that it shall not, be way of trade or otherwise, be lent, resold, hired out, or otherwise circulated without the prior publisher's written consent in any form of binding or cover other than that in which it is published.

The views and opinion expressed in this book is authors own and the facts reported by them have been verified to the extent possible and the publishers are not in any way liable for the same.

ISBN : 978-81-952150-6-5

Pages : viii + 222 = 230

Chief Editor : Dr. Ushadevi .A, Principal, GFGC, HD Kote

Editors

Shivashanthi S , Librarian

Dr. Mohankumar T P, HOD, Department of Commerce

Co-Editors

Dr.Bheemesh H J, HOD, Department of Kannada

Dr. Ravindra R, HOD, Department of Political Science

Govindappa G M, HOD, Department of Sociology

Dr.Savitha B, HOD Department of History

Dr. Prasanna K P, Assistant Professor, Department of Kannada

Puttaraju S J, Physical Education Director

Boramma H Angadi, Assistant Professor, Department of Political Science

Savitha G P, HOD, Department of English

Dammurappa K, HOD, Department of Management

Printed by :

INTERNATIONAL COUNCIL FOR DEVELOPMENT RESEARCH

Jayanagar, Mysuru

Published on August, 2021

RURAL DEVELOPMENT AND PANCHAYAT RAJ



Editor
Dr. Sandip B. Kale

RURAL DEVELOPMENT & PANCHAYAT RAJ

■ Dr. Sandip B. Kale

■ *First published, – 1st May – 2022.*

© Editor&Publisher

■ Published by

Prof. Virag Gawande for
Aadhar Publications,
Behind Govt. VISH,
New Hanuman Nagar,
Amravati – 444 604.

■ Printed by

Aadhar Publications,

■ Notice

The editor, publisher, owner, printer will not be responsible for the articles published in this issue. The articles published in this issue are the personal views of the authors.

■ Price : 400/-

■ ISBN- 978-93-91305-85-7

12	Women Status In Ancient India: An Overview Dr.S.Subash Chandra Bose	72
13	The Role Of Water In Rural Development Pravin More	78
14	Participatory Development of Adivasis Through Panchayatraj-Exploring Myths and Reality of Rural Tribal Development Dr.Manoj S . Madavi	83
15	Women as a Fighter Pilot Dr.Ramesh Raut	88
16	Role of Gram Panchayat in Rural Development Dr. Uttam Kumar Mukherjee	95
17	Students and Faculty Participation in Gram Sabha: An Innovative Teaching - Learning Process.; A Case Study of Bahirwadi Village, Tal- Purandar, Dist- Pune. Dr. Prakash S. Yadav	99
18	<u>Growth of Tourism sector – challenges & responses</u> Dr. Shashikala N S	106
19	Rural Development Through Women Empowerment In India Brinda Gobind Gurbuxani	112



One Day National Webinar on **Impact of Pandemic on the Society**

Volume - 1

Chief Editor
Dr. Ushadevi .A



Editors
Shivashanthi.S
Dr. Mohankumar .T.P

Organised by
Internal Quality Assurance Cell (IQAC)
Government First Grade College, Heggadadevanakote

CONTENTS

Sl. No.	Title of the Articles	Authors Name	Pa. No.
1	The impact of pandemic on society and Environment	Dr. Ushadevi.A	1
2	The impact of the covid-19 pandemic on the sports world	S. Kiran Rowth	7
3	Role and relevance of libraries during Covid-19 pandemic	Shivashanthi .S	12
4	Challenges and opportunities for business Organisation during pandemic	Varadaraja.S	16
5	A Review on the Impact of Covid-19 on various Sectors of Indian Economy	Dr. Shivaprakash S C	21
6	COVID-19's effect and E-commerce trends in online shopping behaviour	Dr. Mohankumar T.P & Shivashanthi S	26
7	A Study on Atmanirbhar Bharat Abhiyan during the Covid-19. An Empirical Study	Dammurappa K	29
8	Impact of Pandemics on the Society	Dr. Naresh N.T. & Dr. Savitha B.	34
9	Pandemic Narratives from Classical to Contemporary English Literature	Arunakumari S	38
10	Covid-19: A Reflection in Camus' the Plague	Gavin Jude Wilson	42
11	Use of E-technology During Covid-19	Boramma H Angadi	46
12	The Impact of Covid-19 Pandemic and Challenges Faced by Students	Dr. Anita B.R	51
13	Impact of Covid-19 on Women	Boregowda S.B	54
14	Impact of covid-19 pandemic on society	Mohan Reddy G	57
15	The Impact of Pandemic on Teaching Community: Challenges and Solutions	Eshakumar H N	59
16	COVID-19 - Karnataka state protocols for tourism sector	Dr. Shashikala N S	63
17	The Role of ICT Based E-Learning in the Era of Covid-19 Pandemic: With Reference to Aftermath of European Union's Lisbon Treaty	Balasubramanya P. S.	67
18	Covid-19 and Environment Pollution	Manjula .P	72
19	Impact of Covid-19 on Health: The Role of ASHA Workers in the Covid-19 Pandemic Period-Special Reference to Hassan District	Dr. Poornima B	77
20	Impact of e-learning on mental health of children during pandemic Covid 19	Dr. Geetha C & Nandini A	80

Copyrights © 2021 Government First Grade College, HD Kote

All rights reserved. No Part of this book may be reproduced, stored, adapted or transmitted in any form or by any means, electronic, mechanical, photocopying, micro-filming recording or otherwise, or translated in any language, without the prior written permission of the copyright owner and the publisher. The book is sold subject to the condition that it shall not, be way of trade or otherwise, be lent, resold, hired out, or otherwise circulated without the prior publisher's written consent in any form of binding or cover other than that in which it is published. The views and opinion expressed in this book is authors own and the facts reported by them have been verified to the extent possible and the publishers are not in any way liable for the same.

ISBN : 978-81-952150-6-5

Pages : viii + 222 = 230

Chief Editor : Dr. Ushadevi .A, Principal, GFGC, HD Kote

Editors

Shivashanthi S , Librarian

Dr. Mohankumar T P, HOD, Department of Commerce

Co-Editors

Dr.Bheemesh H J, HOD, Department of Kannada

Dr. Ravindra R, HOD, Department of Political Science

Govindappa G M, HOD, Department of Sociology

Dr.Savitha B, HOD Department of History

Dr. Prasanna K P, Assistant Professor, Department of Kannada

Puttaraju S J, Physical Education Director

Boramma H Angadi, Assistant Professor, Department of Political Science

Savitha G P, HOD, Department of English

Dammurappa K, HOD, Department of Management

Printed by :

INTERNATIONAL COUNCIL FOR DEVELOPMENT RESEARCH
Jayanagar, Mysuru

Published on August, 2021

ದೇಸಿ ದರ್ಶನ ಮಾಲೆ

ಯೋಜನಾ ಸಂಪಾದಕರು: ಪ್ರೊ. ಮಲ್ಲೇಮರಂ ಜಿ. ವೆಂಕಟೇಶ

ವಾಲ್ಮೀಕಿ ಪಾಂಡು

ಡಾ. ವಿ. ಜಿ. ಯತಿಪ್ಪರ



ಕರ್ನಾಟಕ ನಾಟಕ ಅಕಾಡೆಮಿ



ಭಾರತೀಯ ಪರಂಪರೆ (Indian Heritage) ಎಂಬುದು ಒಂದೇ. ಔತ್ತರೇಯ-ದಕ್ಷಿಣಾತ್ಯ ಭಾರತೀಯ ಪರಂಪರೆಯಲ್ಲಿ ಹತ್ತಾರು ಸಂಪ್ರದಾಯ (Tradition)ಗಳಿವೆ. ಅವು ಪ್ರತಿಯೊಂದು ರಾಜ್ಯಕ್ಕೂ ಭಿನ್ನವಾಗುತ್ತ ಹೋಗುತ್ತವೆ. ಹೀಗಾಗಿ Heritage ಎಂಬುದು ಸುವಿಶಾಲವಾದುದು. ಈ Heritageನ ಪರಿಕಲ್ಪನೆಯಲ್ಲಿ ಹತ್ತಾರು ಸಂಪ್ರದಾಯಗಳು ಬರುತ್ತವೆ. ಈ ಸಂಪ್ರದಾಯ ಎಂಬ ಮಾತನ್ನು ಇಂಗ್ಲೀಷಿನ Tradition ಎಂಬ ಮಾತಿಗೆ ಸಮಾನಾಂತರವಾಗಿ ನಾವು ಬಳಸಿಕೊಳ್ಳುತ್ತಿದ್ದೇವೆ. ಇಂಥ ಸಂಪ್ರದಾಯಗಳಲ್ಲಿ ನೂರಾರು ಪಂಥಗಳಿವೆ. ಅವು ವಿಶಿಷ್ಟವೂ ವೈವಿಧ್ಯಮಯವೂ ಆಗಿವೆ. ಇಂಥ ಪಂಥಗಳಿಗೆ ನಾವು Cult ಎಂಬ ಪರಿಕಲ್ಪನೆಯಿಂದ ವ್ಯಾಖ್ಯಾನಿಸಿಕೊಳ್ಳುತ್ತಿದ್ದೇವೆ. ಪ್ರತಿಯೊಂದು ಸೀಮೆ, ಪ್ರದೇಶಗಳಲ್ಲಿ ಹಲವಾರು ಪಂಥಗಳಿರುವುದು ನಿಶ್ಚಿತ. ಈ ಪಂಥಗಳು ಕಾವ್ಯಗಳನ್ನೂ ತತ್ತ್ವಪದಗಳನ್ನೂ ಕಟ್ಟಿಕೊಟ್ಟಿವೆ. ಅಂಥ ಸಾಹಿತ್ಯ ಕೃತಿಗಳಲ್ಲೂ ಸಂಸ್ಕೃತಿಗೆ ಸಂಬಂಧಿಸಿದ ಸಂಗತಿಗಳಲ್ಲೂ ಅನೇಕ ಬಗೆಯ ಬಹುತ್ವದ ಪರಿಕಲ್ಪನೆಗಳು ಇವೆ. ನಮ್ಮ ಬಹುತ್ವದ ನೆಲೆಗಳನ್ನು ಅರ್ಥ ಮಾಡಿಕೊಳ್ಳಲು ನಮ್ಮವೇ ಆದ ಮಾರ್ಗಗಳನ್ನು ಕಂಡುಕೊಳ್ಳುವುದು ಅವಶ್ಯವಿದೆ. ಇಂಥ ಸುವಿಶಾಲವಾದ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ಕನ್ನಡ ದೇಸಿ ದರ್ಶನಗಳ ಮಾಲಿಕೆಯನ್ನು ಹೊರತರುತ್ತಿದ್ದೇವೆ. ಇವು 'ಭಾರತೀಯ ದರ್ಶನ'ಗಳನ್ನು ಒಳಗೊಂಡಿದ್ದರೂ ತಮ್ಮದೇ ವಿಶಿಷ್ಟ ನೆಲೆಗಳನ್ನು ಪಡೆದಿರುವುದನ್ನು ನಾವು ಮರೆಯುವಂತಿಲ್ಲ. ನಮ್ಮ ಸಾಹಿತ್ಯ ಕೃತಿಗಳ ಅನುಸಂಧಾನಕ್ಕೆ 'ದೇಸಿ ದರ್ಶನ' ಯೋಕದ ಪರಿಚಯ ಈ ಕ್ಷೇತ್ರದ ಆಸಕ್ತರಿಗೆ ಬೇಕೇ ಬೇಕು. ಅವುಗಳ ಪರಿಚಯವಿಲ್ಲದಿದ್ದರೆ, ಸಾಹಿತ್ಯ ಕೃತಿಗಳ ಅನುಸಂಧಾನ ಕಷ್ಟಸಾಧ್ಯ.

ಪ್ರೊ. ಮಲ್ಲೇಪುರಂ ಜಿ ವೆಂಕಟೇಶ್
 ಯೋಜನಾ ಸಂಪಾದಕರು

ರೂ. 50/-

ISBN 978-93-91554-48-4





**Screening of *Prunus domestica*, *Rubus fruticosus*,
Ficus carica and *Phoenix dactylifera* Fruits and
Seeds for Potential Xanthine Oxidase Inhibitors –
Potential in the Management of Gout Disease**

Prakruthi R.U. Kumar; *B.S. Ravi Kumar and **S. Ravi Kiran


ABSTRACT

Growing awareness in using enviro-friendly and biologically compatible phytochemicals as natural xanthine oxidase inhibitors which is safe for life of human beings led to conscientious efforts by researchers across the globe to search for alternative sources derived from medicinal plants for effective and reliable xanthine oxidase inhibitors. Encouraged by this, extracts of *Prunus domestica*, *Rubus fruticosus*, *Ficus carica* and *Phoenix dactylifera* were screened for xanthine oxidase inhibitory activity. Among all the extracts tested, the water extracts of *Ficus carica* fruits and *Phoenix dactylifera* showed maximum XO inhibition activity with an IC_{50} value of 18.74 and 21.63 $\mu\text{g/ml}$ respectively. While the standard used was allopurinol showed an IC_{50} values of 10.28 $\mu\text{g/ml}$. Therefore, the water extracts of the two fruits were almost equally potential with that of Allopurinol. The michaelis-menten graph and the lineweaver-Burk plots were established with the obtained data for the determination of V_{max} and K_m . The V_{max} and K_m for the enzyme (control without extracts) were 0.1942 $\mu\text{moles/ml/min}$ and 19.569 μM respectively. The *P. dactylifera* extracts showed V_{max}

Ramaiah Medical College, Bangalore-560054, Karnataka, (India)

*Department of Botany, AVK College for Women, Hassan-573201, Karnataka, (India)

**Department of Biochemistry, Aurora's Degree and P.G. College, Chikkadapally, Hyderabad - 500020, Telangana, (India)


Dr. B.S. Ravi Kumar, M.Sc., Ph.D.
Head of the Dept. of Botany
AVK College for Women
Hassan - 573201.

VALESCENT - PLASMA THERAPY IN TREATING CHRONIC COVID-19 PATIENTS.

S.H. Varjia

Assistant Professor of Zoology, A.V.K College for women, Hassan

Novel virus disease 2019 (COVID-19), caused by severe acute respiratory virus 2 (SARS-CoV-2), is a new human disease with few effective treatment options. Convalescent plasma, donated by persons who have recovered from COVID-19, contains antibodies that can neutralize the virus. These antibodies, when transfused into patients with COVID-19, are thought to exert an antiviral effect, suppressing virus replication. Patients have mounted their own humoral immune responses. Virus from recovered persons are often the first available therapy for an acute disease. A stopped treatment while new anti-virals and vaccines are being developed. Convalescent plasma is potentially effective against COVID-19, but several randomized controlled trials are needed.

SARS-CoV-2 virus, Convalescent Plasma, Antibodies, Humoral Immune

is a highly specialized liquid tissue. Some biologists classify it as a connective tissue. The cells are present in the fluid intercellular matrix called plasma. The blood is known as plasma. Health organisations call plasma as "The gift of life". It is used to save the lives of people during medical emergency. It is a light yellow, slightly alkaline liquid. It is the ground substance, which forms about 55% of the total quantity of blood. Along with water, nutrients, organic, inorganic substances, hormones, gases, waste products, plasma also contains important proteins such as antibodies, blood clotting factors, albumin, globulin and enzymes. The main role of plasma is to distribute nutrients, hormones, enzymes to all parts of the body for the proper functioning of the organs. Cells drain their waste products into the plasma. Then the plasma carries this waste to liver and kidney to eliminate it. Plasma also carries antibodies to all parts of the body through the circulatory system. Plasma is a critical part of the treatment for many serious health problems.

COVID-19 has a long history and the word is commonly taken to refer to the epidemic of contagious disease, throughout the whole of the country in the same time (Hongshun2009). There have been a number of epidemics of similar disease in human history, where pandemic related crises have caused significant impacts on health, economy, social and global security. COVID-19 is a novel coronavirus was first identified in Wuhan city, China, in January 2020. It caused an international outbreak of respiratory illness termed as COVID-19. It has been away the lives of million people in the world. Corona virus are enveloped, single stranded RNA viruses belonging to the family Coronaviridae. They are 120nm in diameter with a crown like appearance. It is found in many animals, particularly humans and birds. Corona virus has been named as "Severe Acute Respiratory Syndrome" (SARS-CoV-2) by International Committee on Taxonomy of Viruses (ICTV) on 11 February 2020. According to World Health Organisation (WHO)

common signs of SARS-CoV-2 include fever, sneezing, sore throat, cough, body aches, potential loss of taste or smell and respiratory difficulties. Symptoms set usually in 2-4 days after a corona virus infection. However, symptoms vary from person to person. Serious cases can lead to pneumonia, heart failure, kidney failure and even death. These viruses are known to have mutated and recombined behaviour causing respiratory, enteric and hepatic disorder.

COVID-19 not only killed people through virus invasion but also due to its combined effects of fear, lockdown scenario, economic and mental collapse, where developing countries suffered from poverty, unemployment and hunger. To stop and treat this COVID-19 there needs a medically advanced level of treatment. Government of India got critically involved with this pandemic disease and started scanning every person. Currently testing facilities includes Reverse Transcription Polymerase Chain Reaction test (RT-PCR), point of care molecular diagnostic assays, rapid antibody test and point of care rapid antigen detection test for early detection of COVID-19.

Treatment for COVID-19

Presently there is no cure for disease caused by corona virus. Treatments include self care and over the counter medication. Currently there are no promising drugs or therapeutics approved by the United States Food and Drug Administration (US FDA) to prevent or treat this pandemic disease. Remdesivir is an investigational intravenous drug with the antiviral activity that inhibits viral replication. Hydroxychloroquine and chloroquine are oral prescription drugs used for the treatment for malaria, are under investigation in clinical trials to prophylaxis of SARS-CoV-2 infection. Several other drugs like investigational antiviral, immunotherapeutic, host directed therapies are under trial.

India's indigenous COVID-19 vaccine "Co Vaccine" is developed by Bharath Biotech International limited, National Institute of Virology, Pune, in collaboration with Indian Council of Medical Research (ICMR). One more vaccine "Covishield" is produced by Serum Institute of India (SII) and developed by AstraZeneca and Oxford University, are proven to be effective in reducing probability of contacting SARS-CoV-2. To investigate it more in depth scrutiny, phase 1 and phase 2 clinical trials are permitted by the Drugs Controller General of India.

Clinical trials of plasma therapy have been commenced by ICMR for severe condition of COVID-19. Stree Chitra Tirunal Institute for Medical Sciences and Technology, (SCTIMST) Thiruvananthapuram is the pioneer in investigation of novel treatment for Corona virus. They got official permission from ICMR for providing innovative treatment called "Convalescent-Plasma Therapy" to the patients suffering from COVID-19. This is the one of the hopeful treatments that has emerged in convalescent plasma (CP), or immune plasma. CP is a passive antibody therapy that showed some success as a neutralising antibody against corona virus. The treatment aims to increase the immune power gained by a recovered person to treat a infected person. When a pathogen like novel corona virus infects a person, humoral mediated immune system; B lymphocytes produce anti-viral antibodies which span out to identify and mark the invading virus. The immune system mounts robust combat on the virus on the basis of antibodies. Then, while blood cells attack the viruses and body gets rid of the infection and make the person recovered from disease. The therapy like plasma transfusion includes, harvesting of antiviral antibodies from the recovered patient and injected into a infected person.

ಸಾಂಕ್ರಾಮಿಕ ರೋಗಗಳು ಮತ್ತುಕನ್ನಡ ಸಾಹಿತ್ಯ

ಎಸ್.ಆರ್.ಹೇಮಾವತಿ

ಕನ್ನಡ ನವಕಾಯಕ ಪ್ರಾಧ್ಯಾಪಕರು, ಎ.ಐ.ಕೆ.ಮಹಿಲಾ ಕಾಲೇಜು, ಹಾನಗನ

ಸಾಂಕ್ರಮಿಕ ರೋಗಗಳು ನನ್ನ ಮೊಟ್ಟೆಯಲ್ಲೂ ನಾಡಿರಾರು ವರ್ಷಗಳು ಹಿಂತಿರುಗು. ಐರೋಪ್ಯ ರಾಷ್ಟ್ರಗಳ ಜನರು ಪಾಕೆತ್ತೆ ಬಂದಾಗಿನಿಂದಲೂ ಒಂದಲ್ಲ ಒಂದು ಸಾಂಕ್ರಮಿಕ ರೋಗಗಳು ನನ್ನ ರೋಗಕ್ಕೆ ಕಾಣುತ್ತಿ ನುಡುಗರು ಹನಿಯ ಶತಮಾನದಿಂದಲೂ ಕಾಡುತ್ತಾ ಬಂದಿವೆ. ಫೇಗು, ಕಾಲಗ, ಮರೀಲಿಯಾ, ಕೋಟಿಡ್-ಇ ಇವೆ ಮೊದಲಾದ ಹತ್ತಿ ಹಲವು ವ್ಯಾಧೀಣಿಯಾ ಮತ್ತು ವೈರೆಯುಕ್ತ ಸಾಂಕ್ರಮಿಕ ಕಾಯಿಲೆಗಳು ಹನ್ನೆಡ್ಡೆಹನ್ನೆಡ್ಡೆ ಕಾಡುವಿವೆ.

ಸಾಂಕ್ರಮಿಕ ರೋಗಗಳಿಂದ ಸಂಭವಿಸಿದ ನಾವು ನೋಯುಗಳ ವಿಚಾರಗಳು ತನ್ನದೇ ಸಾಮಾನ್ಯವೆಲ್ಲ ದಾಖಲಾಗಿದೆ. ರೋಗಗಳಿಂದ ತಪ್ಪನ್ನು ಕಾಪಾಡಿಕೊಳ್ಳಲು ಗ್ರಾಮ ಗ್ರಾಮಗಳಿಗೆ ಗುಳಿ ಹೊರಡಿದ್ದು ಸಾಮಾನ್ಯವೆಲ್ಲ ಅಲ್ಲೇ ಜನಜೀವನವಾಗಿದೆ. ಜನರ ಮೇಲೆ, ಸಮಾಜದ ಮೇಲೆ ಆದ ಪರಿಣಾಮಗಳನ್ನು ಕೂಡ ಬರೆಯಲಾಗಿದೆ. ಲಾಸನ್, ಕೈರಿಯತ್, ನಕಾಶಾ ಎಂಬ ಹಾಗೂ ವೈದ್ಯಕೀಕಗಳ ಸಾಂಕ್ರಮಿಕ ರೋಗಗಳ ಬಗ್ಗೆ ವರದಿಯಾಗಿದೆ.

[illegible]

ಕೇರ ಸುಮಾರು ನೂರು ವರ್ಷಗಳ ಹಿಂದೆ ನಮ್ಮ ನಾಡಿನಲ್ಲಿ ಕಾಣಿಸಿಕೊಂಡು ಮಹಾಮಾಲೆಯಾಗಿ ಕಾಣಿದ್ದ ಫೋರಾ ಎಂಬ ಸಾಂಕ್ರಾಹಿಕ ದೋರದ ಕ್ರಾಂತಿಪವನ್ನು ಕೆಲವೊಂದು ಕಾರಂಬಲಗಳಾದ ಆನಂತಮೂರ್ತಿ ಅವರ ಸಂಚಾರ, ಬೃಂದಾವನ, ಶ್ರೀನಿವಾಸಸ್ಥಾನ, ಅವರ 'ಹಸ್ತ ಬಂಧು ಹಸ್ತ', ಶಿವರಾಮಕಾರಂತರ 'ಮರಳ ಮುಕ್ತಿ' ಇವೆ ಮುಂತಾದವುಗಳಲ್ಲಿ ಕಾಣಬಹುದಾದರೂ ಆ ದೋರ ಅಲ್ಲಿನ ಕಾಲಚಕ್ರದಲ್ಲಿ ಉಂಟು ಮಾತಿನ ಸಾಮಾಜಿಕ ಬದ್ಧವೆಗಳ ಬಗ್ಗೆ ಕಾರಂಬಲಕಾರರು ವಿಚಾರ ಮಾಡದ ಮೌನ ತಾಳಿದ್ದಾರೆ. ಹೀಗೆ ಕಾರಂಬಲಗಳು ಫೋರಾವನ್ನು ಸಾಂಕ್ರಾಹಿಕ ದೋರವು ಸಮಾಜದ ಒಬ್ಬದ ಸ್ವರಗಳ ಮೇಲೆ ಅಂದರೆ ಸಾಮಾಜಿಕತೆ, ಅಧಿಕೃತ ಮೇಲೆ ಉಂಟು ಮಾತಿನ ದುಷ್ಟೋಚಾರದ ಬಗೆಗೆ ಮಾತನಾಡುವುದಿಲ್ಲ.

ಮಾತನೊಬ್ಬನಾದ್ದು. 'ಸಂಸ್ಕಾರ್ತಿ' ಪದಂಜಾಲಿಯಲ್ಲಿ ಅನಂತಮೂರ್ತಿ ಅವರು ಅಧಿಕಾರದಲ್ಲೇ ಉಂಟಾಗಿರುವ ಜಾತಿ ಸಮಸ್ಯೆಯು ಜಕ್ಕಲಗುರಿ ಬಗ್ಗೆಯೇ ಹೆಚ್ಚಾಗಿ ಔದಾಸೀನವಾಗಿ ಹೋಗುತ್ತದೆ. 'ವೈಕುಂಠ' ಮಹಾಕಾವ್ಯದ ಕಾಣಿಕೆಗಳೊಂದಿಗೆ ರಸ್ತೆ ಮತ್ತು ಮನೆಯೊಳಗಿನ ನಡೆ ಇವೆರಡು ಜೀವಿಸುವುದರ ವರ್ಣನೆಯನ್ನು ನೋಡುವತ್ತೇವೆಯೇ ಏನು? ಅದರ ಸಾಮಾಜಿಕ ದೃಷ್ಟಿಕೋನವು ದರಿದ್ರತೆಯನ್ನು ಇನ್ನೂ ಹೆಚ್ಚಿಸುತ್ತದೆ.

ಇಲ್ಲಿವಹಿದು.
ಈ ಕಾದಂಬರಿ ಪರಿನಿಶ್ಚಿತವಾದಾಗ ನಾರಾಣಾಪ್ಪನ ಪಾತ್ರವನ್ನು ಮಾತಿದ ಲಿಂಕೋಲಾ ಕೂಡ ತಮ್ಮ ಬಾಲ್ಯಾರ್ಥ ಸ್ಥಳೀಕರಿಸಿ ತುಂಬಿದ್ದರು. ಆ ನಮಯುಳ್ಳ ಅವರ ತಂದೆ ಬಹಳ ಕಷ್ಟಸ್ಥ ಮಗನನ್ನು ಉಳಿಸಿವೆಳೆದರು. ಅವರ ತಂದೆ-

ತಾಯಿ ಲಂಕೇಶ್ ರುಣಮುಖಾಚಾರುವದರರೂ ಹೇಗೂ ರಾತ್ರಿ ತಂದ ಮುಂದೆಯೇ ಕೆಳತಪ್ಪುದು ಎನ್ನುವ
ಬಿಜಾಬಮ್ಮ ತನ್ನ ಜ್ಞಾಪಕಕ್ಕೆ ಹೊರ ಮೂವನ ಮರಾ ರಲ್ಲಿ ಹೇಳುವರು.

[illegible][illegible]

ಸಂಪಾದಕರುಗಳು ಕೆಲವು ಮಹಿಮಾಂಜ್ಞಾತ್ಮಕ, ತಮ್ಮ ಜ್ಞಾನ ಕಾರಣ ಹತ್ತಿರದ ಹರಳರವಳು ಲೇಖನೀಯ ಅಂದಿನ ಬೆಂಗಳೂರಿನ ೩ ಎಸ್. ೨. ಕಾನ್ಸಿಡರ್ ಮುಂದು ಮೊದಲಯಾಕೆ ಅವರ ವ್ಯಕ್ತಿತ್ವವಿದೆ.

[illegible]

ವಿಡುಗು ಬಂದದ್ದನ್ನು ವರ್ಣಿಸಿದ್ದಾರೆ. ಯಾವುದಕ್ಕೂ ಕೇಂದರ ಭಾಷಾಂಗವಲ್ಲದೆ ಎಯ್ಯೂ ನಮಗೂ ಜ್ಞಾನ ಮೂಲಕ ಕಾಲೂರಾ ಅದು. ಜಾತಿ ಕಾರಣಗಳಿಗಾಗಲಿ ಉದ್ದೇಶ ಸುಲಭ ಸಿದ್ಧರಾದ ಜನರು ಕೇಳಿಕೊಳ್ಳುತ್ತಾರೆ. ಭಾಷಾಂಗವು ಜನರನ್ನು ಮನವೊಲಿಸಿ ಕೇಳಿಕೊಳ್ಳುವ ಅದನ್ನು ಹಾಗೂ, ಶುದ್ಧವಾದುದನ್ನು ಕೊಡುವುದನ್ನು. ನುತನ ನಮನು ಕೇಳಿಕೊಂಡ ಜನರು ಯುಗಾಂತಿಗೂ ಹಿಂಬದಿಯಲ್ಲಿದ್ದ. ಈ ಕಾರಣವಾಯ್ತು ಸಾಂಪ್ರದಾಯಿಕ ರೋಗವಾದ ಕಾಲೂರಾ ಎಂದು ನಮಗೆ, ಎಂದು ಎವೆನೋಟ್ ಮಾಡುತ್ತಿರುವುದು.

ರಾವ್ ಬಹದ್ದೂರರ 'ಗ್ರಾಮಾಯಣ' ಕಾದಂಬರಿಯಲ್ಲಿ ಕಾಣಿಸಿರುವಿರುವ ಸಾಂಪ್ರದಾಯಿಕ ದೇಗುಲದ ಕಾಲರ ಕಾದಂಬರಿಯ ನಾಟಕೀಯತೆಯ ಸಿದ್ಧಾಂತದಲ್ಲೇ ಇಂತಹ ಛೇತರಗಳಿಗೆ ಕಾರಣವಾಗಿರುತ್ತದೆ.

[illegible]

K-Means Clustering driven Deep Spatiotemporal Learning Model for PM2.5 Prediction

Kunal G Srinivas
Dept. of Computer Application
AVK College for women,
Hassan, India
E-mail: gs.kunal007@gmail.com

Nagendra Nath Giri
Dept. of Computer Science
Govt Frist Grade College for Women,
Hassan, India
E-mail: nagengiri123@gmail.com

Abstract— This paper proposed a novel and robust clustering driven deep spatiotemporal learning model for PM2.5 concentration prediction. Unlike classical approaches of PM2.5 prediction, our proposed model emphasizes on both feature improvement as well as feature learning to achieve a generalizable BigData analytics solution for PM2.5 prediction. More specifically, in this paper four Chinese city's data (Chengdu, Guangzhou, Shenyang, and Shanghai) have been considered where each city possesses three monitoring stations providing spatiotemporal features like timestamp, wind-direction, wind-speed, temperature, dew, humidity, precipitation and corresponding PM2.5 concentration. To alleviate missing element problem, at first it performs data wrangling and missing element removal, which is then followed by clustering using K-Means algorithm. Unlike classical methods, where input spatiotemporal features are directly learnt, we clustered the non-zero instances or features for the different time-periods so as to make learning more efficient. Once clustering the dataset, we applied three different deep spatiotemporal learning models derived using deep Long- and Short-Term Memory (LSTM) architecture to perform PM2.5 prediction. The performance in terms of prediction results and allied mean square error exhibit that the proposed model performs superior over other existing techniques, including classical LSTM methods. Results confirm that the use of clustered features can yield more accurate performance than the random feature learning. The overall proposed model was implemented over Apache Spark platform, which makes it suitable for the decentralized computation or BigData analytics purposes.

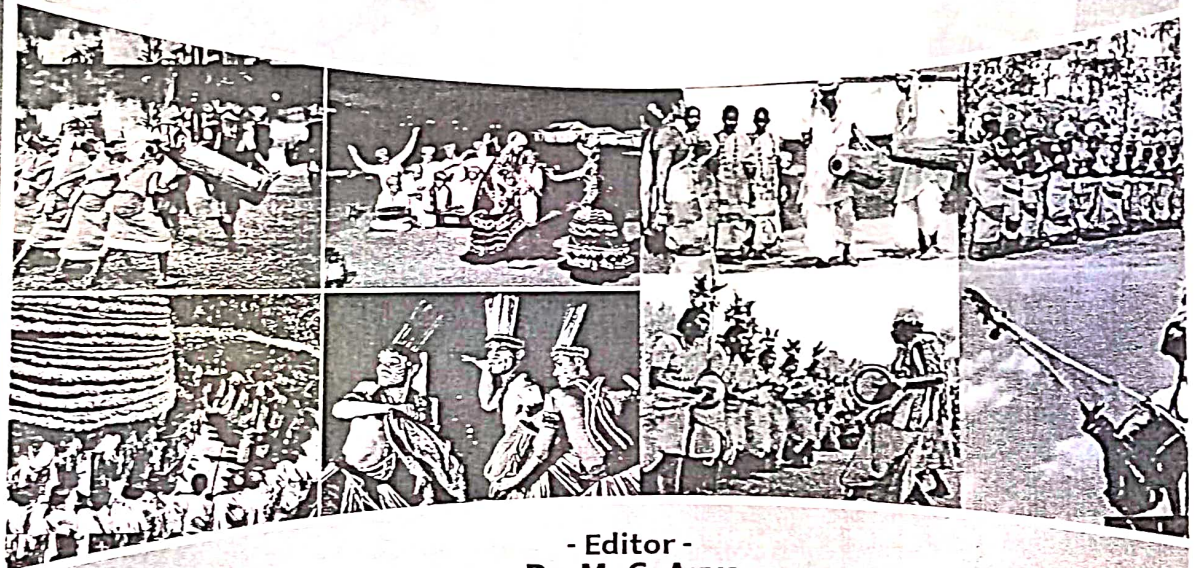
Keywords— PM2.5 prediction, Deep Spatiotemporal Learning, LSTM, K-Means Clustering, BigData analytics.

I. INTRODUCTION

In the last few years, the problem of PM2.5 has been witnessed globally across major metropolitans including world's top cities like Beijing, New Delhi, Mumbai, Guangzhou, Shanghai, Ho Chi Minh city etc. The ever-increasing threat has alarmed academia-industries to explore different technologies for air-pollution monitoring, analysis and prediction, which can help agencies to inculcate multi-dimensional efforts or practices to minimize the impact. To achieve it, numerous efforts are being made by geographers, environmental scientists, and public health professionals such as epidemiologists. In reference to the urban eco-system, performing pollution management and allied measures can be viable only when one understands the spatio-temporal distribution of PM2.5 [2-4]. The spatio-temporal understanding of PM2.5 can help making scientific decisions and preventive measures to control pollution rise. For a

meaningful assessment, different parameters such as weather condition, temperature, dew, humidity, wind-direction etc. which can have direct impact on PM2.5 concentration in a geographic region. To perform spatio-temporal analysis-based PM2.5 prediction in the last few years numerous technologies have been applied; however, amongst the major solutions, the use of internet of things (IoT) has been the more scalable approach. In this method, different modern sensors have been deployed at the different geographical locations to sense and gather the information for the different time instants. In other words, the deployed IoT sensors collect spatio-temporal features including time, temperature, humidity, wind-speed, wind-direction, dew, precipitation, etc [5]. and corresponding (temporal) values of PM2.5 concentration. However, whether it is Beijing, Guangzhou or Indian capital new Delhi, the density of the sensors deployed has been very low. Though, a few provinces in China have employed high density IoT sensor network to collect spatio-temporal values in the temporal resolution [7-9]. There has also been the condition where in a single city there are multiple sensors deployed to collect PM concentrations in temporal resolutions. Noticeably, over the deployed large number of sensors, learning the non-linear (multi-dimensional) feature patterns is a challenging task. It turns out to be more difficult with a large continuous spatio-temporal domain analysis with multiple factors impacting PM concentration. To reduce such issues, a few existing methods have merely applied very limited parameters like temperature, wind speed and PM2.5. On the contrary, researches have revealed that in addition to the aforesaid two or three parameters other features like dew, humidity, wind-direction etc. have the direct impact on PM concentration [3-6]. In this manner, those approaches considering merely two or three parameters for PM2.5 assessment or prediction go wrong and show false-positive performance that might lead wrong decision. On the other hand, a large fraction of the available methods doesn't consider missing data problem, which is unavoidable in real-time scenario. Such missing information can be caused due to sensor failure, IoT-routing issues or data gathering problems. Consideration of such missing information might skew the learning method and hence can impact overall prediction result [9]. To alleviate it, a calibrated and efficient pre-processing is required. Moreover, unlike processing spatiotemporal data in unstructured manner (with unknown or outlier instances), executing a PM2.5 analysis method with clustered input can yield more efficient solution [10-15]. In fact, clustering the unstructured, non-linear data pattern with pre-processed features can yield a suitable set of feature-

Cultural and Historical Study of Tribes in India



- Editor -
Dr. M. C. Arya

CULTURAL AND HISTORICAL STUDY OF TRIBES IN INDIA

Editor

Dr. M. C. Arya

Copyright © Editor Feb.2023

ISBN- 978-93-92576-19-5

Published By

Akshra Publication

Dongar Kathora, Tal. Yawal Dist. Jalgaon

Office. Polt.No. 49 N 134 Professor Colony,

Jamner Road, Bhusawal Dist. Jalgaon

(Maharashtra) 425301

Contact- 9421682612

www.aimrj.com Email- akshrapublication@gmail.com

Printed At.

Akshara Printers,

Bhusawal (Maharashtra) 425301

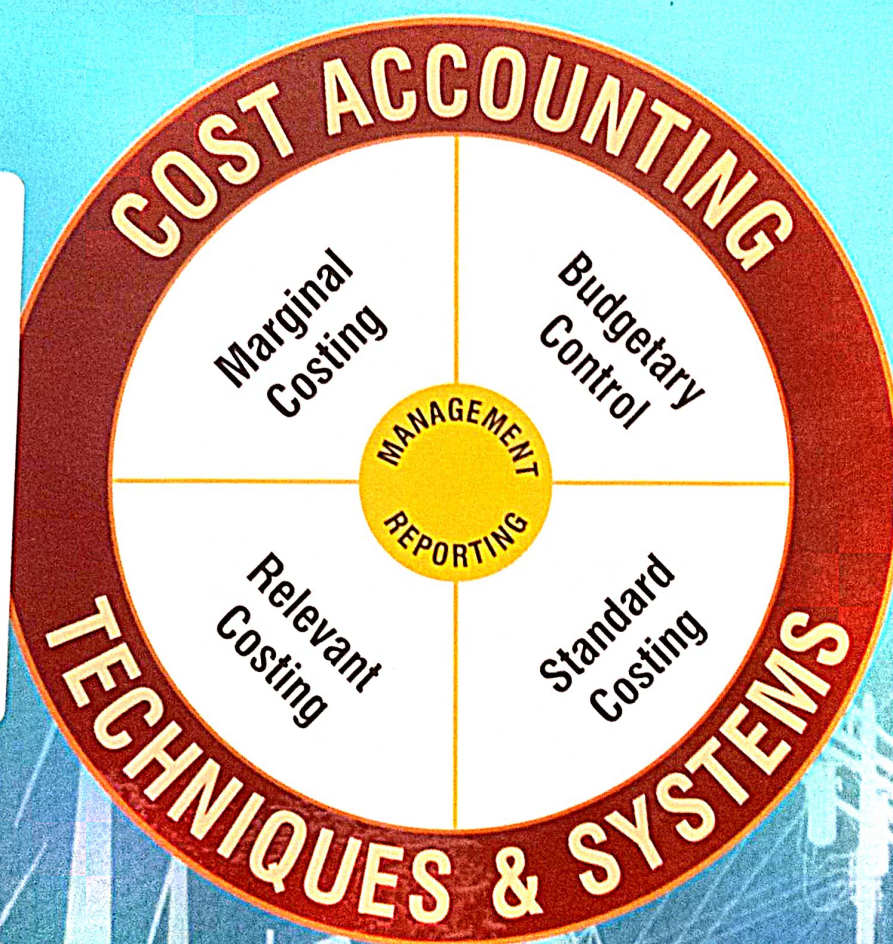
Price :400 /-

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means , electronic , mechanical , photocopying , recording or otherwise without prior written permission of the publisher . The authors are solely responsible for the content of the papers compiled in this volume. The publishers or organizers do not take any responsibility for the same in any manner .

C O N T E N T S

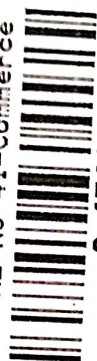
Sr. No	Title of Paper & Authors	Pages
01	Educational Empowerment of the Mappilas of Malabar : The Pioneering Role of Kerala Muslim Aikya Sangham - Hamza Thodengal	17
02	Economic, Cultural and Social Dimensions of Schedule Tribes in India. -Dr.Bhoop N. Dixit	31
03	Expatriation: The Theories Behind - Prabhakaran Vattolipurakkal	39
04	Encounter of Forest tribal communities with special reference to ancient Indian political history -Dr. Shashikala N. S.	45
05	Indigenous Populations in the Era of Globalization: Problems and Prospects -Dr. Sunil Kumar Choudhary	52
06	The Traditional Arbitrary System among the Idu Mishmi of Arunachal Pradesh -Mr. Athu Milli	59
07	ऐतिहासिक एवं जनजातीय संदर्भ में मानव अधिकार के प्रति जागरूकता -डॉ. रेनू राधा	70
08	जनजातीय विमर्श :सामाजिक एवं आर्थिक विकास के आईने में -डॉ. महेन्द्र प्रसाद	78
09	राष्ट्रीय चेतना को जगाने में आदिवासी या जनजातीय समाज का योगदान-डॉ. विजय कुमार राय	89
10	छत्तीसगढ़ के आदिवासी समाज में महिलाओं की सामाजिक स्थिति डॉ. कामती सिंह परिहार / गोविंद सिंह ठाकुर	94
11	औपनिवेशिक काल में आदिवासी लोकजीवन तथा संघर्ष जितेन्द्र कुमार साखरे / डॉ. एम. सी. आर्य	100
12	आदिवासी समाज में स्त्रियों के अधिकार एवं स्थिति -डॉ. विनोद कुमार	109

COST AND MANAGEMENT ACCOUNTING – IV



AVKC HSN

AL NO-41-Commerce



G-47415

47415

Dr. H.S. Sunanda

Dr. I.M. Mohan



₹ 350.00

Kanva Publication's Private Limited,
No. 777, Ground Floor, 7th Cross, 5th Main,
M.C.Layout, Vijayanagar, Bangalore -560 040
Ph : 080-23206778 M : 9845052481
e-mail : giriraju@kanvaprakashana.com
Web : www.kanvaprakashana.com

ISBN : 978-93-81803-65-3



9 789381 803653

Cost & Management Accounting – IV

By

Dr. H.S.Sunanda, M.Com., Ph.D.,
Associate Professor,
Dept. of Commerce,
A.V. K. College for Women,
Hassan - 573201

Dr. I.M Mohan, M.Com., L.L.B., Ph.D.,
Rtd., Principal,
Government Arts College,
Hassan - 573 201
Mob : 9448401400

Published by

Kanva Publications Pvt Ltd.
777, Ground Floor, 7th Cross, 5th Main,
M.C.Layout, Vijayanagara,
Bengaluru-560 040
Ph : 080-23206778, Mob : 99800 21101
E-mail : giriraju@kanvaprakashana.com

Publisher: M.R. Giriraju
M : 9845052481

First Impression: 2018

Pages : IV+VI+330=340

Price : ₹ 350/-

ISBN : 978-93-81803-65-3

© Author

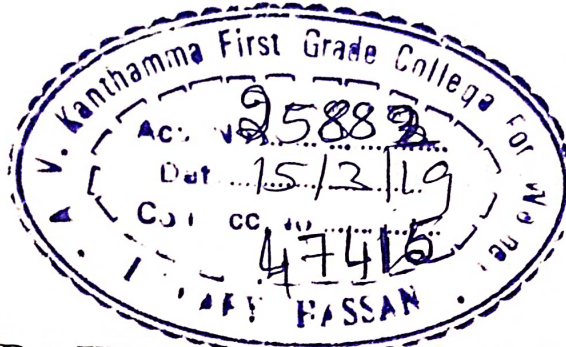
Paper Used : 70 GSM White Maplitho
Book Size : Crown 1/4

Printed At

Annapoorna Printers and Publishers
No.39/2, 9th Main, WOC Road,
Shivanagar, Rajajinagar, Bengaluru-560 010

A. V. KANTHAMMA COLLEGE
FOR WOMEN HASSAN

COST AND MANAGEMENT ACCOUNTING-IV



Dr. H.S.Sunanda, M.Com., Ph.D.,
Associate Professor,
Dept. of Commerce,
A.V.K. College for Women,
Hassan-573201

Dr. I.M Mohan, M.Com., L.L.B., Ph.D.,
Rtd., Principal,
Government Arts College,
Hassan-573201

Kanva Publication's Pvt.Ltd.
Bangaluru

4 7 4 1 5

STATUS AND OPPORTUNITIES FOR SPORTS PARTICIPATION FOR WOMEN

SCENARIO IN COLLEGES OF KARNATAKA STATE

Authors

Dr. Gerald Santhosh Dsouza

MPed, PhD Chairman and Director, Department of PG Studies and
Research in Physical Education Mangalore University, Mangalagangothri,
Karnataka, India

Dr. Hemalatha C S

MPed, MPhil, PhD, Physical Education Director, AVK College Hassan,
Karnataka, India

Published By: AkiNik Publications

AkiNik Publications

169, C-11, Sector - 3,

Rohini, Delhi-110085, India

Toll Free (India) – 18001234070

Authors: Dr. Gerald Santhosh Dsouza, Dr. Hemalatha C S

The author/publisher has attempted to trace and acknowledge the materials reproduced in this publication and apologize if permission and acknowledgements to publish in this form have not been given. If any material has not been acknowledged please write and let us know so that we may rectify it.

© AkiNik Publications

Edition: 1st

Publication Year: 2021

Pages: 101

ISBN: 978-93-91538-49-1

Book DOI: <https://doi.org/10.22271/ed.book.1328>

Price: ₹555/-

About the Authors

Dr. Gerald Santhosh Dsouza

M.P.Ed., Ph.D., NIS (Hockey), PGDSM, PGDYS, Certification in Analytics, Aerobic Training. Topper in M.P.Ed. from Bangalore University and NIS Diploma in Coaching (Hockey) from Sports Authority of India (Bangalore) in 1994 and 1995. Joined Mangalore University in 1996 as Assistant Director of Physical Education, completed Ph.D. in 2005 and presently working as Director and Chairman, Department of PG Studies and Research in Physical Education, Mangalore University. Nominated as Dean, Faculty of Education in 2020. Professional service of 26 years. Coached the Mangalore University Hockey teams for more than 18 years, led the womens team to consecutive three and totally 5 South Zone Inter University gold and one All India Bronze medal. Instrumental in establishing a sports science lab under funding from UGC which caters to physiology and sports biomechanics testing. Course coordinator for GIAN (Global Initiative for Academic Networks) sponsored by HRD Ministry, Government of India in 2019. Awarded a sponsorship of EMG (Electromyography) equipment from DeLuca Foundation and Delsys Inc., USA for proposed work on Electromyography in 2020.

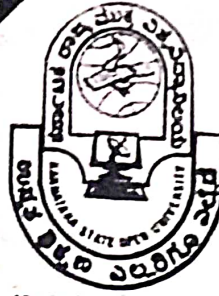
Dr. Hemalatha C S

Dr. Hemalatha C S completed her postgraduation in Physical Education from Mysore University in 2006. She joined for service at AVK College, Hassan, Karnataka in 2007. She specialises in Women studies and was awarded the MPhil degree for her dissertation titled "COMPARATIVE STUDY OF SELF-CONFIDENCE AMONG SPORTS WOMEN OF INDIVIDUAL AND TEAM SPORTS". She completed her doctoral studies and was awarded the PhD degree from Mangalore University in 2018 for her thesis titled: "WOMEN AND SPORTS: A STUDY ON STATUS AND OPPORTUNITIES FOR WOMEN IN SPORTS IN COLLEGES OF KARNATAKA STATE". She has five paper publications. Presently she is serving in AVK College, Hassan and has completed 14 years of service as Physical Education Director.

Published by
AkiNik Publications,
169, C-11, Sector - 3, Rohini,
Delhi - 110085, India
Toll Free (India): 18001224070

ISBN 9789391538401





Dept. of Studies & Research in ECONOMICS
KARNATAKA STATE OPEN UNIVERSITY
Mysuru, Karnataka, India



INTERNATIONAL COUNCIL FOR
DEVELOPMENT RESEARCH
Mysuru, Karnataka, India

CERTIFICATE *of Presentation*

THEME

ISSUES & CHALLENGES IN SUSTAINABLE DEVELOPMENT

12th - 14th AUGUST 2022

This is to certify that

MANJULA .P

Assistant Professor, Dept. of Economics
A.V.Kanthamma College for Women,
Hassan

has presented the paper on

A study on Impact of Development on Inequality and Poverty

in three-day 11th International Multidisciplinary Conference
held at Karnataka State Open University, Mysore

Organising Secretary &
Chairman, Dept. of Economics,
Karnataka State Open University
Mysuru

Secretary
International Council for
Development Research,
Mysuru

